

# WORKDAY Function

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Calculates the work date that is before or after a start date, as specified by a number of days. A set of holiday dates can be optionally specified.

- Input can be a column reference or the output of the DATE or TIME function.
  - See *DATE Function*.
  - See *TIME Function*.
- The first value is used as the baseline.
- The second value is the number of days before or after the start date.
  - If the second value is negative, the function returns the number of days before the start date.

**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

```
workday(StartDate, 4)
```

**Output:** Returns the date that is four working days after `StartDate`.

## Syntax and Arguments

```
workday(date1,numDays,[array_holiday])
```

| Argument      | Required? | Data Type | Description  |
|---------------|-----------|-----------|--|
| date1         | Y         | datetime  | Starting date to compare   |
| numDays       | Y         | integer   | Number of days before or after starting date                       |
| array_holiday | N         | array     | An array of string values representing the valid dates of holidays |

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

### date1

Date value can be column references or output of the DATE function or the TIME function.

- For more information, see *DATE Function*.
- For more information, see *TIME Function*.

### Usage Notes:

| Required? | Data Type   | Example Value   |
|-----------|---|-----------------|
| Yes       | Datetime (Column reference or date output of DATE or TIME function) | LastContactDate |

### numDays

An Integer that defines the number of working days distance from the start date. The function returns the start date plus or minus the number of working days represented in this Integer.

If the integer is less than zero, the number of working days are counted backward from the start date.

### Usage Notes:

| Required? | Data Type | Example Value |
|-----------|-----------|---------------|
| Yes       | integer   | 10            |

### array\_holiday

An array containing the list of holidays, which are factored in the calculation of working days.

Values in the array must be in either of the following formats:

```
[ '2020-12-24', '2020-12-25' ]  
[ '2020/12/24', '2020/12/25' ]
```

### Usage Notes:

| Required? | Data Type | Example Value   |
|-----------|-----------|---|
| Yes       | Array     | ['2018-12,24','2018-12-25','2018-12-31','2019-01-01'] |

### Examples

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

### Example - Date diffing functions

This example shows you the functions that can be used to calculate the number of days between two input dates:

- DATEDIF - Calculates difference between two input dates for a specified unit of measure. In this example, the unit of measure is day. See *DATEDIF Function*.
- NETWORKDAYS - Calculates number of working days between two input dates, assuming a Monday - Friday workweek. See *NETWORKDAYS Function*.
- NETWORKDAYSINTL - Calculates number of working days between two input dates with optional specified workweek. see *NETWORKDAYSINTL Function*.
- WORKDAY - Calculates the date of a working day that is a specified number of working days before or after a specified date. See *WORKDAY Function*.

- **WORKDAYINTL** - Calculates the date of a working day that is a specified number of working days before or after a specified date, factoring in an optional set of workday schedule for the week. See *WORKDAYINTL Function*.

**Source:**

The following dataset contains two columns of dates.

- The first column values are constant. This date falls on a Monday.

| Date1      | Date2      |
|------------|------------|
| 2020-03-09 | 2020-03-13 |
| 2020-03-09 | 2020-03-06 |
| 2020-03-09 | 2020-03-16 |
| 2020-03-09 | 2020-03-23 |
| 2020-03-09 | 2020-04-10 |
| 2020-03-09 | 2021-03-10 |

**Transformation:**

The first transformation calculates the number of raw days between the two dates:

|                                   |   |
|-----------------------------------|---|
| <b>Transformation Name</b>        | New formula                             |
| <b>Parameter: Formula type</b>    | Single row formula                      |
| <b>Parameter: Formula</b>         | <code>datedif(Date1, Date2, day)</code> |
| <b>Parameter: New column name</b> | 'datedif'                               |

This step computes the number of working days between the two dates. Assumptions:

- Workweek is Monday - Friday.
- There are no holidays.

|                                   |  |
|-----------------------------------|--|
| <b>Transformation Name</b>        | New formula                                |
| <b>Parameter: Formula type</b>    | Single row formula                         |
| <b>Parameter: Formula</b>         | <code>networkdays(Date1, Date2, [])</code> |
| <b>Parameter: New column name</b> | 'networkDays'                              |

For some, March 17 is an important date, especially if you are Irish. To add St. Patrick's Day to the list of holidays, you could add the following transformation:

|                                   |  |
|-----------------------------------|--|
| <b>Transformation Name</b>        | New formula  |
| <b>Parameter: Formula type</b>    | Single row formula                                     |
| <b>Parameter: Formula</b>         | <code>networkdays(Date1, Date2, ['2020-03-17'])</code> |
| <b>Parameter: New column name</b> |  |

|                                   |                         |
|-----------------------------------|-------------------------|
| <b>Parameter: New column name</b> | 'networkDaysStPatricks' |
|-----------------------------------|-------------------------|

In the following transformation, the NETWORKDAYSINTL function is applied so that you can specify the working days in the week:

|                                   |  |
|-----------------------------------|--|
| <b>Transformation Name</b>        | New formula                                  |
| <b>Parameter: Formula type</b>    | Single row formula                           |
| <b>Parameter: Formula</b>         | networkdaysintl(Date1, Date2, '1000011', []) |
| <b>Parameter: New column name</b> | 'networkDaysIntl'                            |

The following two functions enable you to calculate a specific working date based on an input date and integer number of days before or after it. In the following, the date that is five working days before the Date2 column is computed:

|                                   |                    |
|-----------------------------------|--------------------|
| <b>Transformation Name</b>        | New formula        |
| <b>Parameter: Formula type</b>    | Single row formula |
| <b>Parameter: Formula</b>         | workday(Date2, -5) |
| <b>Parameter: New column name</b> | 'workday'          |

Suppose you wish to factor in a four-day workweek, in which Friday through Sunday is considered the weekend:

|                                   |                                   |
|-----------------------------------|-----------------------------------|
| <b>Transformation Name</b>        | New formula                       |
| <b>Parameter: Formula type</b>    | Single row formula                |
| <b>Parameter: Formula</b>         | workdayintl(Date2, -5, '0000111') |
| <b>Parameter: New column name</b> | 'workdayintl'                     |

**Results:**

| Date1      | Date2      | workdayintl | workday    | networkDaysIntl | networkDaysStPatricks | networkDays | datedif |
|------------|------------|-------------|------------|-----------------|-----------------------|-------------|---------|
| 2020-03-09 | 2020-03-13 | 2020-03-05  | 2020-03-06 | 4               | 5                     | 5           | 4       |
| 2020-03-09 | 2020-03-06 | 2020-02-27  | 2020-02-28 | <i>null</i>     | <i>null</i>           | <i>null</i> | -3      |
| 2020-03-09 | 2020-03-16 | 2020-03-15  | 2020-03-09 | 4               | 6                     | 6           | 7       |
| 2020-03-09 | 2020-03-23 | 2020-03-12  | 2020-03-16 | 8               | 10                    | 11          | 14      |
| 2020-03-09 | 2020-04-10 | 2020-04-02  | 2020-04-03 | 20              | 24                    | 25          | 32      |
| 2020-03-09 | 2021-03-10 | 2021-03-02  | 2021-03-03 | 210             | 262                   | 263         | 366     |