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Harmony IT Solution

Database Design and Programming

Tahaluf Training Center 2022

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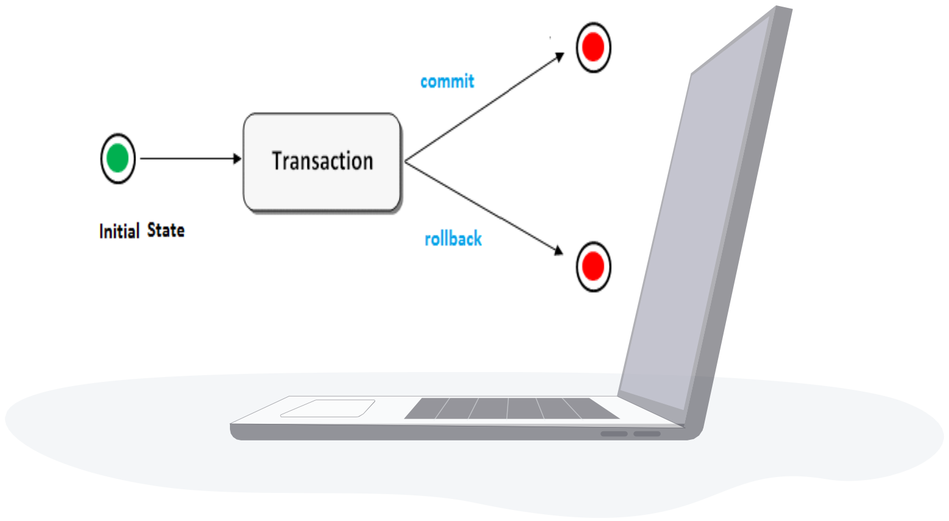
1. Overview of Transaction Control Language (TCL)
2. Transaction Control Language (TCL) Command



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Transaction Control Language (TCL)

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- **Transaction Control Language (TCL)** are used to manage transactions in the database.

- These are used to manage the changes made by data manipulation language (**DML**) commands.

- It also allows commands and statements to be grouped together into logical transactions.

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- **COMMIT:** Commit command is used to permanently save any transaction into the database.
- **ROLLBACK:** This command restores the database to last committed state. It is also used with savepoint command to jump to a savepoint in a transaction.
- **SAVEPOINT:** Savepoint command is used to temporarily save a transaction so that you can rollback to that point whenever necessary.

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Automatic commit occurs in the following:

1. A DDL statement.

2. A DCL statement (GRANT, REVOKE).

3. Normal exit from SQL*Plus or SQL Developer, without explicitly issuing ROLLBACK or COMMIT commands.

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Automatic rollback occurs in the following:

1. When there is an abnormal termination of SQL Developer, SQL*Plus or a system failure.

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Transaction Control Language (TCL) Command

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Commit Example

```
INSERT INTO DEPT (DEPTNO, DNAME, LOC)
VALUES(1, 'Admin', 'Irbid');
SELECT * FROM DEPT;
INSERT INTO DEPT (DEPTNO, DNAME, LOC)
VALUES(4, 'Training', 'Irbid’);
Commit;
```

	DEPTNO	DNAME	LOC
1	1	Admin	Irbid
2	4	Training	Irbid
3	1	SE	Amman
4	2	CS	Irbid
5	3	CIS	Jarash

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SAVEPOINT Example:

```
insert into employee values(6,'qasem','aa',2,22,1500);
update employee set salary=5000
where id=1;
savepoint A;
insert into employee values(7,'mojahed','aa',2,22,3000);
savepoint B;
insert into employee values(8,'doha','aa',2,22,3000);
rollback to A ;
```

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ROLLBACK Example

```
INSERT INTO DEPT (DEPTNO, DNAME, LOC)
VALUES(5, 'Training2', 'Irbid’);
SELECT * FROM DEPT;
```

	DEPTNO	DNAME	LOC
1	1	Admin	Irbid
2	4	Training	Irbid
3	1	Admin	Irbid
4	4	Training	Irbid
5	5	Training2	Irbid
6	1	SE	Amman
7	2	CS	Irbid
8	3	CIS	Jarash

