Command Reference: FormatTableDateTime()

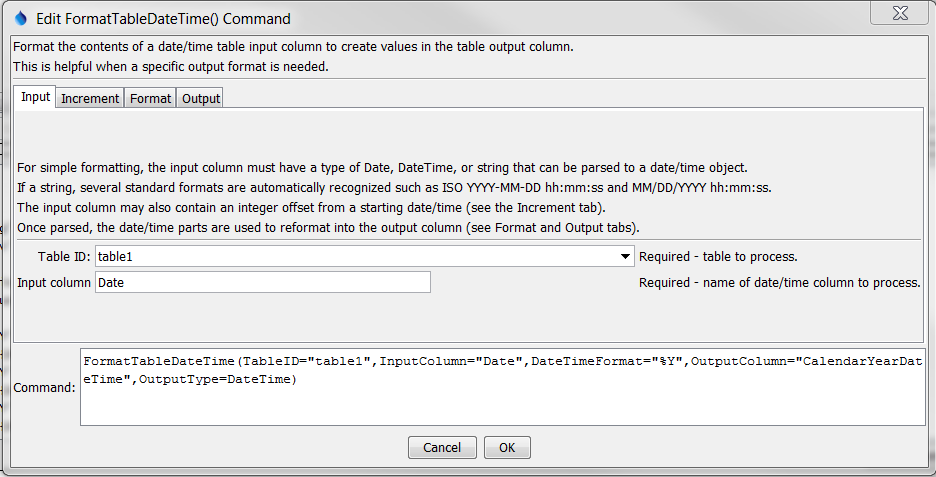
Format a date/time column in a table

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The FormatTableDateTime() command formats a date/time input column from a table to create a table output column. For example, it may be necessary to reformat a date/time column into an object type that is more suitable for reporting, further processing, or export to a spreadsheet. See also the FormatTableString() command, which manipulates strings. Formatting occurs as follows:

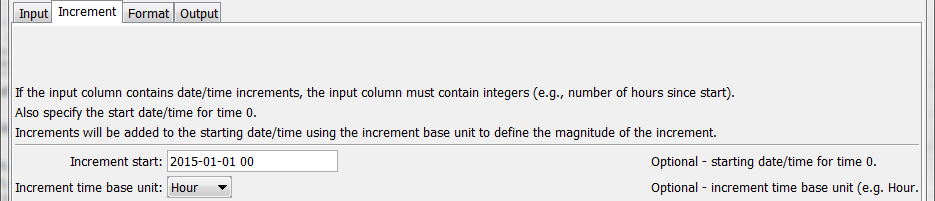
1. The date/time input column value is parsed into internal date/time object. Currently there is no command parameter to specify the format of the input column and consequently standard formats are expected (ISO YYYY-MM-DD hh:mm:ss or MM/DD/YYYY hh:mm:ss of varying precision):
   * If the input column is not an increment (Increment tab parameters are blank) then the input column is parsed directly to a date/time object.
   * If the input column is an increment from a starting date/time (Increment tab parameters are not blank), the date/time object is computed as the offset from the starting date/time, for example the number of hours since the start.
2. The date/time object from the previous step is formatted into a string using the format specifier string specified by the FormatterType and DateTimeFormat parameters. Missing values in input will result in blanks (nulls) in output.
3. The string is converted into the final output column type by specifying the OutputType parameter:
   * DateTime output might be used to create date/time objects with less precision that the original input column (for example to truncate hh:mm:ss that is superfluous).
   * Integer or double types can be created if the date/time output string from the previous step contains integer or floating-point number, for example YYYY or YYYY.MM
   * String outputs the string from the previous step.

The following dialog is used to edit the command and illustrates the syntax of the command.



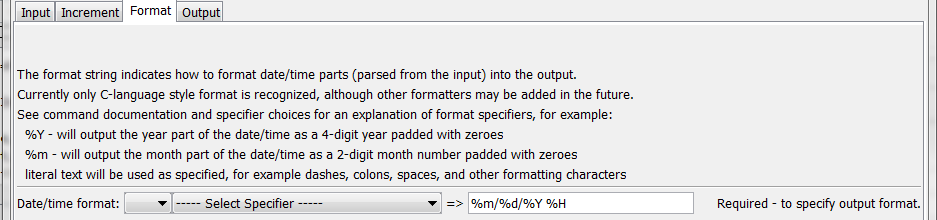
FormatTableDateTime

FormatTableDateTime() Command Editor Showing Input Parameters



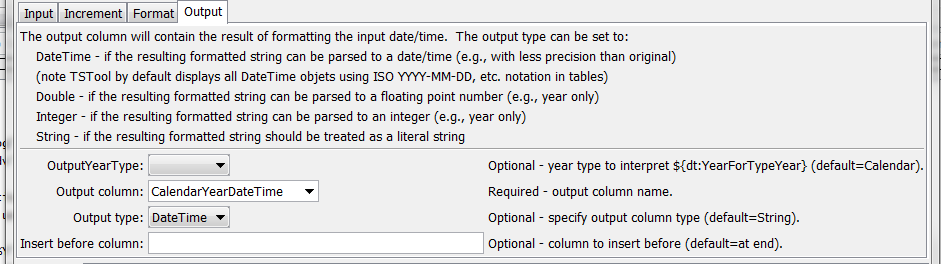
FormatTableDateTime\_Increment

FormatTableDateTime() Command Editor Showing Increment Parameters



FormatTableDateTime\_Format

FormatTableDateTime() Command Editor Showing Format Parameters



FormatTableDateTime\_Output

FormatTableDateTime() Command Editor Showing Output Parameters

The command syntax is as follows:

