

## Session 8 DB (Views) object

→ If you want to get same result of query again use (list query) (اکسیڈنٹ)

↳ Make this by saving result in database catalog → as View

DB Catalog  $\Rightarrow$  Store all Metadata  
of DB (Schemas, Tables, Funs ...)

→ If get any change / update View  
JEDD لے جائیں Table II اس سے کوئی تغیرت نہیں  
کیا تو اسے reference کیا جائے (S)

\* To (Create / Alter / Drop) DML  
with View

Create or Alter View Name of View  
Fun SQL => Give Schema => AS  
// query you want which

Date :

No:

\* View is a Virtual Table /  
Select Statement / named query

To Calling View

Select \* From Name of View  
Also view as select statement

→ View execute query without effect  
on Performance (Standard  
indexes View) (use  $\downarrow$  View)

→ View has No Parameters

Fun || (use  $\downarrow$ )

→ View has No DML query inside  
It's body → Insert/update/delete (view)

## Types of View

① Standard View (regular View)

have just only one Select Statement  
From one Table

② Partitioned View

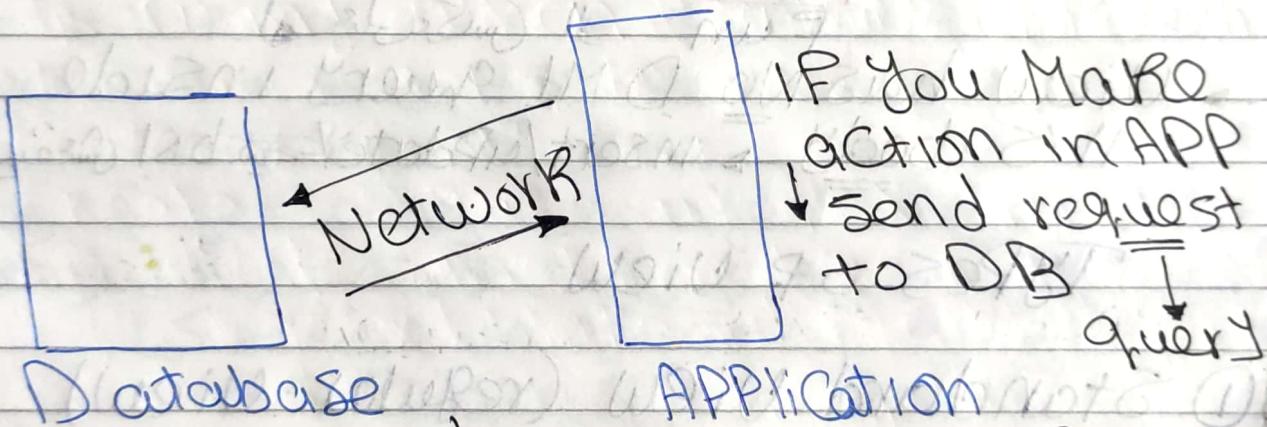
have More than one Select Statement  
From More  $\downarrow$  Table

③ indexed View

improve Performance

## Features of View:-

لوجنات كارج اد حكم لو مس عايز اعفي  
Permission (View In Table) جزء من الحاله (يظهر)  
الجزء الـ View و قادر كمان  
آخر لـ View Secure  
by using Hide Data objs (Security)  
(limit Data access of Data)



May have lack of network &  
understand my DB to solve this  
View → is part of  هو جزء من  
hidden ← Data لبيانات

useability → (Validation in Frontend) to ensure  
That all requests is correctly

& Must Make Validation in backend also

Date: \_\_\_\_\_  
No: \_\_\_\_\_

## DB object

### \* Stored Procedures

then  
to improve performance  
to execute all steps once after  
any execute do Step 4 only  
**(Sequence of query)**

### \* have buildIN Stored Procedure

→ SP\_HELPTEXT 'Take Text Name of View'  
one Parameter int " " " Fun  
as Text " " " Procedure  
before it

جعى الـ TEXT لـ Query المكتوب في جزء.