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ROLLBACK Example

```
ROLLBACK;
SELECT * FROM DEPT;
```

	DEPTNO	DNAME	LOC
1	1	Admin	Irbid
2	4	Training	Irbid
3	1	Admin	Irbid
4	4	Training	Irbid
5	1	SE	Amman
6	2	CS	Irbid
7	3	CIS	Jarash

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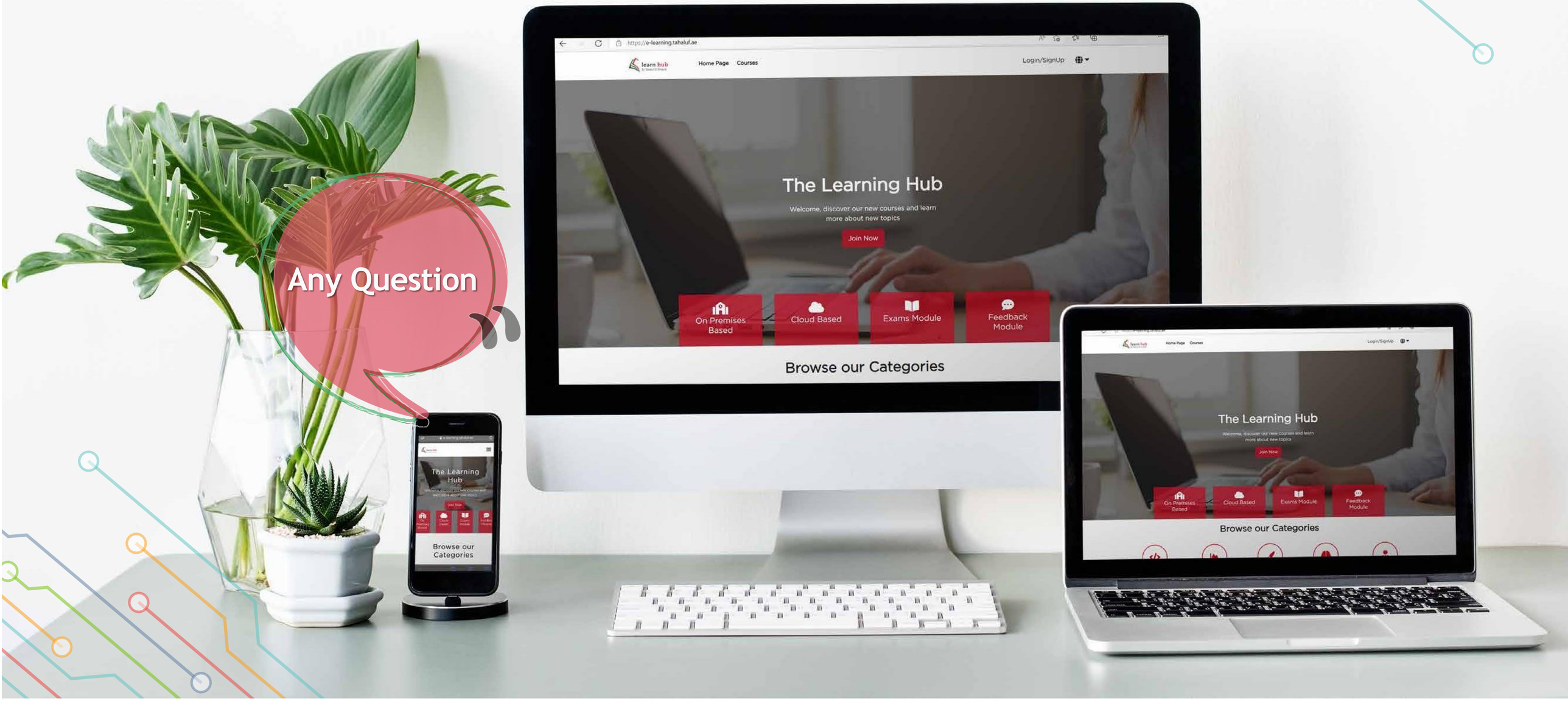
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