

Dates, times and time zones

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All date-time values are **numeric** values representing the number of **milliseconds** elapsed since **January 1, 1970, 00:00:00 GMT**.

JWT offers various ways of displaying or calculating date-time values, such as **JWT calculated number fields**.



General information

Time values can be manipulated and might depend on certain factors. These are listed below.

Time Macros

While the number of milliseconds might be useful in some cases, usually you want to retrieve values that are more readable (e.g. when being used in calculated fields).

Macros are **aliases for fixed values**. They are often used to convert milliseconds to a more accessible value.

List of all time macros

Macro	Equivalent value
{SECOND}	1000
{MINUTE}	1000 * 60
{HOUR}	1000 * 60 * 60
{DAY}	1000 * 60 * 60 * 24
{WEEK}	1000 * 60 * 60 * 24 * 7
{MONTH}	1000 * 60 * 60 * 24 * 30
{YEAR}	1000 * 60 * 60 * 24 * 365

```
timeLogged(subtasks())
```

This example returns the sum of all **time logged** on all **subtasks** of the current issue in **milliseconds** (see [timeLogged\(\)](#) for more examples).

If you want to display the value and maybe compare it with an original estimate you might need the **number of hours** instead. Simply divide the results by the {HOUR} time macro and you get the number of hours instead.

```
timeLogged(subtasks())/ {HOUR}
```

The following macros return the **day** of the **week**:

Macro	Equivalent value
{SUNDAY}	1
{MONDAY}	2
{TUESDAY}	3
{WEDNESDAY}	4
{THURSDAY}	5
{FRIDAY}	6
{SATURDAY}	7

Use these macros in the following functions:

[dayOfTheWeek\(\)](#)

[dayOfTheWeekToString\(\)](#)

[dayOfTheMonth\(\)](#)

[dayOfTheYear\(\)](#)

The following macros return the **month**:

Macro	Equivalent value
{JANUARY}	1
{FEBRUARY}	2
{MARCH}	3
{APRIL}	4
{MAY}	5
{JUNE}	6
{JULY}	7
{AUGUST}	8
{SEPTEMBER}	9
{OCTOBER}	10
{NOVEMBER}	11
{DECEMBER}	12

Use these macros in the following functions:

[month\(\)](#)

[monthToString\(\)](#)

Time zones

Fields of [type date](#) and **date-time** contain a **numeric value** with the **milliseconds elapsed since January 1, 1970, 00:00:00 GMT**.

The **number** that will be returned by any function using a **date** or **date-time timestamp** depends on a time zone.

Available time zones

Time zone macro	Output
LOCAL or SERVER_LOCAL	Returns the time zone configured for the server running Jira.
USER_LOCAL	Returns the time zone of the current user .
RUN_AS_LOCAL	Returns the time zone of the selected Run as user .

Languages

When dealing with **times** and **time zones** sometimes you need to convert them to **text**. The text returned depends on the selected **language**.

Available languages

Language macro	Output
SERVER_LANG	Returns the default language configured for the server running Jira.
USER_LANG	Returns the language of the current user .
RUN_AS_LANG	Returns the language of the selected Run as user .



Available functions

Function	Short description	Output	Label
addDays()	Adds or subtracts days to or from any given date .	NUMBER	
addDaysSkippingWeekends()	Adds or subtracts natural days (or working days) to or from any given date.	NUMBER	STAFF PICK
addMonths()	Adds or subtracts months to from any given date.	NUMBER	
addTime()	Adds or subtracts days to or from any given timestamp based on a J WT calendar specification .	NUMBER	
addTimeSkippingWeekends()	Adds or subtracts time to or from any given date.	NUMBER	
addYears()	Adds or subtracts years to or from any given date.	NUMBER	
datePart()	Returns the date part of any given timestamp .	NUMBER	STAFF PICK
dateTime()	Creates a timestamp based on input values.	NUMBER	
dateTimeToString()	Returns the timestamp of any given date in text form .	TEXT	STAFF PICK

dateToString()	Returns the timestamp of a date part of any given date in text form .	TEXT	STAFF PICK
dayOfMonth()	Returns the day of the month of any given timestamp .	NUMBER	
dayOfWeek()	Returns the day of the week of any given timestamp.	NUMBER	
dayOfWeekToString()	Returns the day of the week of any given timestamp in text form .	TEXT	
dayOfYear()	Returns the day of the year of any given timestamp .	NUMBER	
daysInMonth()	Returns the number of days in a month of any given timestamp .	NUMBER	
fieldChangeTimes()	Returns the timestamps of when a field has changed satisfying a certain condition .	NUMBER LIST	
formatDuration()	Returns a duration in text form.	TEXT	
formatWorkDuration()	Returns a calculated duration using the workday and workweek defined at time tracking configuration.	TEXT	
hour()	Returns the hour part of any given timestamp .	NUMBER	
lastDayOfMonth()	Returns the last day of the month of a given timestamp.	NUMBER	
lastFieldChangeTime()	Returns the timestamp of the most recent value change of any given field.	NUMBER	STAFF PICK
minute()	Returns the minutes part of a given timestamp.	NUMBER	
month()	Returns the month part of a given timestamp.	NUMBER	
monthToString()	Returns the name of the month for a given timestamp.	TEXT	
nextDayOfWeek()	Returns a timestamp for the next occurence of any given day.	NUMBER	
nextTime()	Returns the next possible timestamp based on a JWT calendar specification .	NUMBER	
second()	Returns the second part of any given timestamp .	NUMBER	
shortFormatDuration()	Returns a duration in short text form.	TEXT	
shortFormatWorkDuration()	Returns a calculated duration using the workday and workweek defined at time tracking configuration in a comprehensive form.	TEXT	
stringToDate()	Converts a text into a date .	NUMBER	
subtractDatesSkippingWeekends()	Subtracts two timestamps ignoring the weekends .	NUMBER	
timeDifference()	Subtracts two timestamps based on a JWT calendar specification .	NUMBER	
timeInStatus()	Returns the time the current issue has remained in a specific status .	NUMBER	STAFF PICK
timeInValue()	Returns the time an issue field has had a specific value .	NUMBER	STAFF PICK
timeLogged()	Returns the sum of all the time logged on issues .	NUMBER	
timePart()	Returns the time part of any given date.	NUMBER	

<code>timeZone()</code>	Returns a time zone .	TIME ZONE	
<code>weekOfTheYear()</code>	Returns the week of a year.	NUMBER	
<code>withinCalendar()</code>	Checks whether a timestamp falls into a time frame defined in a JWT calendar specification .	BOOLEAN	STAFF PICK
<code>year()</code>	Returns the year part of a timestamp.	NUMBER	

If you still have questions, feel free to refer to our [support](#) team.