Database Systems Lab - 14CS2012

REGISTER NO: UR14CS228

DATE: 11-08-16 EXPERIMENT NO-1

Video URL: https://youtu.be/1hfrKDK9kCs?list=PLRS VYrnFL6lj53kJl8EaWDEsoE-8Epkj

AIM:

Create tables using DDL and DCL commands.

DESCRIPTION:

Data Definition Language (DDL) - These SQL commands are used for creating, modifying, and dropping the structure of database objects. The commands are CREATE, ALTER, DROP, RENAME, and TRUNCATE.

Data Control Language (DCL) - These SQL commands are used for providing security to database objects. These commands are GRANT and REVOKE.

- 1. Create the above tables, with primary key constraints.
- 2.Add foreign key reference to the customer_id attribute.

CREATE TABLE customer(customer_id NUMBER(10),customer_name VARCHAR(25),customer_address VARCHAR(50),city VARCHAR(10),state VARCHAR(20),pstal_code VARCHAR(6),CONSTRAINT pk_customerid PRIMARY KEY (customer id));

DESC customer;

CREATE TABLE orders(order_id NUMBER(10),order_date DATE,customer_id NUMBER(10),CONSTRAINT pk_orderid PRIMARY KEY (order_id),CONSTRAINT fk_orderid FOREIGN KEY (customer_id) REFERENCES customer(customer_id)); DESCorders;

CREATE TABLE product(product_id NUMBER(10),product_description VARCHAR(50),product_finish VARCHAR(10),product_line_id

NUMBER(10), CONSTRAINT pk_productid PRIMARY KEY (product_id)); DESC product;

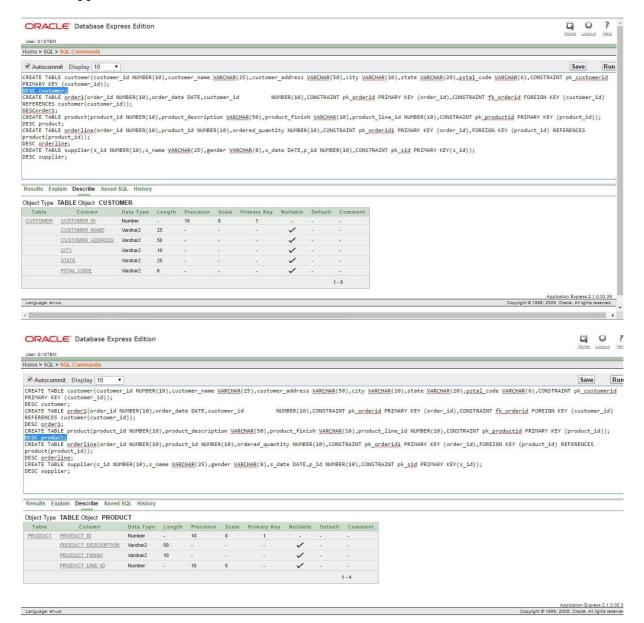
CREATE TABLE orderline(order_id NUMBER(10),product_id

NUMBER(10), ordered_quantity

NUMBER(10), CONSTRAINT pk_orderid1 PRIMARY KEY (order_id), FOREIGN KEY (product_id) REFERENCES product(product_id));

DESC orderline; CREATE TABLE supplier(s_id NUMBER(10),s_name VARCHAR(25),gender VARCHAR(8),s_date DATE,p_id NUMBER(10),CONSTRAINT pk_sid PRIMARYKEY(s_id));

DESC supplier;



U ? ORACLE' Database Express Edition Save CREATE TABLE customer(customer_id NUMBER(10),customer_name VARCHAR(25),customer_address VARCHAR(50),city VARCHAR(10),state VARCHAR(20),pstal_code VARCHAR(6),CONSTRAINT pk_customer_id PRIMARY KEY (customer_id));
DESC customer; Autocommit Display 10 utSC customer; CREATE TABLE <u>order1</u>(order_id NUMBER(10),order_date DATE,customer_id REFERENCES customer(customer_id)); IFSC order15: NUMBER(10), CONSTRAINT pk orderid PRIMARY KEY (order id), CONSTRAINT fk orderid FOREIGN KEY (customer id) DESC orders:

