



Database Design & Applications

The Database Language - Stored Procedures





Objectives

- What is Stored Procedure
- Creating Stored Procedure
- Executing Stored Procedure
- Stored Procedure with INPUT and OUTPUT Parameters
- Calling Stored Procedure
- Alter and Drop Procedure
- Advantages of Procedure







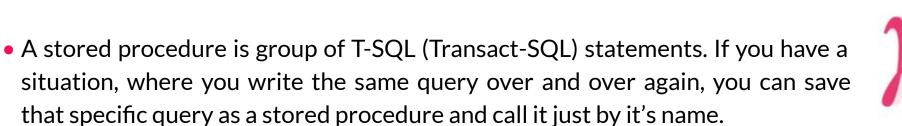


- SQLServer supports block structures to modularize the code by using
 - Procedures
 - Functions
 - Triggers
- The advantages of modular constructs are: Easy maintenance
 - Improved data security
 - Improved performance
 - Improved code clarity





Stored Procedure



- Use CREATE PROCEDURE statement
- **Note:** When naming user defined stored procedures, Microsoft recommends NOT to use sp_ as a prefix. All system stored procedures, are prefixed with sp_. This avoids ambiguity between user defined and system stored procedures and any conflicts, with some future system procedure.





Stored Procedure

```
y / O
```





Create Procedure

create procedure spGetEmpDetails

as

Begin

select last_name, first_name, Salary, Department_id
from employee

End







Execute Procedure

- To execute a stored procedure named: spGetEmpDetails
 - spGetEmpDetails;
 - EXEC spGetEmpDetails;
 - **EXECUTE** spGetEmpDetails







Procedures with Input Parameters

create procedure spGetEmpDeptDetails

@v_Department_id int

select last_name, first_name, Salary, Department_id

from employee

where department_id = @v_Department_id

End

EXEC spGetEmpDeptDetails 10

EXEC spGetEmpDeptDetails '20'









y

```
Create Procedure sp_TotalEmp
```

- @Department_id int,
- @EmployeeCount int output

as

BEGIN

select

EmployeeCount = Count(employee_id)

from employee

where department_id =@Department_id

END

Declare @Empcount int

Execute sp_TotalEmp 20,@Empcount output print @Empcount

 Note: If you don't specify the OUTPUT keyword the @Empcount variable would be null





Calling Stored Procedure

Positional:

spEmployeeLocationwise 10, 'NEW YORK'

• Named:

spEmployeeLocationwise @Regional_group ='NEW YORK', @Department_id=10

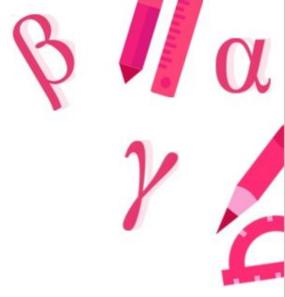






View the Text of Stored Procedure

- 1. Use system stored procedure sp_helptext 'SPName' sp_helptext spGetEmpDetails
- 2. Through object explorer







• To change the stored procedure:

ALTER PROCEDURE 'procecedure_name';

• To delete a stored procedure:

DROP PROCEDURE 'procecedure_name';

• To Encrypt the text of stored procedure, use WITH ENCRYPTION option. It is not possible to view the text of an encrypted SP.

create procedure spEmployeeLocationwise

@Department_id int,

@Regional_group varchar(15)

with encryption

• • • • • •







Useful Stored Procedure

parameter names, their datatypes etc.

- Sp_help procedurename: View the information about stored procedure like
- Sp_help can be used with any database objects like tables, views, triggers etc.
- **Sp_helptext procedure_name**: View the text of procedure
- **Sp_depends procedure_name:** View the dependencies of the stored procedure. It is very useful, if you want to check, whether there is any stored procedure referencing one table you are about to drop. This procedure could also be used with other database objects like table.







Advantages of Stored Procedures

- Execution plan retention and reusability
- Reduces network traffic
- Code reusability and better maintenance
- Better security
- Avoids SQL Injection attack.









THANK YOU!

