

Limit the number of hours a user can log per day

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Features used to implement the example

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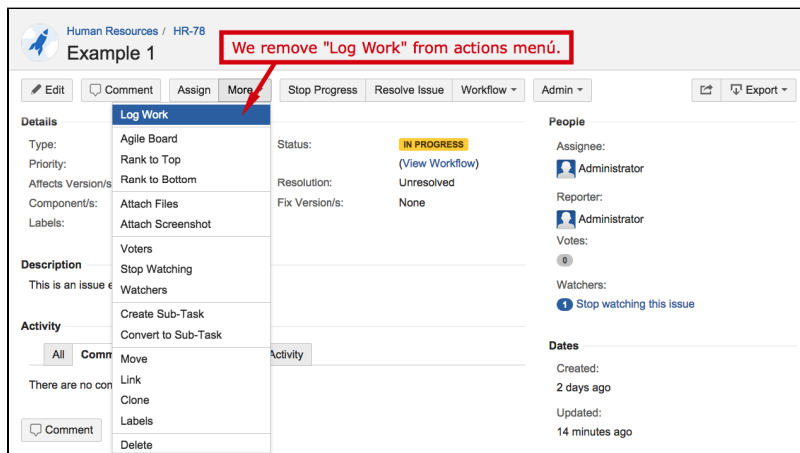
Example: Limit the number of hours a user can log per day

The following configuration allows to apply a restriction on the sum of hours a user can log in a single day, counting work logs in any issue.

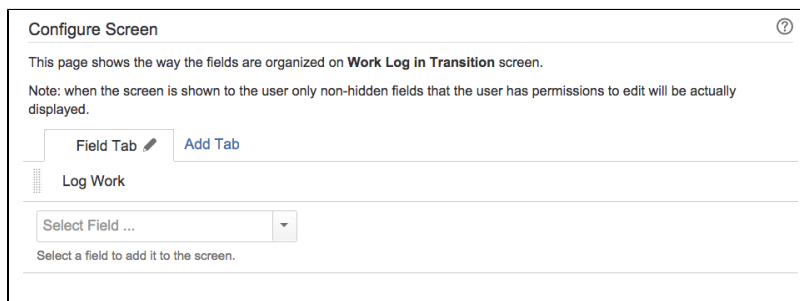
Enforce work logs through transitions

First we need to enforce users to log all the work using transitions in our workflows, instead of using **"Log Work"** operation at the issue screen. To do it we will:

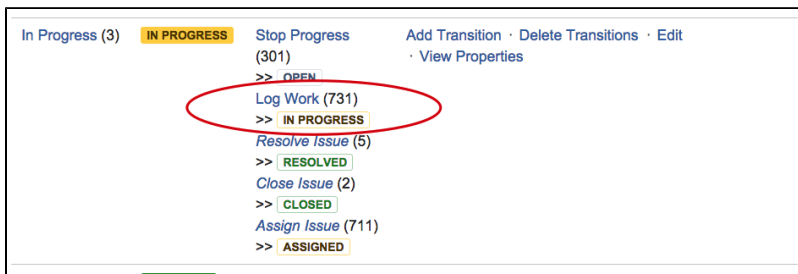
1. Remove **"Log Work"** from actions menu: Administration > Add-ons > Manage add-ons > Filter by "System" > Issue Operations Plugin > Disable module "View Issue Ops Bar Work Link"



2. Create a screen with only one field: **"Log Work"**. You can call it **"Work Log in Transition"**.



3. Add reflexive transition called **"Log Work"**: in the statuses of our workflow where we want users to be allowed to log work, and we associate them the screen **"Work Log in Transition"**, created in the previous step. These transitions have the same status as origin and destination, leaving the issue in the same status, but showing the user a screen where they will be able to log work.



Typically you will add this transition to "In Progress" status, but you can add this transition to all statuses easily using a global reflexive transition.

Diagram Text Export

+ Add status + Add transition Show transition labels Last edited by you, 1 hour ago

+ -

Add Transition

New Transition Reuse a transition

From status* Any status

To status* Itself

Name* Log Work

Description Transition for adding Work Logs from any status.

Screen None

Add Cancel

You can use conditions or validations to limit who can execute these transition, and thus who can log work.

User properties

We will use **two user properties** to store in order to implement this restriction. These two user properties are **created and updated automatically**, so we **don't need to create them manually**:

- **Date of Last Work Log**: contains the date of the last work log done by the user. The date is stored as a number of milliseconds since fixed date.
- **Time Logged Last Day (minutes)**: contains the number of minutes logged by the user in the last day he has done any work logging.