CREATE TABLE product(product_id NUMBER(10),product_description VARCHAR(50),product_finish VARCHAR(10),product_line_id NUMBER(10),CONSTRAINT pk_productid PRIMARY KEY (product_id));

DESC product; uest product;
(REATE TABLE <u>orderline</u>(order_id NUMBER(10),product_id NUMBER(10),ordered_quantity NUMBER(10),CONSTRAINT pk_<u>orderid1</u> PRIMARY KEY (order_id),FOREIGN KEY (product_id) REFERENCES restrict the content in the content Results Explain Describe Saved SQL History Object Type TABLE Object ORDER1 Column Data Type Length Precision Scale Primary Key Nullable Default Comment
 ORDER1
 ORDER ID
 Number

 ORDER DATE
 Date
 CUSTOMER ID Number Application Express 2.1.0.00.39
Copyright © 1999, 2006, Oracle. All rights Language: en-us ORACLE Database Express Edition Home Logout Help User: SYSTEM
Home > SQL > SQL Commands Autocommit Display 10 • MALOcommit Display 10 v |

CREATE TABLE customer(customerid NUMBER(10),customer_name VARCHAR(25),customer_address VARCHAR(50),city VARCHAR(10),state VARCHAR(20),pstal_code VARCHAR(5),CONSTRAINT pk_customerid PRIMARY KEY (customer_id));

DESC customer;

CREATE TABLE order(customer_id));

DESC customer;

CREATE TABLE order(customer_id);

DESC customer;

CREATE TABLE order(customer_id));

DESC customer;

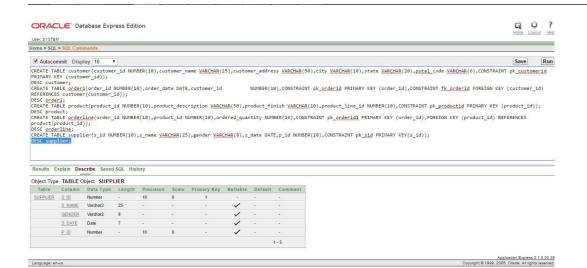
DESC customer [CREATE TABLE product_In NUMBER(10), product_description <u>VARCHAR(80)</u>, product_inless variable(10), constraint pk_product_inless variable(10), product_inless va Results Explain Describe Saved SQL History Object Type TABLE Object ORDERLINE Column Data Type Length Precision Scale Primary Key Nullable Default Com ORDERLINE ORDER ID Number 10 PRODUCT ID

Application Express 2.1.0.00.39
Copyright © 1999, 2006, Oracle, All rights reserved.

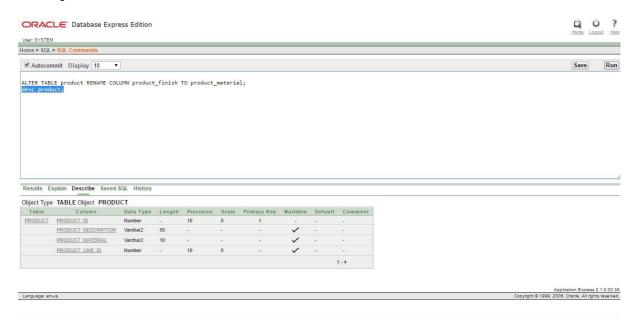
ORDERED QUANTITY Number

Language: en-us

10

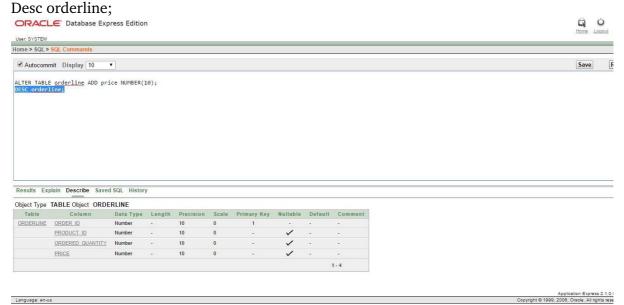


3.Modify the attribute product_finish in the product table to product_material. ALTER TABLE product RENAME COLUMN product_finish TO product_material; DESC product;