يعنى لو باعت Query هى من View فى المكتوب بـ

### To Source Code

قبل كده Security لـ SQL Server

### Procedures / View / Fun Body

write ⇒ With encryption

### \* Sequence of query

Query → ① Parse syntax (select from ---)

Query ⇒ Syntax Structure

parts like

### ② Optimize Meta Data

في بوجو (Columns, Tables) Meta information

Column Named (Std. 10) هو موجو 15 Table

### ③ Query Tree

new query tree (氯树). ② Where

query ⇒ ③ Select

### ④ Execution Plan

جعى الـ Execution Plan هى نتائج query

لـ run query لـ select

is step 3rd std=10, 3rd

Date :

TexI

OR Alter

Create Procedure SP\_GetId (@st\_id)

With ENCRYPTION

AS

Select \*  
From Student  
Where st\_id = @st\_id

Calling

SP\_GId (1)

another way

declare @x int = 2

exec SP\_GId (2)

To Using When you have More Than one

blocks using Steps I just execute 2nd step if  
execute step 1 only then execute 1st

\* Result of stored Procedure is more  
flexible to filter results

blo> Performance View SP, Fun, in, to Cpl 166  
(This case is called) This is جد

\* Fun can stored result by select into  
but stored Procedures less flexible  
in this case

→ Procedure Called StoredProcedure

→ Alter SCHEMA HR

Transfer dbo. Name of SP

Date : \_\_\_\_\_

## \* benefit of stored Procedure

5 قواعد كثيرة لـ query's هي ①  
Performance, ② it is Performance  
Hide business Rule

hide business Rules (encapsulation) ③  
alusti DB object query ④ جعل الأشياء ملائمة  
~~Security (hide Meta Data)~~

AS Network wise when using Application ⑤  
DB || APP will pass requests in query ||  
is one place to get or to query -> 1510s

Network wise stored Procedure is Network  
will bring it to you

hide DB object ⑥  
جاء في الأسئلة لأنها تكتب  
List Data (فهي تكتب في hack  
~~Security (hide Meta Data)~~

\* build IN stored procedure when  
using wizard in back group  
execute Build IN Procedure

\* stored procedure

= result ⑦  
result || returns (ما هي المجموعة التي  
I Subquery as لكتها

↳ save query after creation  
once bind

→ Stored Procedure → DISPLAY  
No return

Date :

No:

## EXAMPLES OF VIEWS

① Create View Alex Students View AS

//body (query)

Select St\_Id, St\_Name, St\_Address  
From Student  
Where St\_Address = 'Alex'

Calling

Select \* From Alex Students View

↳ Previous Text For Standard View

② Partitioned View

↳ IF You have More Than select state

↳ IF " " " " Table

Create View Cairo Alex Students

AS

Select \* From Cairo Student View

Union

Select \* From Alex Student View

and Select usual Standard ↳ E1 كذا كذا ↳

Calling

Select \* From Cairo Alex Students

Date : \_\_\_\_\_  
No: \_\_\_\_\_  
View: Columns must fit into Six columns  
Column 11 alias name is not in the ODS

## Create View StudentInDept

(StdId, StdName, DeptName)  
AS ~~use~~ ~~use~~ alias name

Select St.Id, St.Name, d.Dname  
From Student S, Department D  
Where S.DeptId = d.DeptId

→ Data in Table Sorted based on  
Binary search Tree based on PK  
When search in column name  
using heap (لیست درجات)  
(row by row instead of global child)

\* View with DML (Select, Update,  
Delete)

① View → one Table + DML

Can Make insert, update, delete  
on Table ~~in~~ can

→ Insert into Name of View

Values ( ~~values~~ view's columns )

Table is having view to column of

① allow Null ~~يكونوا~~ فهم

② Identity Column

③ have default Value

query يتحقق record is set to value ODS

Date : \_\_\_\_\_

No: \_\_\_\_\_

→ Update

Update Name of View

Set Value in View = \_\_\_\_\_

Where PR = \_\_\_\_\_

View 8 جدول معلومات Columns 7 عدد of  
Rows 4 عدد행

→ delete

delete Name of View

Where Column = \_\_\_\_\_

→ View → More Than one Table  
فقط في Table الواحد يجوز ادخال متعدد

→ delete , Can't delete because

لأن Table الواحد يحدد عمود واحد  
كذلك في Tables ليس

→ ~~Update~~ Insert

Must detect all Columns which  
Want to insert as new data IF You  
given all data it ~~guess~~ Consider  
you want add new data in each  
Table (new student & new Depart)  
at same time & it impossible ~~XX~~

Ex)

Insert into New of View (columns  
of one Table)

Values ( )

Date: \_\_\_\_\_  
No: \_\_\_\_\_

→ UPdate Some is insert

update Name of View

set Value

where

لأنه يكون يتحقق في  
Tables في Relation

Ex:

update StudentIN Depart

set Dept\_Name = 'Java'

where Dept\_id = 10

لأنه يكونDept لا يوجد في  
Query الـ view

\* Check Constraint

to ensure that all data add achieve  
constraint

Create or Alter View StudofCairo  
AS

Select St\_Id, St\_name, St\_Address

From Student

where St\_Address = 'Cairo' with check  
option

Insert into

~~Alter View StudofCairo~~

Values (23, 'Poli', 'Tanta')

