

SAVEPOINT in Oracle

What is SAVEPOINT in Oracle?

The SAVEPOINT in Oracle is used for dividing (or) breaking a transaction into multiple units so that the user has a chance of roll backing the transaction up to a specified point. That means using Save Point we can roll back a part of a transaction instead of the entire transaction.

Whenever a user creates SAVEPOINT within the transaction then internally system is allocating a special memory for a SAVEPOINT and storing the transaction information which we want to roll back (cancel).

```
CREATE TABLE Product
(
  ProductId INT PRIMARY KEY,
  ProductName VARCHAR2(20),
  Price INT,
  Quantity INT
);

INSERT INTO Product VALUES(1001, 'Product-1', 1000, 100);
INSERT INTO Product VALUES(1002, 'Product-2', 2000, 150);
INSERT INTO Product VALUES(1003, 'Product-3', 3000, 200);
INSERT INTO Product VALUES(1004, 'Product-4', 4000, 250);
```

How to create SAVEPOINT in Oracle?

The SAVEPOINT statement in Oracle is used to save a transaction temporarily. We can save multiple SAVEPOINT in a single transaction. We can ROLLBACK the transaction to a given SAVEPOINT and the transaction after that SAVEPOINT are revert back to its previous state. We cannot ROLLBACK to a SAVEPOINT after the COMMIT statement.

In

order to create a save point or you can say logical point, we need to use the SAVEPOINT command followed by the save point name i.e. **SAVEPOINT SAVEPOINT_NAME** and ROLLBACK to the SAVEPOINT are **ROLLBACK TO SAVEPOINT_NAME**.

How to create a SAVEPOINT in Oracle?

Syntax: SAVEPOINT <pointer name>;

How to rollback a SAVEPOINT?

Syntax: rollback to <pointer name>;

```
SET TRANSACTION READ WRITE;  
SAVEPOINT SavePoint1;  
INSERT INTO Product VALUES(1005, 'Product-5', 5000, 500);  
INSERT INTO Product VALUES(1006, 'Product-6', 6000, 600);  
  
SAVEPOINT SavePoint2;  
INSERT INTO Product VALUES(1007, 'Product-7', 7000, 700);  
INSERT INTO Product VALUES(1008, 'Product-8', 8000, 800);  
  
SAVEPOINT SavePoint3;  
INSERT INTO Product VALUES(1009, 'Product-9', 9000, 900);  
INSERT INTO Product VALUES(1010, 'Product-10', 10000, 1000);
```

CASE1: ROLLBACK TO SavePoint1;

When we execute the above Rollback command, it will roll back the statements which are starting from SavePoint1, and before the rollback statement. That means in our example, it will roll back all the 6 Insert statements.

CASE2: ROLLBACK TO SavePoint2;

When we execute the above Rollback statement, then it will roll back the statements which are starting from SavePoint2 and before the Rollback statement. That means, in this case, it will roll back 4 Insert statements.

CASE3: ROLLBACK TO SavePoint3;

When we execute the above Rollback statement, it will roll back the statements which are present after the SavePoint3 and before the Rollback Command. That means in this case, it will roll back two insert statements.

```
ROLLBACK TO SavePoint2;
```

```
COMMIT;
```