

# DATETIME Function

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Generates a Datetime value from the following inputs of Integer type: year, month, day, hour, minute, and second.

- Source values can be Integer literals or column references to values that can be inferred as Integers.
- If any of the source values are invalid or out of range, a missing value is returned.
- This function must be nested within another function that accepts date values, such as DATEFORMAT, as arguments. See the example below.

## Basic Usage

### Integer literal values:

```
derive type:single value: DATEFORMAT(DATETIME(2015,02,15, 2, 4, 0),'yyyy-MM-dd:HH:mm:ss')
```

**Output:** Generates a column of values containing the formatted date value: 2015-02-15:02:04:00.

### Column reference values:

```
derive type:single value: DATEFORMAT(DATETIME(myYear, myMonth, myDay, myHour, myMin, mySec), 'MMM yyyy - HH:MM:SS')
```

**Output:** Generates a column of date values where:

- MMM = short value for myMonth
- yyyy = value from myYear
- HH = value from myHour
- MM = value from myMin
- SS = value from mySec

## Syntax and Arguments

```
derive type:single value:DATEFORMAT(DATETIME(year_integer_col,month_integer_col,day_Integer_col, hour_Integer_col, minute_Integer_col,second_Integer_col),'date_format_string')
```

Argument	Required?	Data Type	Description
year_integer_col	Y	integer	Name of column or Integer literal representing the year value to apply to the function

month_integer_col	Y	integer	Name of column or Integer literal representing the month value to apply to the function
day_integer_col	Y	integer	Name of column or Integer literal representing the day value to apply to the function
hour_integer_col	Y	integer	Name of column or Integer literal representing the hour value to apply to the function
minute_integer_col	Y	integer	Name of column or Integer literal representing the minute value to apply to the function
second_integer_col	Y	integer	Name of column or Integer literal representing the day second to apply to the function
date_format_string	Y	string	String literal identifying the date format to apply to the value

For more information on syntax standards, see *Language Documentation Syntax Notes*.

### **year\_integer\_col**

Integer literal or name of the column containing integer values for the year.

- Missing values for this function in the source data result in missing values in the output.
- Multiple columns and wildcards are not supported.

#### **Usage Notes:**

Required?	Data Type	Example Value
Yes	Integer (literal or column reference)	2015

### **month\_integer\_col**

Integer literal or name of the column containing integer values for the month.

- Values must be 1 or more, with a maximum value of 12.
- Missing values for this function in the source data result in missing values in the output.
- Multiple columns and wildcards are not supported.

#### **Usage Notes:**

Required?	Data Type	Example Value
Yes	Integer (literal or column reference)	4

### **day\_integer\_col**

Integer literal or name of the column containing integer values for the day.

- Values must be 1 or more, with a maximum value for any month of 31.
- Missing values for this function in the source data result in missing values in the output.
- Multiple columns and wildcards are not supported.

#### **Usage Notes:**

Required?	Data Type	Example Value
Yes	Integer (literal or column reference)	26

### hour\_integer\_col

Integer literal or name of the column containing integer values for the hour.

- Values must be 0 or more, with a maximum value for any hour of 23.
- Missing values for this function in the source data result in missing values in the output.
- Multiple columns and wildcards are not supported.

#### Usage Notes:

Required?	Data Type	Example Value
Yes	Integer (literal or column reference)	21

### minute\_integer\_col

Integer literal or name of the column containing integer values for the minute.

- Values must be 0 or more, with a maximum value for any minute of 59.
- Missing values for this function in the source data result in missing values in the output.
- Multiple columns and wildcards are not supported.

#### Usage Notes:

Required?	Data Type	Example Value
Yes	Integer (literal or column reference)	04

### second\_integer\_col

Integer literal or name of the column containing integer values for the second.

- Values must be 0 or more, with a maximum value for any second of 59.
- Missing values for this function in the source data result in missing values in the output.
- Multiple columns and wildcards are not supported.

#### Usage Notes:

Required?	Data Type	Example Value
Yes	Integer (literal or column reference)	15

### date\_format\_string

For more information on supported data formatting strings, see *Supported Data Types*.

For more information, see *DATEFORMAT Function*.

### Examples

**Tip:** For additional examples, see *Common Tasks*.

### Example - date and time functions

This example illustrates how the `DATE` and `TIME` functions operate. Both functions require that their outputs be formatted properly using the `DATEFORMAT` function.

- `DATE` - Generates valid Datetime values from three integer inputs: year, month, and day. See *DATE Function*.
- `TIME` - Generates valid Datetime values from three integer inputs: hour, minute, and second. See *TIME Function*.
- `DATETIME` - Generates valid Datetime values from six integer inputs: year, month, day, hour, minute, and second. See *DATETIME Function*.
- `DATEFORMAT` - Formats valid Datetime values according to the provided formatting string. See *DATEFORMAT Function*.

#### Source:

year	month	day	hour	minute	second
2016	10	11	2	3	0
2015	11	20	15	22	30
2014	12	25	18	30	45

#### Transform:

```
derive type:single value: DATEFORMAT(DATE (year, month, day), 'yyyy-MM-dd') as: 'fctn_date'
```

```
derive type:single value: DATEFORMAT(TIME (hour, minute, second), 'HH-mm-ss')  
as: 'fctn_time'
```

```
derive type:single value: DATEFORMAT(DATETIME (year, month, day, hour, minute,  
second), 'yyyy-MM-dd-HH:mm:ss') as: 'fctn_datetime'
```

#### Results:

**NOTE:** All inputs must be inferred as Integer type and must be valid values for the specified input. For example, month values must be integers between 1 and 12, inclusive.

year	month	day	hour	minute	second	fctn_date	fctn_time	fctn_datetime
2016	10	11	2	3	0	2016-10-11	02-03-00	2016-10-11-02:03:00
2015	11	20	15	22	30	2015-11-20	15-22-30	2015-11-20-15:22:30
2014	12	25	18	30	45	2014-12-25	18-30-45	2014-12-25-18:30:45

You can apply other date and time functions to the generated columns. For an example, see *YEAR Function*.