// have error because constraint not  
achieved

Date : \_\_\_\_\_

No: \_\_\_\_\_

## \* Relationship Rules

### ① Delete Rule    ② Update Rule

→ Any relationship between two tables or more must have rules

#### \* Delete Rule

FR 5 لـ Table یا PR چنانچه entity

لذم این FR to action چنانچه PR یا record delete یا update یا insert

→ If you want delete Dept-Id = 40  
& Dept-Id is PR in Table Department

Dept-Id is FR in Employee

① Assign Employee to another PR  
Set Dept-Id of Dept-Id = 40 in Table Employee → update Employee

Set Dept-Id = 10

(پس از اینکه) where Dept-Id = 40  
then

gt Null

Delete Dept-Id

From Department

Where Dept-Id = 40

Dept-Id is relation's key Table یا  
آنکه قبل از این دستور باید

→ Can make this by using Wizard

Open Wizard (Diagram) click on  
relation بایزها

Date: Insert and Update Specification  
CR, DB Designer → Window →  
Update → Delete Rule →  
qundo PR query history → Cascade  
→ If this is true then it is ok  
→ If this is PR query history → Set Null  
Null: always always Table's all values

↳ Find in self relationship  
This disable

Ex: Nadia Super Ahmed → Super Moh  
For self relation (infinity) loop

FR question: If we want to set it null just  
set it null or just

Update Student

Set SuperId = Null

Where SuperId in (Select St\_Id  
From Student  
Where Dept\_Id = 40)

another way

Update S

Set S.SuperId = Null

From Student S, Student Super  
Where S.St\_Id = Super.SuperId  
and Dept\_Id = 40

Date: ٢٠١٧/٩/٢٧ No: \* Insert based on execute , SP.

Insert based on execute, To Run  
Stored Procedure

Ex:

Create or Alter Procedure SP\_GetStudent  
(@ Address Varchar)

Select St\_Id, St\_Fname, St\_Address,  
From Student  
Where St\_Address = @ Address

Calling

EXEC SP\_GetStudent 'Cairo'

Solved fun طرق اداء SP  
→ execution plan

Table

Insert into Student with Address

EXEC SP\_GetStudent 'Cairo'

Tables Procedures will result في جدول

\* Error Handling

using TRY\_Catch

,DB will view error Message all valid

Table , Meta data

else Message will hide

by using TRY

// query

Catch

// Message you want  
show

begin TRY

Delete From Topic

where TopId = 3

Declare @Data int = 4

End TRY

Begin Catch

Select 'Have Error' into @Error

وسيتم إرجاع رسالة خطأ في حالة وجود خطأ في  
بيانات المدخلات أو في الكورس

End Catch

→ Catch have friendly message  
as log message in DB to help  
support team to solve problem

☞ global use Try catch inside stored procedure

→ You can using Procedure to  
handle error & hide metadata.

\* Stored Procedure Parameters

① With input parameters

② " output "

Ex1 create Procedure SP-Sum

@X int, @Y varchar

As

Select @X + @Y

EXEC SP-Sum 5, '8'

الرسالة التي ترجع \_ Passing in ordering

EXEC SP-Sum @Y='8', @X=5

-- Passing by name

Date : \_\_\_\_\_

You can give Parameter default value

$@X int = 2, @Y Varchar(5) = '8'$

default is Call this Parameter (first call is)

Exec SP-Sum 4

default is y value is X=4 error

Exec SP-Sum 17 X error

Exec SP-Sum @y = 17

y = 7, X=default

→ Parameters of Run have only input Parameter.

\* output Parameter of SP

In this case SP return

Text

Create Procedure SP-BetData

$@Id int, @Name Varchar(50) output$

AS

Select @Name = St\_Pname,

From Student

Where St\_Id = @Id

-- Calling

Declare @StudentName Varchar

EXEC SP-BetData 1, ,

$@StudentName out$

output دعوه ايه

Date:

## Input - Output Parameter

يُعرف بـ input و output  
يعنى input هو القيم التي ندخلها  
output هو القيم التي نحصل عليها  
as default → input always goes outputs

Ex]

Create Proc GetData

@Id int output, @Name Varchar  
output

AS

3 Select @Name = St\_Pname, @Id = Age  
1 From Student  
2 Where St\_Id = @Id  
— as output  
— as input

Declare @Id int = 2,  
@Name Varchar(10)

Exec GetData @Id output, @Name  
output

Select @Name as 'Name of Student',  
@Id as 'Age of Student'  
to display output ↪

- Scalar function return one value
- Scalar Procedure can return  
More than one value to its ~~table~~  
Can take More than one output