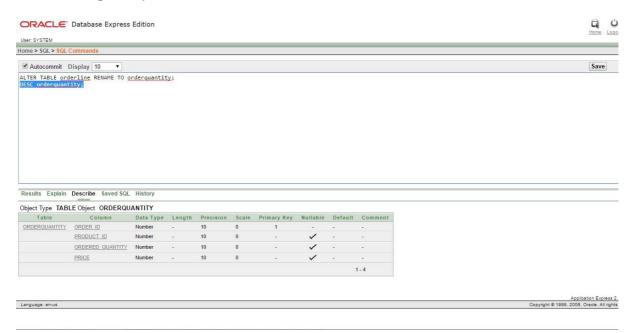
4.Add an attribute called price in the Orderline table

ALTER TABLE orderline ADD price NUMBER(10);



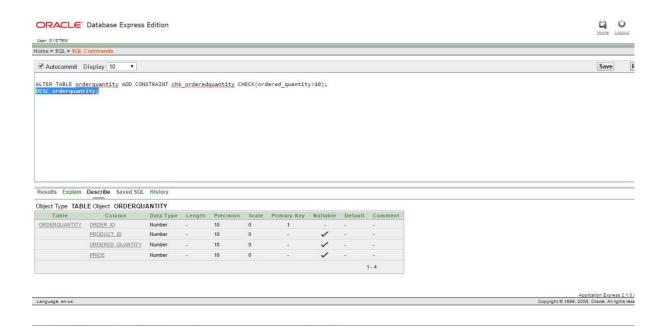
5. Rename orderline to orderquantity

ALTER TABLE orderline RENAME TO orderquantity; DESC orderquantity;



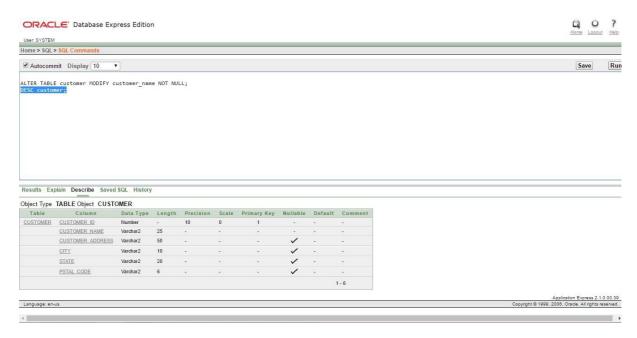
6.Add a check constraint to ordered_quantity column and check that quantity is above 10

ALTER TABLE orderquantity ADD CONSTRAINT chk_orderedquantity CHECK(ordered_quantity>10); DESC orderquantity;



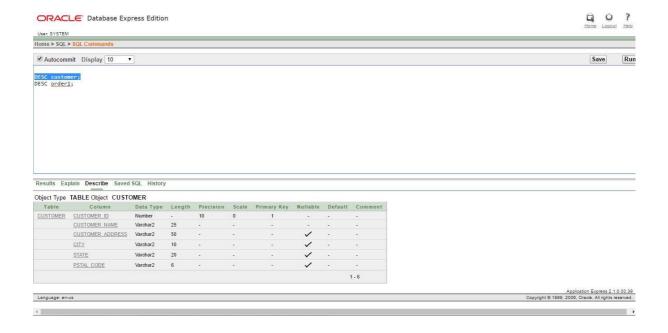
7.Add a not null constraint to customer_name attribute.

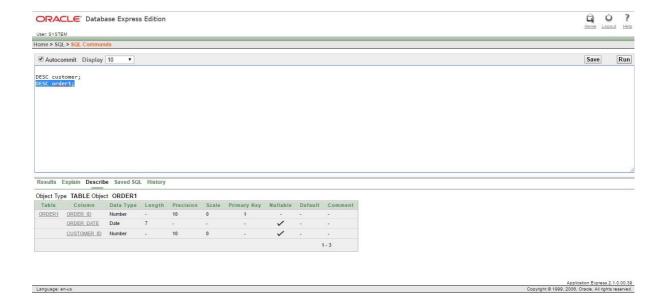
ALTER TABLE customer MODIFY customer_name NOT NULL; DESC customer;



8. the structure of the customer and order table

DESC customer; DESC orders;





9.Insert the above values in to the corresponding table.