Now we are ready to add validations and post-functions to transitions "Log Work", that will implement the restriction on the number of hours a user can log per day. In this particular example **we will restrict the sum of hours a user can log in any issue to 12 per day**:

Add **Boolean Validator with math, date-time or text-string terms** to transitions "Log Work" with the following configuration:

Boolean expression to be evaluated:		Syntax Specification
1	<pre>userProperty("Time Logged Last Day (minutes)", \${00020}) = "" OR toNumber(userProperty("Time Logged Last Day (minutes)", \${00020})) + {00141} <= 12 * 60 OR datePart({00057}, LOCAL) > toNumber(userProperty("Date of Last Work Log", \${00020})) AND {00141} <= 12 * 60</pre>	
Logical connectives: or, and and not. Alternatively you can also use , & and !. Comparison operators: =, !=, >, >=, < and <=. Operators ~, !~, in, not in, any in and none in can be used with strings, multi-valued fields and lists. Logical literals: true and false. Literal null is used with "=" and "!=" to check whether a field is initialized, e.g. {00012} != null checks whether Due Date is initialized.		

Boolean expression used is:

```
userProperty("Time Logged Last Day (minutes)", %{00020}) = "" OR toNumber(userProperty("Time Logged Last Day (minutes)", %{00020})) + {00141} <= 12 * 60 OR datePart({00057}, LOCAL) > toNumber(userProperty("Date of Last Work Log", %{00020})) AND {00141} <= 12 * 60
```

Note that:

- %{00020} is field code for virtual field "Current user"
- {00057} is code for numeric value of virtual field "Current date and time"
- {00141} is code for numeric value of virtual field "Work logged in transition (minutes)"

Once validation is added, transition "Log Work" will look like this:

IN PROGRESS

Log Work

IN PROGRESS

Screen: [Work Log in Transition](#)

Triggers 0

Conditions 0

Validators 2

Post Functions 9

The transition requires the following criteria to be valid

Add validator

Only if the following boolean expression is true: *userProperty("Time Logged Last Day (minutes)", %{Current user}) = "" OR toNumber(userProperty("Time Logged Last Day (minutes)", %{Current user})) + {Work logged in transition (minutes)} <= 12 * 60 OR datePart({Current date and time}, LOCAL) > toNumber(userProperty("Date of Last Work Log", %{Current user})) AND {Work logged in transition (minutes)} <= 12 * 60*

Message to show when validation fails: "Current work log makes 12 hours work log limit per day to be exceeded."

We will add 4 post-functions to transitions "Log Work". Now we describe each of them by **execution order**:

Post-function 1: [Set a field as a function of other fields](#)

This post-function will store in "Ephemeral number 1" the value that should take user property "Time Logged Last Day (minutes)" after transition execution:

Field to be checked for matching with type 1 setting rules:	Summary - [Text] This field is only used by rules where conditional part is a regular expression written in brackets: '{regular_expression'}value
Target field to be set:	Ephemeral number 1 - [Number] Field to be set by first matched setting rule. Type of the field is shown in square brackets. Check documentation on Virtual Fields to get information about suitable values for setting selected target field. ☐ Don't overwrite target field if it's already set.
Setting rules: There are two types of setting rules, and both types can be combined in the same post-function. Rule formats: - type 1: '{regular_expression'}value - type 2: '{boolean_expression'}value Write only one rule per line. value may be a parsed text or a mathematical or time formula, depending on the type of selected Target field. Regular expression syntax	<pre> 1 [userProperty("Time Logged Last Day (minutes)", %{00020}) = "" OR userProperty("Date of Last Work Log", %{00020}) = ""]{00141} 2 [toNumber(userProperty("Date of Last Work Log", %{00020})) = datePart({00057}, LOCAL)]toNumber(userProperty("Time Logged Last Day (minutes)", %{00020})) + {00141} 3 [{00141} > 0]{00141} </pre> ☐ Evaluate all the setting rules, not stopping at first match. Only available for multi-valued and ephemeral target fields.

