



SQL | Date functions

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In [SQL](#), dates are complicated for newbies, since while working with a database, the format of the data in the table must be matched with the input data to insert. In various scenarios instead of date, datetime (time is also involved with date) is used.

For storing a date or a date and time value in a database, **MySQL** offers the following data types:

DATE	format YYYY-MM-DD
DATETIME	format: YYYY-MM-DD HH:MI: SS
TIMESTAMP	format: YYYY-MM-DD HH:MI: SS
YEAR	format YYYY or YY

Now, come to some popular functions in SQL date functions.

NOW()

Returns the current date and time.

AD

Query:

```
SELECT NOW();
```

Output:

Number of Records: 1

NOW()

2023-04-04 07:29:38

CURDATE()

Returns the current date.

Query:

```
SELECT CURDATE();
```

Output:

Number of Records: 1

CURDATE()

2023-04-04

CURTIME()

Returns the current time.

Query:

```
SELECT CURTIME();
```

Output:

Number of Records: 1

CURTIME()

07:32:24

DATE()

Extracts the date part of a date or date/time expression. Example: For the below table named 'Test'

Id	Name	BirthTime
4120	Pratik	1996-09-26 16:44:15.581

Query:

```
SELECT Name, DATE(BirthTime)
AS BirthDate FROM Test;
```

Output:

Name	BirthDate
Pratik	1996-09-26

EXTRACT()

Returns a single part of a date/time.

Syntax

EXTRACT(unit FROM date);

Several units can be considered but only some are used such as **MICROSECOND, SECOND, MINUTE, HOUR, DAY, WEEK, MONTH, QUARTER, YEAR, etc.** And 'date' is a valid date expression. Example: For the below table named 'Test'

Id	Name	BirthTime
4120	Pratik	1996-09-26 16:44:15.581

Query:

```
SELECT Name, Extract(DAY FROM  
BirthTime) AS BirthDay FROM Test;
```

Output:

Name	Birthday
Pratik	26

Query:

```
SELECT Name, Extract(YEAR FROM BirthTime)  
AS BirthYear FROM Test;
```

Output:

Name	BirthYear
Pratik	1996

Query:

```
SELECT Name, Extract(SECOND FROM  
BirthTime) AS BirthSecond FROM Test;
```

Output:

Name	BirthSecond
Pratik	581

DATE_ADD()

Adds a specified time interval to a date.

Syntax:

DATE_ADD(date, INTERVAL expr type);

Where, date – valid date expression, and expr is the number of intervals we want to add. and type can be one of the following: MICROSECOND, SECOND, MINUTE, HOUR, DAY, WEEK, MONTH, QUARTER, YEAR, etc. Example: For the below table named ‘Test’

Id	Name	BirthTime
4120	Pratik	1996-09-26 16:44:15.581

Query:

```
SELECT Name, DATE_ADD(BirthTime, INTERVAL  
1 YEAR) AS BirthTimeModified FROM Test;
```

Output:

Name	BirthTimeModified
Pratik	1997-09-26 16:44:15.581

Query:

```
SELECT Name, DATE_ADD(BirthTime,  
INTERVAL 30 DAY) AS BirthDayModified FROM Test;
```

Output:

Name	BirthDayModified
Pratik	1996-10-26 16:44:15.581

Query:

```
SELECT Name, DATE_ADD(BirthTime, INTERVAL  
4 HOUR) AS BirthHourModified FROM Test;
```

Output:

Name	BirthSecond
Pratik	1996-10-26 20:44:15.581

DATE_SUB()

Subtracts a specified time interval from a date. The syntax for DATE_SUB is the same as DATE_ADD just the difference is that DATE_SUB is used to subtract a given interval of date.

DATEDIFF()

Returns the number of days between two dates.

Syntax:

DATEDIFF(date1, date2);

date1 & date2- date/time expression

Query:

```
SELECT DATEDIFF('2017-01-13','2017-01-03') AS DateDiff;
```

Output:

DateDiff
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DATE_FORMAT()

Displays date/time data in different formats.

Syntax:

DATE_FORMAT(date,format);

the date is a valid date and the format specifies the output format for the date/time. The formats that can be used are:

- %a-Abbreviated weekday name (Sun-Sat)
- %b-Abbreviated month name (Jan-Dec)
- %c-Month, numeric (0-12)
- %D-Day of month with English suffix (0th, 1st, 2nd, 3rd)
- %d-Day of the month, numeric (00-31)
- %e-Day of the month, numeric (0-31)
- %f-Microseconds (000000-999999)
- %H-Hour (00-23)
- %h-Hour (01-12)
- %I-Hour (01-12)
- %i-Minutes, numeric (00-59)
- %j-Day of the year (001-366)
- %k-Hour (0-23)
- %l-Hour (1-12)
- %M-Month name (January-December)
- %m-Month, numeric (00-12)
- %p-AM or PM
- %r-Time, 12-hour (hh:mm: ss followed by AM or PM)
- %S-Seconds (00-59)
- %s-Seconds (00-59)
- %T-Time, 24-hour (hh:mm: ss)
- %U-Week (00-53) where Sunday is the first day of the week
- %u-Week (00-53) where Monday is the first day of the week
- %V-Week (01-53) where Sunday is the first day of the week, used with %X
- %v-Week (01-53) where Monday is the first day of the week, used with %x
- %W-Weekday name (Sunday-Saturday)
- %w-Day of the week (0=Sunday, 6=Saturday)
- %X-Year for the week where Sunday is the first day of the week, four digits, used with %V
- %x-Year for the week where Monday is the first day of the week, four digits, used with %v
- %Y-Year, numeric, four digits
- %y-Year, numeric, two digits

This article is contributed by [Pratik Agarwal](#). If you like GeeksforGeeks and would like to contribute, you can also write an article using [write.geeksforgeeks.org](https://www.geeksforgeeks.org/write/geeksforgeeks.org) or mail your article to review-team@geeksforgeeks.org. See your article appearing on the GeeksforGeeks main page and help other Geeks. Please write comments if you find anything incorrect, or if you want to share more information about the topic discussed above.

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