INSERT INTO customer VALUES (1, 'John Doe', '392 Sunset Blvd.', 'New York', 'NT','10059');

INSERT INTO customer VALUES (2, 'Mary Smith', '6900 Main St.', 'SanFrancis', 'CA','94032');

INSERT INTO customer VALUES (3, 'Richard Newman', '2040 Riverside Rd.', 'San Diego', 'CA', '92010');

INSERT INTO customer VALUES (4, 'Cathy Cook', '4010 Speedway', 'Tucson', 'AZ','85719');

 $INSERT\ INTO\ orders\ VALUES\ (100,TO_DATE ('01-OCT-2014','DD-MONYYYY'),1);$

INSERT INTO orders VALUES (101, TO_DATE('01-OCT-2014','DD-MON-YYYY'), 2):

INSERT INTO orders VALUES (102, TO_DATE('02-OCT-2014','DD-MON-YYYY'), 3):

INSERT INTO orders VALUES (103, TO_DATE('03-OCT-2014','DD-MON-YYYY'), 2):

INSERT INTO orders VALUES (104, TO_DATE('10-OCT-2014','DD-MON-YYYY'), 1);

INSERT INTO orders VALUES (105, TO_DATE('10-OCT-2014','DD-MON-YYYY'), 4).

INSERT INTO orders VALUES (106, TO_DATE('10-OCT-2014','DD-MON-YYYY'), 2);

INSERT INTO orders VALUES (107,TO_DATE('10-OCT-2014','DD-MON-YYYY'), 1);

INSERT INTO

product(product_id,product_description,product_material,product_line_id)VALUES
(1000, 'Office Desk', 'Cherry',10);

INSERT INTO

product(product_id,product_description,product_material,product_line_id)VALUES
(1001, 'Manager's Desk', 'Red Oak',10);

INSERT INTO

product(product_id,product_description,product_material,product_line_id)VALUES
(2000, 'Office Chair', 'Cherry',20);

```
INSERT INTO
product(product id,product description,product material,product line id)VALUES
(2001, 'Manager''s Desk', 'NaturalOak',20);
INSERT INTO
product(product id,product description,product material,product line id)VALUES
(3000, 'Book Shelf', 'NaturalAsh',30);
INSERT INTO
product(product id,product description,product material,product line id)VALUES
(3001, 'Duplex Book Shelf', 'White Ash',30);
INSERT INTO
product(product id,product description,product material,product line id)VALUES
(4000, 'Table Lamp', 'NaturalAsh',40);
INSERT INTO
product(product id,product description,product material,product line id)VALUES
(4001, 'Duplex Table Lamp', 'White Ash',40);
INSERT INTO
product(product id,product description,product material,product line id)VALUES
(9999, 'Keyboard', 'Plastic', 50);
INSERT INTO orderquantity VALUES (100, 4000, 10, 10000);
INSERT INTO orderquantity VALUES (101, 1000, 20, 15000);
INSERT INTO orderquantity VALUES (101, 2000, 20, 20000);
INSERT INTO orderquantity VALUES (102, 3000, 15, 23500); INSERT INTO
orderquantity VALUES (102, 2000, 12, 34560);
INSERT INTO orderquantity VALUES (103, 4001, 14, 1000);
INSERT INTO orderquantity VALUES (104, 2000, 10, 2000);
INSERT INTO orderquantity VALUES (105, 3001, 20, 30005);
INSERT INTO orderquantity VALUES (106, 3000, 12, 20500);
INSERT INTO orderquantity VALUES (106, 4000, 11, 30000);
INSERT INTO orderquantity VALUES (107, 4001, 5, 40100);
INSERT INTO supplier VALUES (1,'aaa','M',TO DATE('11-NOV-2014','DD-
MONYYYY'),1000);
INSERT INTO supplier VALUES (2, 'bbb', 'F',TO DATE('01-NOV-2014','DD-MONYYYY'),
2000):
INSERT INTO supplier VALUES (2, 'bbb', 'F', TO DATE('01-NOV-2014', 'DD-MONYYYY'),
2001);
INSERT INTO supplier VALUES (3,'ccc','M',TO DATE('20-OCT-2014','DD-
MONYYYY'),9999);
INSERT INTO supplier VALUES (4,'ddd','F',TO DATE('11-NOV-2014','DD-
```

