

Возврат информации с хранимой процедурой (DML, DDL)

Возвращать данные из хранимой процедуры можно 5 способами

1. Выходные параметры: данные могут быть возвращены

из хранимой процедуры с выходными переменными

```
Output parameters.sql - DESKTO...grated) X
Part IV chapter 17 > Output parameters.sql
Run Cancel Disconnect Change Connection AdventureWorks2019 Explain Enable SQLCMD Export as Notebook
1 USE AdventureWorks2019
2
3 GO
4 CREATE PROCEDURE Sales.uspGetCurrencyName
5   @CurrencyCode char(3),
6   @CurrencyName varchar(50) OUTPUT
7 AS
8 SELECT @CurrencyName = Name
9 FROM Sales.Currency
10 WHERE CurrencyCode = @CurrencyCode;
11
12 GO
13 DECLARE @CurrencyNameOutput varchar(50); -- объявляем переменную чтобы получить выходной параметр
14 EXECUTE Sales.uspGetCurrencyName -- исполняем хранимую процедуру
15   @CurrencyCode = 'USD', -- где код USD
16   @CurrencyName = @CurrencyNameOutput OUTPUT -- выводится имя
17 PRINT @CurrencyNameOutput -- напечатаем его
18
```

Messages

```
4:15:58 PM Started executing query at Line 1
Commands completed successfully.
4:15:58 PM Started executing query at Line 4
Commands completed successfully.
4:15:58 PM Started executing query at Line 13
US Dollar
Total execution time: 00:00:00.046
```

2. RETURN возврат одиночного значения

```
Output parameters return.sql - DESKTO...grated) X
Part IV chapter 17 > Output parameters return.sql
Run Cancel Disconnect Change Connection AdventureWorks2019 Explain Enable SQLCMD
1 USE AdventureWorks2019
2
3 GO
4 ALTER PROCEDURE Sales.uspGetCurrencyName -- изменяю процедуру
5   @CurrencyCode char(3),
6   @CurrencyName varchar(50) OUTPUT
7 AS
8 SELECT @CurrencyName = Name
9 FROM Sales.Currency
10 WHERE CurrencyCode = @CurrencyCode;
11 IF @CurrencyName IS NULL -- если имя валюты неизвестно
12 BEGIN
13   RETURN 1 -- вернём 1
14 END
15 ELSE
16 BEGIN
17   RETURN 0 -- иначе вернём 0
18 END;
19
20 GO
21 DECLARE @CurrencyNameOutput varchar(50)
22 DECLARE @ReturnCode int;
23 EXECUTE @ReturnCode = Sales.uspGetCurrencyName -- исполним процедуру
24   @CurrencyCode = 'USD', -- передадим код USD
25   @CurrencyName = @CurrencyNameOutput OUTPUT -- вывод
26 PRINT @CurrencyNameOutput -- напечатаем вывод
27 PRINT @ReturnCode -- возвращается 0 так как имя
28 -- валюты известно (не NULL)
29
```

Messages

```
4:21:46 PM Started executing query at Line 1
Commands completed successfully.
4:21:46 PM Started executing query at Line 4
Commands completed successfully.
4:21:46 PM Started executing query at Line 21
US Dollar
0
Total execution time: 00:00:00.053
```

3. Результирующие наборы: один или несколько операторов SELECT

```
Output parameters result sets.sql - DESKTO...grated) X
Part IV chapter 17 > Output parameters result sets.sql
Run Cancel Disconnect Change Connection AdventureWorks2019 Explain Enable SQLCMD Export as Notebook
1 USE AdventureWorks2019
2 DROP PROCEDURE Sales.uspGetCurrencyInfoAndDetail
3 GO
4 CREATE PROCEDURE Sales.uspGetCurrencyInfoAndDetail -- создаём процедуру
5   @CurrencyCode char(3),
6   @CurrencyRateDate date
7 AS
8 SELECT CurrencyCode, [Name]
9 FROM Sales.Currency
10 WHERE CurrencyCode = @CurrencyCode
11 SELECT FromCurrencyCode, ToCurrencyCode,
12   AverageRate, EndOfDayRate, CurrencyRateDate
13 FROM Sales.CurrencyRate
14 WHERE FromCurrencyCode = @CurrencyCode
15 AND CurrencyRateDate = @CurrencyRateDate
16
17 GO
18 EXECUTE Sales.uspGetCurrencyInfoAndDetail
19   @CurrencyCode = 'USD',
20   @CurrencyRateDate = '2014-01-11'
21 WITH RESULT SETS
22 (
23   (
24     [Currency Code] char(3),
25     [Currency Name] varchar(50)
26   ), -- Разделяем запятой каждый набор результатов
27
28   (
29     [From Currency] char(3),
30     [To Currency] char(3),
31     [Average Rate] numeric(7,4),
32     [End of Day Rate] numeric(7,4),
33     [Currency As-Of Date] date
34   )
35 )
```

Results

Currency Code	Currency Name
1 USD	US Dollar

Messages

From Currency	To Currency	Average Rate	End of Day Rate	Currency As-Of Date
1 USD	ARS	3.8100	3.8108	2014-01-11
2 USD	AUD	1.7728	1.7738	2014-01-11
3 USD	BRL	2.8239	2.8310	2014-01-11
4 USD	CAD	1.5112	1.5169	2014-01-11
5 USD	CNY	8.2871	8.2873	2014-01-11
6 USD	EUR	1.0119	1.0127	2014-01-11
7 USD	GBP	0.6540	0.6545	2014-01-11
8 USD	JPY	119.5800	119.6780	2014-01-11
9 USD	MXN	9.9664	9.9710	2014-01-11
10 USD	SAR	3.7504	3.7507	2014-01-11
11 USD	USD	1.0000	1.0000	2014-01-11

5. Заполнение таблицы: таблица может быть заполнена как часть обработки хранимой процедуры, а затем запрошена после выполнения

```
Output parameters insert execute.sql - DESKTO...grated) X
Part IV chapter 17 > Output parameters insert execute.sql
Run Cancel Disconnect Change Connection AdventureWorks2019 Explain Enable SQLCMD Export as Notebook
1 USE AdventureWorks2019
2 DROP TABLE Sales.NewCurrency
3 DROP PROCEDURE Sales.uspInsertNewCurrency
4
5 GO
6 CREATE TABLE Sales.NewCurrency -- Создаём таблицу
7 (
8   CurrencyCode char(3),
9   Name varchar(50)
10 )
11
12 GO
13 CREATE PROCEDURE Sales.uspInsertNewCurrency -- Создаём процедуру
14   @CurrencyCode char(3)
15 AS
16 SELECT CurrencyCode, Name
17 FROM Sales.Currency
18 WHERE CurrencyCode = @CurrencyCode
19
20 GO
21 INSERT Sales.NewCurrency(CurrencyCode, Name) -- INSERT... EXECUTE в Sales.NewCurrency
22 EXECUTE Sales.uspInsertNewCurrency @CurrencyCode = 'CAD'
23
24 SELECT CurrencyCode, Name -- Сматрим содержимое Sales.NewCurrency
25 FROM Sales.NewCurrency
26
```

Results

Messages

CurrencyCode	Name
1 CAD	Canadian Dollar