The 3 setting rules (one rule per line) used are:

1. `[userProperty("Time Logged Last Day (minutes)", %{00020}) = "" OR userProperty("Date of Last Work Log", %{00020}) = ""]{00141}`
2. `[toNumber(userProperty("Date of Last Work Log", %{00020})) = datePart({00057}, LOCAL)]toNumber(userProperty("Time Logged Last Day (minutes)", %{00020})) + {00141}`
3. `[{00141} > 0]{00141}`

Post-function 2: [Set or create a user property](#)

This post-function will set (or create in case it does not exist yet) user property "Time Logged Last Day (minutes)" with the value stored in "Ephemeral number 1":

Name of the user property:	Time Logged Last Day (minutes) Name of the property that will be written or created if it doesn't exist for selected user. Field codes (format %{nnnnn}) may be inserted into the property name, and will be replaced with the corresponding field value.
Value to be written:	%{00058} Value to be written into the user property. Field codes (format %{nnnnn}) may be inserted into the property name, and will be replaced with the corresponding field value.
User who belongs the property:	Current user User whose property will be written, or created if it doesn't exist yet.

Note that:

- %{00058} is field code for virtual field "Ephemeral number 1"

Post-function 3: [Copy parsed text to a field](#)

This post-function will store in "Ephemeral string 1" the value that should take user property "Date of Last Work Log" after transition execution:

Target field:

Ephemeral string 1 - [Text]

Field to be written with the resulting parsed text.
☐ Don't overwrite target field if it's already set.

Parsing Mode:

☐ Basic

Basic mode: Insert field codes anywhere in the text, and they will be replaced with corresponding field values. Field code formats are `%{nnnnn}`, and `%{nnnnn.i}` for Cascading Select fields (i = 0 for base level).

☒ Advanced

Advanced mode: Strings literals are written in double quotes (*"This is a string."*). Operator `'*'` is used to concatenate strings, and field codes are like in basic mode, e.g., *"issue key is "+ %{00015} + "."*. More information at [parser syntax documentation](#).

Text to be parsed and then copied to target field:
[Syntax Specification](#)

1

```
{00141} > 0 ? datePart({00057}, LOCAL) : userProperty("Date of Last Work Log", %{00020})
```

Text to be parsed in **advanced mode** is:

```
{00141} > 0 ? datePart({00057}, LOCAL) : userProperty("Date of Last Work Log", %{00020})
```

Post-function 4: [Set or create a user property](#)

This post-function will set (or create in case it does not exist yet) user property **"Date of Last Work Log"** with the value stored in **"Ephemeral string 1"**:

Name of the user property:

Date of Last Work Log

Name of the property that will be written or created if it doesn't exist for selected user. Field codes (format `%{nnnnn}`) may be inserted into the property name, and will be replaced with the corresponding field value.

Value to be written:

```
%{00061}
```

Value to be written into the user property. Field codes (format `%{nnnnn}`) may be inserted into the property name, and will be replaced with the corresponding field value.

User who belongs the property:

Current user

User whose property will be written, or created if it doesn't exist yet.

Note that:

- `%{00061}` is field code for virtual field **"Ephemeral string 1"**

Once all the post-functions have been inserted, transition **"Log Work"** will look like this:

IN PROGRESS

Log Work

IN PROGRESS

Screen: [Work Log in Transition](#)

Triggers 0

Conditions 0

Validators 2

Post Functions 9

The following will be processed after the transition occurs

Add post function

- The field **Ephemeral number 1** will be set according to the evaluation of **Summary** against the following set of rules:

```
[userProperty("Time Logged Last Day (minutes)", %{Current user}) = "" OR userProperty("Date of Last Work Log", %{Current user}) = ""]{Work logged in transition (minutes)}
[toNumber(userProperty("Date of Last Work Log", %{Current user})) = datePart({Current date and time}, LOCAL)]toNumber(userProperty("Time Logged Last Day (minutes)", %{Current user})) + {Work logged in transition (minutes)}
[{Work logged in transition (minutes)} > 0]{Work logged in transition (minutes)}
```

This feature will be run as user in field **Current user**.
- Set/create user property **Time Logged Last Day (minutes)** to user in field **Current user** with     parsed text in field **%{Ephemeral number 1}**.
- The following text parsed in **advanced** mode will be copied to **Ephemeral string 1**:

```
{Work logged in transition (minutes)} > 0 ? datePart({Current date and time}, LOCAL) :
userProperty("Date of Last Work Log", %{Current user})
```

This feature will be run as user in field **Current user**.
- Set/create user property **Date of Last Work Log** to user in field **Current user** with parsed text in field **%{Ephemeral string 1}**.

Other examples of that functions

Boolean Validator with math, date-time or text-string terms

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