Session 5-4 Transaction Control

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Transaction Control Statements

- Results of Data Manipulation Language (DML) are not permanently updated to a table until explicit or implicit COMMIT occurs

- Transaction control statements can:
  - Commit data through COMMIT command
  - Undo data changes through ROLLBACK command

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COMMIT Command

Two Types of COMMIT

- Explicit COMMIT occurs by executing COMMIT;

- Implicit COMMIT occurs when DDL command (table creation) is executed or user properly exits system

Both COMMITs permanently update table(s) and allows other users to view changes

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ROLLBACK Command

- Used to "undo" changes that have not been committed

- Occurs when:
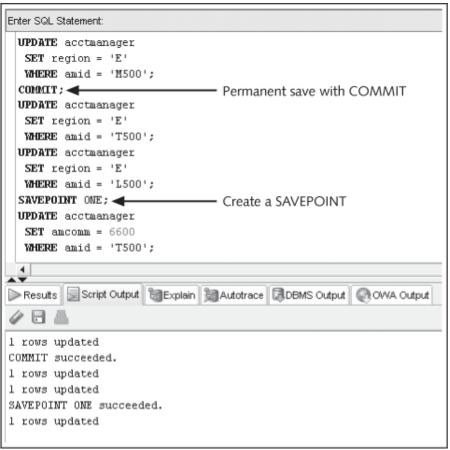 - ROLLBACK; is executed
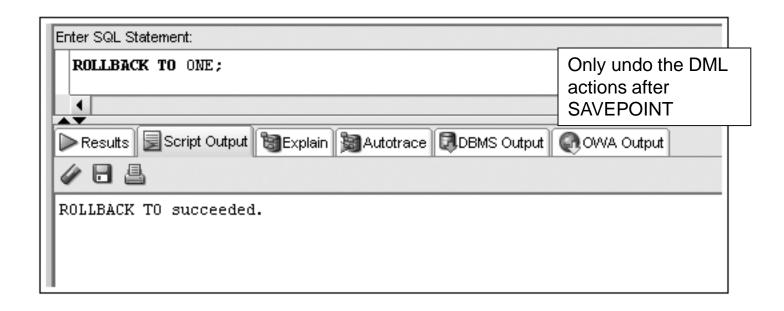 - System restarts after a crash

SAVEPOINT Command

- SAVEPOINT marks a specific spot within the transaction

- Can ROLLBACK to a SAVEPOINT to undo part of the transaction

Transaction Control Example

Transaction Control Example (cont'd)
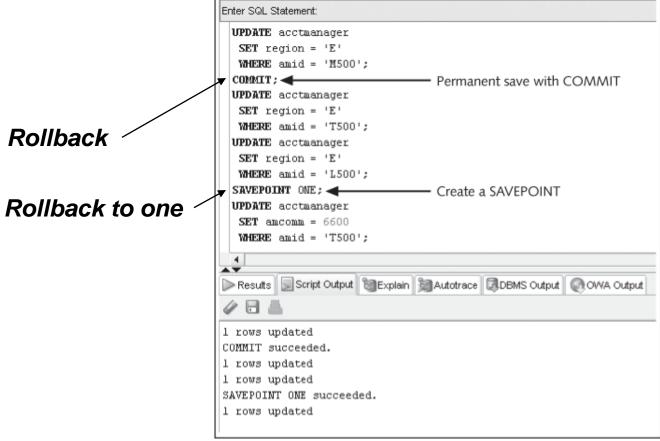
Enter SQL Statement:

```
ROLLBACK TO ONE;
```

Only undo the DML actions after SAVEPOINT

Results | Script Output | Explain | Autotrace | DBMS Output | OWA Output

```
ROLLBACK TO succeeded.
```

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Transaction Control Example (cont'd)

Enter SQL Statement:

```
UPDATE acctmanager
  SET region = 'E'
  WHERE amid = 'M500';
COMMIT;                          Permanent save with COMMIT
UPDATE acctmanager
  SET region = 'E'
  WHERE amid = 'T500';
UPDATE acctmanager
  SET region = 'E'
  WHERE amid = 'L500';
SAVEPOINT ONE;                   Create a SAVEPOINT
UPDATE acctmanager
  SET amcomm = 6600
  WHERE amid = 'T500';
```

Rollback

Rollback to one

Results | Script Output | Explain | Autotrace | DBMS Output | OWA Output

```
1 rows updated
COMMIT succeeded.
1 rows updated
1 rows updated
SAVEPOINT ONE succeeded.
1 rows updated
```

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Wrap-up

- Manage transactions with transaction control statements
  - COMMIT
  - ROLLBACK, ROLLBACK TO
  - SAVEPOINT

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