

## How are variables in a dataframe with class POSIXct displayed in the grid?

Class "POSIXct" represents the (signed) number of seconds since the beginning of 1970 (in the UTC time zone) as a numeric vector.

We use a C# function to convert this numeric number to the local date and time except in the situation described below. Converting to local time automatically handles daylight saving.

When displaying variables of type POSIXct in the grid, we display the dates in the local time zone in the format YYYY-mm-dd HH:MM:SS.

The local time zone in R can be queried by running the following command in the BlueSky Statistics R syntax editor Sys.timezone().

The only exception is when displaying variables of the POSIXct class created when opening excel files. In this case, we look for the attribute **tzzone** on the variable, if it is set to UTC, we display the date as (UTC) is without converting UTC to the local time zone.

This ensures that a shift in the date to the local time zone does not occur when Excel files are opened in BlueSky Statistics.

The date columns in Excel are treated as UTC time by the R package that opens the excel files and converts the Excel data to a dataframe in R.

You can check whether the **tzzone** attribute column is set by running the R syntax below in the BlueSky Statistics R syntax editor

```
attr(Dataset1$col1, "tzzone")
```

Replace **Dataset1** with the dataset name and replace **col1** with the column name.

NOTE: We display the UTC offset in the variable grid in the column called UTC offset.

## How are variables in a dataframe with class Date displayed in the grid?

They are displayed in the format YYYY-mm-dd