

# JWT Release Notes 2.2.39

[2017-07-05] Released [Jira Workflow Toolbox 2.2.39](#)

## New features

### 1) Support for doing time calculations on Custom Schedules

Now, you will be able to do any time calculations on the very particular work-schedule(s) of your company or organization.

You can define one or more custom schedules at **Administration > Add-ons > Jira WORKFLOW TOOLBOX > Schedule** using [Schedules Definition Grammar](#), which is a very powerful language capable of defining schedules as complex as you might imagine.

Then you have the following functions available to do time calculations on your custom schedules, using any feature of the plugin (conditions, validations, post-functions and calculated fields):

Function	Returned value
<b>inSchedule</b> (number <b>time_instant</b> , string <b>schedule_name</b> , string <b>additional_terms</b> , timeZone <b>time_zone</b> ) : boolean	Similar to previous function, but with extra parameter <b>additional_terms</b> , which is a string containing extra <a href="#">Schedule Definition</a> clauses that will be attached to schedule with name <b>schedule_name</b> . This function can be used to include personal holidays to an existing schedule.  Example without additional terms: <code>inSchedule(2017/12/04 9:00, "my_schedule", LOCAL)</code> returns <b>true</b> . Example with additional terms: <code>inSchedule(2017/12/04 9:00, "my_schedule", LOCAL)</code> returns <b>false</b> .
<b>timeDifference</b> (number <b>higher_instant</b> , number <b>lower_instant</b> , string <b>schedule_name</b> , timeZone <b>time_zone</b> ) : number	Returns the number of milliseconds elapsed from <b>lower_instant</b> to <b>higher_instant</b> within schedule with name <b>schedule_name</b> for <b>time_zone</b> timezone.  Example: <code>timeDifference(2017/12/04 10:01, 2017/12/01 01:00, "my_schedule", LOCAL)</code> returns <b>8 * {HOUR} + 31 * {MINUTE}</b> . Example: <code>timeDifference(2017/12/04 17:00, 2017/12/04 14:00, "my_schedule", LOCAL)</code> returns <b>2 * {HOUR} + 30 * {MINUTE}</b> .
<b>timeDifference</b> (number <b>higher_instant</b> , number <b>lower_instant</b> , string <b>schedule_name</b> , string <b>additional_terms</b> , timeZone <b>time_zone</b> ) : number	Similar to previous function, but with extra parameter <b>additional_terms</b> , which is a string containing extra <a href="#">Schedule Definition</a> clauses that will be attached to schedule with name <b>schedule_name</b> . This function can be used to include personal holidays to an existing schedule.  Example without additional terms: <code>timeDifference(2017/12/05 18:00, 2017/12/01 9:00, "my_schedule", LOCAL)</code> returns <b>25 * {HOUR}</b> . Example with additional terms: <code>timeDifference(2017/12/05 18:00, 2017/12/01 9:00, "my_schedule", "2017/12/04 {;}", LOCAL)</code> returns <b>15 * {HOUR}</b> .
<b>addTime</b> (number <b>base_instant</b> , number <b>offset</b> , string <b>schedule_name</b> , timeZone <b>time_zone</b> ) : number	Returns the time instant resulting of adding <b>offset</b> milliseconds to <b>base_instant</b> within schedule with name <b>schedule_name</b> for <b>time_zone</b> timezone.  Example: <code>addTime(2017/12/01 01:00, 8 * {HOUR} + 31 * {MINUTE}, "my_schedule", LOCAL)</code> returns <b>2017/12/04 10:01</b> . Example: <code>addTime(2017/12/04 14:00, 2 * {HOUR} + 30 * {MINUTE}, "my_schedule", LOCAL)</code> returns <b>2017/12/04 17:00</b> .
<b>addTime</b> (number <b>base_instant</b> , number <b>offset</b> , string <b>schedule_name</b> , string <b>additional_terms</b> , timeZone <b>time_zone</b> ) : number	Similar to previous function, but with extra parameter <b>additional_terms</b> , which is a string containing extra <a href="#">Schedule Definition</a> clauses that will be attached to schedule with name <b>schedule_name</b> . This function can be used to include personal holidays to an existing schedule.  Example without additional terms: <code>addTime(2017/12/01 9:00, 25 * {HOUR}, "my_schedule", LOCAL)</code> returns <b>2017/12/05 18:00</b> . Example with additional terms: <code>addTime(2017/12/01 9:00, 15 * {HOUR}, "my_schedule", "2017/12/04 {;}", LOCAL)</code> returns <b>2017/12/05 18:00</b> .

In the examples above we have used schedule "my\_schedule", which definition in [Schedules Definition Grammar](#) is:

```
1  MON-THU {
2      08:30 - 15:30,
3      16:00 - 19:30;
4  }
5
6  FRI {
7      08:00 - 15:00;
8  }
```

Note that 2017/12/01 is Friday, and 2017/12/04 is Monday.

A typical usage example is: [Automatic work log with start and stop work transitions](#)

## 2) Other new functions added to the parser:

Function	Returned value
<b>issueIDFromKey</b> (string <b>issue_key</b> ) : string	Returns the <b>internal ID</b> of issue with key <b>issue_key</b> . This function also admits a comma separated list of issue keys, and returns a comma separated list of <b>internal IDs</b> . Example: <code>issueIDFromKey("CRM-1")</code> returns <code>"10001"</code> .
<b>issueKeyFromID</b> (string <b>issue_ID</b> ) : string	Returns the <b>issue key</b> of issue with <b>internal ID</b> <b>issue_ID</b> . This function also admits a comma separated list of <b>issue IDs</b> , and returns a comma separated list of <b>issue keys</b> . Example: <code>issueIDFromKey("10001")</code> returns <code>"CRM-1"</code> .
<b>timeZone</b> (string <b>timeZone_name</b> ) : timeZone	Returns the <b>timeZone</b> whose name is represented by string <b>timeZone_name</b> . This function is useful to obtain a <b>timeZone</b> from a string, like the value of a <a href="#">Project Property</a> . Example: <code>timeZone("DST")</code> returns <code>DST timeZone</code> .

## Bug fixes

- [Issue #636](#) - Function `latestReleasedVersion()` failed when there are version with no release date.