INSERT INTO supplier VALUES (4, 'ddd', 'F',TO DATE('05-NOV-2014','DD-MONYYYY'),

INSERT INTO supplier VALUES (5, 'eee', 'M', TO DATE ('13-NOV-2014', 'DD-MONYYYY'),

MONYYYY'),4001);

1001);

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User: SYSTEM

Home > SQL > SQL Commands

desc Customer;
desc orderquantity;

Insert into Customer values(1,'John Doe', '392 Sunset Blvd.', 'New York', 'NT',10059);
Insert into Customer values(2, 'Mary Smith', '6900 Main St.', 'San Francisco', 'CA','94032');
Insert into Customer values(3, 'Richard Newman', '2040 Riverside Rd.', 'San Diego', 'CA','92010');
Insert into Customer values(4, 'Cathy Cook', '4010 Speedway', 'Tucson', 'AZ','85719');

select * from customer;

Insert into Orderquantity values(100, 4000, 10,1500);
Insert into Orderquantity values(101, 1000, 20,2000);
Insert into Orderquantity values(101, 2000, 20,3466).

Results Explain Describe Saved SQL History

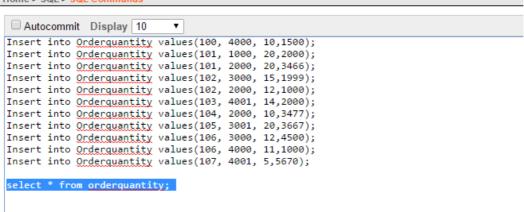
CUSTOMER_ID	CUSTOMER_NAME	CUSTOMER_ADDRESS	CITY	STATE	POSTAL_CODE
1	John Doe	392 Sunset Blvd.	New York	NT	10059
2	Mary Smith	6900 Main St.	San Francisco	CA	10032
3	Richard Newman	2040 Riverside Rd.	San Diego	CA	92010
4	Cathy Cook	4010 Speedway	Tucson	AZ	85719

⁴ rows returned in 0.00 seconds

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User: SYSTEM

Home > SQL > SQL Commands



Results Explain Describe Saved SQL History

Insert into product values(1000, 'Office Desk', 'Cherry', 95.0);

ORDER_ID	PRODUCT_ID	ORDER_QTY	PRICE
101	1000	20	2000
102	3000	15	1999
103	4001	14	2000
105	3001	20	3667
106	3000	12	4500

5 rows returned in 0.00 seconds

ORACLE Database Express Edition Iome > SQL > SQL Commands Autocommit Display 10 ☐ Autocommit Display [10 ▼] Insert into product values(2001, 'Manager''s Desk', 'Natural Oak', 129.0); Insert into product values(3000, 'Book Shelf', 'Natural Ash', 35.0); Insert into product values(3001, 'Duplex Book Shelf', 'White Ash', 80.0); Insert into product values(4000, 'Table Lamp', 'Natural Ash', 15.0); Insert into product values(401, 'Duplex Table Lamp', 'White Ash', 40.0); Insert into product values(9999, 'Keyboard', 'Plastic', 20.0); Insert into Orders values(100, '01-0CT-14', 1); Insert into Orders values(101, '01-0CT-14', 2); Insert into Orders values(102, '02-0CT-14', 3); Insert into Orders values(103, '03-0CT-14', 2); Insert into Orders values(104, '10-0CT-14', 1); Insert into Orders values(104, '10-0CT-14', 2); Insert into Orders values(106, '10-0CT-14', 2); Results Explain Describe Saved SQL History PRODUCT_ID PRODUCT_DESCRIPTION PRODUCT_MATERIAL PRODUCT_LINE_ID PRODUCT_QTY Office Desk 1000 Cherry Manager's Desk 2000 Office Chair Cherry 75 32 2001 Manager's Desk Natural Oak 129 23 3000 Book Shelf Natural Ash 35 32 Duplex Book Shelf White Ash 3001 80 10 Natural Ash Table Lamp White Ash 4001 Duplex Table Lamp 40 11 9999 Kevboard Plastic 20 12

