Date and Time Function in SQL

Date and time functions allow manipulating columns and variables with DATETIME data types.

**List of Date and Time Function**

1.       GETDATE and GETUTCDATE Functions

2.       DATEPART Function

3.       DATENAME Function

4.       DAY, MONTH, and YEAR Functions

5.       DATEADD Functions

6.       DATEDIFF Function

**GETDATE and GETUTCDATE Functions**

GETDATE and GETUTCDATE functions both return the current date and time. However, GETUTCDATE returns the current Universal Time Coordinate (UTC) time, whereas GETDATE returns the date and time on the computer where SQL Server is running. The GETUTCDATE() function compares the time zone of SQL Server computer with the UTC time zone. Neither of these functions accepts parameters, and they are both non-deterministic.

**Syntax**

GETDATE()

GETUTCDATE()

**Example**

SELECT GETDATE() AS GETDATE, GETUTCDATE() AS GETUTCDATE

**Screen Shot**

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**DATEPART Function**

The DATEPART function allows retrieving any part of the date and time variable provided. This function is deterministic except when used with days of the week.

The DATEPART function takes two parameters: the part of the date that you want to retrieve and the date itself. The DATEPART function returns an integer representing any of the following parts of the supplied date: year, quarter, month, day of the year, day, week number, weekday number, hour, minute, second, or millisecond.

**Syntax**

**DATEPART ( datepart , date )**

**Example1**

SELECT DATEPART(month, GETDATE()) AS 'Month Number'

**Screen Shot**

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**Example2**

SELECT DATEPART(m, 0) AS MONTH, DATEPART(d, 0) AS DATE, DATEPART(yy, 0) AS YEAR

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In this example, the date is specified as a number. Notice that SQL Server interprets 0 as January 1, 1900.

DATEPART parameter that specifies the part of the date to return. The table lists dateparts and abbreviations recognized by Microsoft® SQL Server™.

|  |  |
| --- | --- |
| **Datepart** | **Abbreviations** |
| Year | yy, yyyy |
| Quarter | qq, q |
| Month | mm, m |
| Dayofyear | dy, y |
| Day | dd, d |
| Week | wk, ww |
| Weekday | dw |
| Hour | hh |
| Minute | mi, n |
| Second | ss, s |
| Millisecond | ms |

**DATENAME Function**

The DATENAME nondeterministic function returns the name of the portion of the date and time variable. Just like the DATEPART function, the DATENAME function accepts two parameters: the portion of the date that you want to retrieve and the date. The DATENAME function can be used to retrieve any of the following: name of the year, quarter, month, day of the year, day, week, weekday, hour, minute, second, or millisecond of the specified date.

**Syntax**

DATENAME ( datepart , date )

**Example**

SELECT DATENAME(month, getdate()) AS 'Month Name'

**Screen Shot**

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The syntax of the [SQL DATEPART](https://www.tutorialgateway.org/sql-datepart/) and [SQL DATENAME](https://www.tutorialgateway.org/sql-datename/) in same but they differ in their return value. DATEPART function return integer value and DATENAME function return String data.

**DAY, MONTH, and YEAR Functions**

DAY, MONTH and YEAR functions are deterministic. Each of these accepts a single date value as a parameter and returns respective portions of the date as an integer.

**Syntax**

DAY ( date )

MONTH( date)

YEAR( date )

**Example**

SELECT DAY(getdate()) AS DAY, MONTH(getdate())AS MONTH, YEAR(getdate())AS YEAR

**Screen Shot**

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**DATEADD Functions**

DATEADD function is deterministic; it adds a certain period of time to the existing date and time value.

**Syntax**

DATEADD ( datepart , number, date )

**Example**

SELECT GETDATE()AS 'TODAY DATE', DATEADD(day, 21, getdate()) AS 'EXCEED DATE'

**Screen Shot**

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**DATEDIFF Function**

DATEDIFF function is deterministic; it accepts two DATETIME values and a date portion (minute, hour, day, month, etc) as parameters. DATEDIFF() determines the difference between the two date values passed, expressed in the date portion specified. Notice also that start date should come before the end date, if you'd like to see positive numbers in the result set.

**Syntax**

DATEDIFF ( datepart , startdate , enddate )

**Example**

SELECT DATEDIFF(day, '2012-07-01', '2012-08-27') 'AS NO OF DAY'

**Screen Shot**

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Some more example of DATETIME function:-

|  |
| --- |
| ----Today  SELECT GETDATE() 'Today'  ----Yesterday  SELECT DATEADD(d,-1,GETDATE()) 'Yesterday'  ----First Day of Current Week  SELECT DATEADD(wk,DATEDIFF(wk,0,GETDATE()),0) 'First Day of Current Week'  ----Last Day of Current Week  SELECT DATEADD(wk,DATEDIFF(wk,0,GETDATE()),6) 'Last Day of Current Week'  ----First Day of Last Week  SELECT DATEADD(wk,DATEDIFF(wk,7,GETDATE()),0) 'First Day of Last Week'  ----Last Day of Last Week  SELECT DATEADD(wk,DATEDIFF(wk,7,GETDATE()),6) 'Last Day of Last Week'  ----First Day of Current Month  SELECT DATEADD(mm,DATEDIFF(mm,0,GETDATE()),0) 'First Day of Current Month'  ----Last Day of Current Month  SELECT DATEADD(ms,- 3,DATEADD(mm,0,DATEADD(mm,DATEDIFF(mm,0,GETDATE())+1,0)))'Last Day of Current Month'  ----First Day of Last Month  SELECT DATEADD(mm,-1,DATEADD(mm,DATEDIFF(mm,0,GETDATE()),0)) 'First Day of Last Month'  ----Last Day of Last Month  SELECT DATEADD(ms,-3,DATEADD(mm,0,DATEADD(mm,DATEDIFF(mm,0,GETDATE()),0)))'Last Day of Last Month'  ----First Day of Current Year  SELECT DATEADD(yy,DATEDIFF(yy,0,GETDATE()),0) 'First Day of Current Year'  ----Last Day of Current Year  SELECT DATEADD(ms,-3,DATEADD(yy,0,DATEADD(yy,DATEDIFF(yy,0,GETDATE())+1,0)))'Last Day of Current Year'  ----First Day of Last Year  SELECT DATEADD(yy,-1,DATEADD(yy,DATEDIFF(yy,0,GETDATE()),0)) 'First Day of Last Year'  ----Last Day of Last Year  SELECT DATEADD(ms,-3,DATEADD(yy,0,DATEADD(yy,DATEDIFF(yy,0,GETDATE()),0)))'Last Day of Last Year' |