



SNS COLLEGE OF ENGINEERING
Kurumbapalayam (Po), Coimbatore – 641 107



An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING-IOT Including CS&BCT
UNIT-II

STORED PROCEDURE

A stored procedure is a group of t-SQL statements that are stored as compiled form in the database to perform a specific task.

How to create a Stored Procedure?

Syntax : CREATE PROCEDURE Procedure_name

```
(  
Inputparameter datatype,  
Outputparameter datatype OUT,  
)  
AS  
BEGIN  
SQL -Statements  
END
```

How to execute Stored procedure?

Syntax: EXEC Procedure_name OR EXECUTE Procedure_name

Different types of Stored procedures

Stored procedures can be classified into following categories:

System Stored procedures

User Defined Stored procedures

System Stored procedures

System Stored procedures are inbuilt stored procedures created by Microsoft to perform various administrative tasks. Examples of system stored procedures: sp_who, sp_lock, sp_depends, etc. The system stored procedure has a prefix of sp_.

User-defined Stored procedure

User-defined Stored procedures are the procedures created by the user to implement specific business logic. The prefix of user-defined stored procedures varies from organization to organization. We can create user-defined stored procedures with or without input and output parameters. In this blog, we will cover various examples illustrating the stored procedures with or without parameters.

Stored procedure without input parameter

Suppose there is a table named Sales_record whose structure is given below :



SNS COLLEGE OF ENGINEERING
Kurumbapalayam (Po), Coimbatore – 641 107



An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING-IOT Including CS&BCT
UNIT-II

CREATE TABLE Sales_record

```
(  
Country varchar(20),  
Product varchar(20),  
Quantity INT,  
SalesAmount INT  
)
```

How to Create Stored Procedure & Trigger in SQL Server
Insert the following data into the table Sales_record we created previously:

INSERT INTO Sales_record VALUES

```
('USA','Computer',100,50000),  
('USA','HardDisk',10,20000),  
('USA','FloppyDrive',50,1000),  
('INDIA','Computer',1000,500000),  
('INDIA','HardDisk',5,10000),  
('INDIA','FloppyDrive',100,2000)
```

How to Create Stored Procedure & Trigger in SQL Server
Now we will create stored procedure without parameter which will return the TotalSalesAmount for each country.

```
CREATE PROCEDURE usp_SalesRecord  
AS  
BEGIN  
SELECT Country, SUM(SalesAmount) AS TotalSalesAmount  
FROM Sales_record  
GROUP BY Country  
END  
EXECUTE usp_SalesRecord
```

Stored procedure with an input parameter

In this example we will query the Sales_record table, but instead of getting back all records we will limit it to just a particular country:



SNS COLLEGE OF ENGINEERING
Kurumbapalayam (Po), Coimbatore – 641 107



An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING-IOT Including CS&BCT
UNIT-II

CREATE PROCEDURE usp_SalesbyCountry

```
(  
@Country varchar(20)  
)  
AS  
BEGIN  
SELECT Country, SUM(SalesAmount) AS TotalSalesAmount  
FROM Sales_record  
WHERE Country=@Country  
GROUP BY Country  
END  
EXEC usp_SalesbyCountry 'USA'
```

Stored procedure with input and output parameters

We can also return the TotalSalesAmount of each country using the output parameter. The following example explains how to achieve so using output parameters:

Read More: [How to Clear SQL Server Transaction Log File with DBCC](#)

```
CREATE PROCEDURE usp_SalesbyCountry_with_out  
(  
@Country varchar(20),  
@sum_amount int OUT  
)  
AS  
BEGIN  
SELECT @sum_amount=SUM(SalesAmount)  
FROM tbl_Sales2  
WHERE Country=@Country  
GROUP BY Country  
END
```



SNS COLLEGE OF ENGINEERING
Kurumbapalayam (Po), Coimbatore – 641 107



An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING-IOT Including CS&BCT
UNIT-II

```
DECLARE @sum_amount int
```

```
EXEC usp_SalesbyCountry_with_out 'USA',@sum_amount=@sum_amount OUT
```

```
SELECT @sum_amount AS Total_saleamount_USA
```

TRIGGER

A trigger is a special kind of stored procedure-one that cannot be executed explicitly, instead of attached to an event. Whenever the event takes place, the trigger fires and the trigger's code runs.

To know more about Triggers and Stored Procedures in SQL Server, avail our self-learning courses at an attractive discount and learn everything about SQL Server in detail.

Syntax: CREATE TRIGGER trigger_name ON {FOR|AFTER|INSTEADOF} {INSERT|DELETE|UPDATE} AS SQL statements

Different types of triggers

Triggers are classified into following categories:

DML Triggers

DDL Triggers

DML triggers

DML triggers are fired in response to DML events such as insert, update, delete operations. DML triggers are further subdivided into the following subcategories:

AFTER triggers or FOR triggers

INSTEAD OF triggers

INSTEAD OF triggers

In instead of trigger , the statements that was issued to cause the trigger to fire will never runs only the code in the trigger runs. In the following example instead of deleting the row containing the product 'Pendrive' record from Sales_record table, the message in the trigger will be displayed.

Example of Instead of trigger:

```
CREATE TRIGGER trg_delSales_record
```

```
ON
```

```
Sales_record
```

```
INSTEAD OF DELETE
```

```
AS
```

```
BEGIN
```



SNS COLLEGE OF ENGINEERING
Kurumbapalayam (Po), Coimbatore – 641 107



An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING-IOT Including CS&BCT
UNIT-II

Print 'DONT have permission to delete from that table'

END

DELETE from Sales_Record Where Product='Pendrive'

SNS COURSEWARE