

# Datetime Data Type

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Cloud Dataprep by TRIFACTA® INC. supports a variety of Datetime formats, each of which has additional variations to it.

## Date Range

### Supported Date Ranges:

- **Earliest:** January 1, 1400
- **Latest:** December 31, 2599

You can use dates in the Gregorian calendar system only. Dates in the Julian calendar are not supported.

## Formatting Tokens

You can use the following tokens to change the format of a column of dates:

Letter	Date or Time Component	Presentation	Examples
M	Month in year	Number	1
MM	Month in year	Number	01
MMMM	Month in year	Month	January
MMM	Month in year	Month	Jan
yy	Year	Number	16
yyyy	Year	Number	2016
D	Day in year	Number	352
d	Day in month	Number	9
dd	Day in a month	Number	09
EEE	Day in week (three-letter abbreviation)	Text	Wed
EEEE	Day in week	Text	Wednesday
h	Hour in day (1-12) <div style="border: 1px solid gray; border-radius: 5px; padding: 5px; margin-top: 10px;"><b>NOTE:</b> Requires an AM/PM indicator (a).</div>	Number	2

hh	Hour in am/pm (01-12)	Number	02
<div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> <b>NOTE:</b> Requires an AM/PM indicator (a). </div>			
H	Hour in day (1-12)	Number	2
HH	Hour in day (0-23)	Number	20
m	Minute in an hour	Number	9
mm	Minute in an hour	Number	09
s	Second in a minute	Number	3
ss	Second in a minute	Number	03
SSS	Millisecond	Number	218
X	Time zone	ISO 8601 time zone	-08 : 00
a	AM/PM indicator	String	AM

**NOTE:** When publishing to relational targets, Datetime values are written as date/time values in newly created tables. If you are appending to a relational table column that is in timestamp format, Datetime values can be written as timestamps.

**Tip:** If your DateTime column contains data in multiple formats, you must change the format of the DateTime column to one format and then add a transformation to convert that data to the other format. When all formats of your source date values are converted to a single format, the application should infer the appropriate date and time format.

### Supported Separators:

- Date separators: blank space, comma, single hyphen, or forward slash
- Time separators: blank space, comma, single hyphen, colon, t or T
- Non-delimited Datetime values are supported. For example, yyyyymmdd, yyyyymmddThhmmssX.

### ISO 8601 Time Zone Notes:

- Support for timezone offset from UTC indicated by +hh:mm, +hhmm, or +hh. For example, the date '2013-11-18 11:55-04:00' is recognized as a DateTime value.
- Datetime part functions (for example, Hour) truncate time zones and return local time.
- If you have a column with multiple time zones, you can convert the column to Unixtime so you can perform Date/Time operations with a standardized time zone. If you want to work with local times, you can truncate the time zone or use other Datetime functions. See *UNIXTIME Function*.

### Supported Datetime Formats

For more information on the available formats and examples of each one, see *Datetime Formats (PDF)*.

For more information on supported date formatting strings, see *DATEFORMAT Function*.

## Supported Time Zones

For more information, see *Supported Time Zone Values*.

## Datetime Schema via API

When Datetime data is returned via API calls, the schema for this information is returned as a three-element array. The additional elements to the specific are required to account for formatting options of for Datetime values.

**Tip:** Schema information for data types is primarily available via API calls. You may find schema information for columns in JSON versions of the visual profile and flow definitions when they are exported.

Example:

```
"end_date": [  
  "Datetime",  
  "mm-dd-yy",  
  "mm*dd*yyyy"  
]
```

Array Element	Description	Example 1	Example 2
Data type	The internal name for the data type. For Datetime columns, this schema value should always be <code>Datetime</code> .	<code>"Datetime"</code>	<code>"Datetime"</code>
Sub-format	The general format category of the data type	<code>"mm-dd-yy"</code>	<code>"mm-dd-yy"</code>
Format type	The specific formatting for the data type	<code>"mm*dd*yyyy"</code>	<code>"shortMonth*d*yy"</code>