FormatTableDateTime(Parameter=Value,…)

Command Parameters

| Parameter | Description | Default |
| --- | --- | --- |
| TableID | The identifier for the table to process. Can be specified using processor ${Property}. | None – must be specified. |
| InputColumn | The name of the input date/time column to process. The column can contain date/time objects or strings that can be parsed into date/time objects. If IncrementStart is specified, this column should contain integers that indicate the offset from the increment start. Can be specified using processor ${Property}. | None – must be specified. |
| IncrementStart | When input column is an increasing time increment, specify the starting date/time. Can be specified using processor ${Property}. | Do not use increment. |
| Increment  BaseUnit | When input column is an increasing time increment, specify the base unit for increment values: Minute, Hour, Day, Year. | Do not use increment. |
| FormatterType | The date/time formatter type that defines DateTimeFormat:   * C – the C programming language strftime() function, which has been widely copied (described below). * MS – Microsoft convention (currently not supported but may be added in the future). | C |
| DateTimeFormat | The format specifier string used to format the date/time values. Specify as many format specifiers as appropriate. All other characters will be transferred to the output string. See the table below for valid specifiers. Can be specified using processor ${Property}. | None – must be specified. |
| OutputYearType | Indicate the year type used to transform the date/time to an output. For example, specify OutputYearType=Water and DateTimeFormat=${dt:YearForYearType} to output the water year corresponding to the input date/time. |  |
| OutputColumn | The name of the column to receive the output. If the column does not exist in the table it will be created, considering OutputType. Can be specified using processor ${Property}. | None – must be specified. |
| OutputType | Specify if the output column should be other than a String. Successful conversion to the output type requires that the format string result is consistent with the desired output type. | String |
| InsertBefore  Column | The name of the column before which the output column should be inserted (if the output column needs to be created). Can be specified using processor ${Property}. | Insert at the end of the table. |

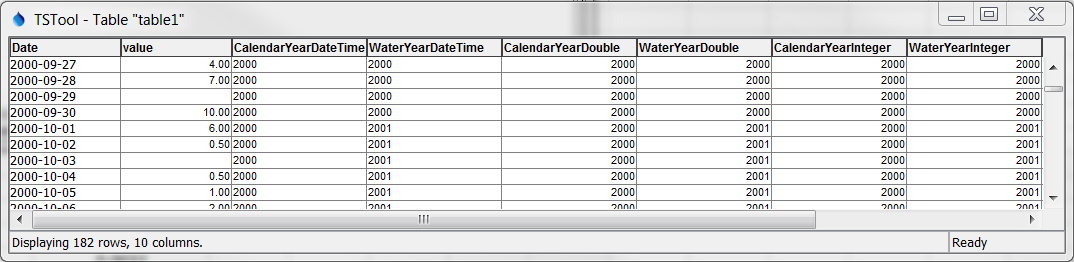
The following table lists the supported format strings for FormatterType=C:

Supported C (Strftime) Format Specifiers

| Format Specifier | Description |
| --- | --- |
| %a | Weekday abbreviation (e.g., Sun) |
| %A | Weekday (e.g., Sunday). |
| %b | Month abbreviation (e.g., Jan). |
| %B | Month (e.g., January). |
| %d | Day (01-31). |
| %H | Hour (00-23). |
| %I | Hour (01-12). |
| %j | Day of year (001-366). |
| %m | Month (01-12). |
| %M | Minute (00-59). |
| %p | AM, PM (noon=PM, midnight=AM). |
| %S | Second (00-59). |
| %s | Number of seconds since Jan 1, 1970 00:00:00 |
| %y | Year (00-99). |
| %Y | Year (0000-9999). |
| %Z | Time zone (e.g., MST). |
| ${dt:YearForYearType} | 4-digit year for the given OutputYearType. |

The following example illustrates how to convert an input date/time column into variations of the date/time, with the following input used to generate the WaterYearDateTime column (surrounding quotes will be added automatically by command editor). Note the change in value of the water year.

* InputColumn=Date
* DateTimeFormat=%Y
* OutputYearType=Water
* OutputColumn=WateryearDateTime
* OuputType=DateTime



The following example illustrates how to convert increment data into a full date/time column string, with the following input (surrounding quotes will be added automatically by command editor):

* InputColumn=Hour of Event
* IncrementStart=2015-01-01 00
* IncrementBaseUnit=Hour
* DateTimeFormat=%m/%d/%Y %H
* OutputColumn=DateTime