9 rows returned in 0.00 seconds

ORACLE Database Express Edition

User: SYSTEM

```
Home > SQL > SQL Commands

Insert into Orders values(100, '01-OCT-14', 1 );
Insert into Orders values( 101, '01-OCT-14', 2);
Insert into Orders values( 102, '02-OCT-14', 3);
Insert into Orders values( 103, '03-OCT-14', 2);
Insert into Orders values(104, '10-OCT-14', 1);
Insert into Orders values(105, '10-OCT-14', 4 );
Insert into Orders values(106, '10-OCT-14', 4 );
Insert into Orders values(106, '10-OCT-14', 2 );
Insert into Orders values(107, '10-OCT-14', 1);

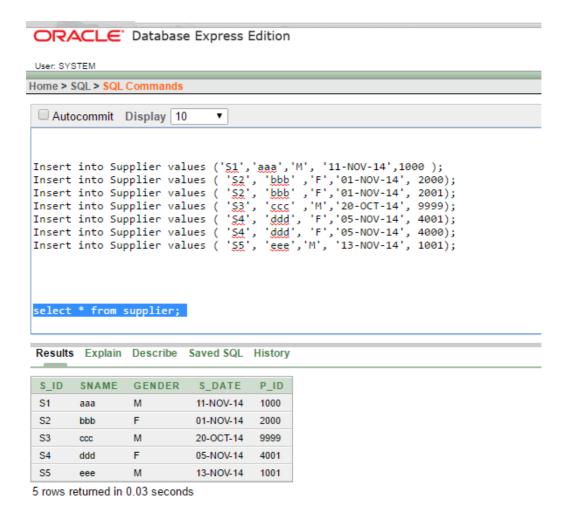
select * from orders;

Insert into Supplier values ('51', 'agg', 'M', '11-NOV-14', 1000 );
```

Results Explain Describe Saved SQL History

ORDER_ID	ORDER_DATE	CUSTOMERID
100	01-OCT-14	1
101	01-OCT-14	2
102	02-OCT-14	3
103	03-OCT-14	2
105	10-OCT-14	4
106	10-OCT-14	2
107	10-OCT-14	1
108	10-NOV-14	1

8 rows returned in 0.02 seconds



Language: en-gb

10.Store the data permanently in stable storage COMMIT;

Statement processed.

0.19 seconds

11.Copy the customer table to a new table called 'customer1'. Rename the new table as customer1.

SELECT * FROM supplier;

CREATE TABLE customer1 AS (SELECT * FROM customer);

SELECT * FROM customer1;

Results Explain	Describe Saved SQL	History			
CUSTOMER_ID	CUSTOMER_NAME	CUSTOMER_ADDRESS	CITY	STATE	PSTAL_CODE
1	John Doe	392 Sunset Blvd.	New York	NT	10059
2	Mary Smith	6900 Main St.	SanFrancis	CA	94032
3	Richard Newman	2040 Riverside Rd.	San Diego	CA	92010
4	Cathy Cook	4010 Speedway	Tucson	AZ	85719

- 12.Grant select privilege to user1 on Order table
- 13. Try to insert values into Order table from user1 and state what happen
- 14.Grant insert privilege on Order table to user1
- 15. Try to delete values from Order table from user1 and state what happens
- 16. Try to insert values into Order table from user 1 and state what happens.
- 18 .revoke all privileges from user1 on Order table.

CREATE USER user1 IDENTIFIED BY ab;

GRANT select ON orders TO user1;

GRANT insert ON orders TO user1;

REVOKE ALL ON orders FROM user1;

- 19.Remove all data's from the customer1 table.
- 20.Drop the structure of the customer1 table.

TRUNCATE TABLE customer1;

DROP TABLE customer1;

Table truncated.

0.56 seconds

no data found

```
DROP TABLE customer1;

SELECT * FROM customer WHERE city='New York';

UPDATE customer SET pstal_code='10032' WHERE customer_name='Mary Smith';

SELECT * FROM customer;

Results Explain Describe Saved SQL History

ORA-00942: table or view does not exist
```

Result:

SQL queries using DDL and DCL commands are successfully executed.