

TIME Function

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Generates time values from three inputs of Integer type: 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 as arguments. See the example below.

Wrangle vs. SQL: This function is part of Wrangle , a proprietary data transformation language. Wrangle is not SQL. For more information, see *Wrangle Language*.

Basic Usage

Integer literal values:

```
dateformat(time(23,58,59),'HH mm ss')
```

Output: Returns the following map:

```
23 58 59
```

Column reference values:

```
dateformat(time(myHour, myMinute, mySecond), 'hh-mm-ss')
```

Output: Generates a column of values where:

- *hh* = values from *myHour* column
- *mm* = values from *myMinute* column
- *ss* = values from *mySecond* column

Syntax and Arguments

```
dateformat(time(hour_integer_col,minute_integer_col,second_integer_col), 'time_format_string')
```

| Argument | Required? | Data Type | Description |
|------------------|-----------|-----------|--|
| 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 second value to apply to the function |
| time_format_string | Y | string | String literal identifying the time format to apply to the value |

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

hour_integer_col

Integer literal or name of the column containing integer values for the hour. Values must integers between 0 and 23, inclusive.

- 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 |

minute_integer_col

Integer literal or name of the column containing integer values for the minutes. Values must integers between 0 and 59, inclusive.

- 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) | 23 |

second_integer_col

Integer literal or name of the column containing integer values for the second. Values must integers between 0 and 59, inclusive.

- 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) | 45 |

time_format_string

For more information on supported time 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 |

Transformation:

| | |
|-----------------------------------|--|
| Transformation Name | New formula |
| Parameter: Formula type | Single row formula |
| Parameter: Formula | <code>DATEFORMAT(DATE (year, month, day), 'yyyy-MM-dd')</code> |
| Parameter: New column name | 'fctn_date' |

| | |
|-----------------------------------|--|
| Transformation Name | New formula |
| Parameter: Formula type | Single row formula |
| Parameter: Formula | <code>DATEFORMAT(TIME (hour, minute, second), 'HH-mm-ss')</code> |
| Parameter: New column name | 'fctn_time' |

| | |
|--------------------------------|---|
| Transformation Name | New formula |
| Parameter: Formula type | Single row formula |
| Parameter: Formula | <code>DATEFORMAT(DATETIME (year, month, day, hour, minute, second), 'yyyy-MM-dd-HH:mm:ss')</code> |

| | |
|----------------------------|-----------------|
| Parameter: New column name | '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*.