

Redmine - Defect #6579

Tree hierachy being currupted on multiple submissions of an issue

2010-10-05 17:51 - Bruno Medeiros

Status:	Closed	Start date:	2010-10-05
Priority:	Normal	Due date:	
Assignee:	Jean-Philippe Lang	% Done:	100%
Category:	Issues	Estimated time:	0.00 hour
Target version:	3.0.0	Affected version:	1.0.2
Resolution:	Fixed		

Description

Frequently some user can accidentally press the 'Create' button twice (or more times) when creating a new subtask. In this case, not only the issue will be created a lot of times, but the issue tree will be corrupted.

I guess the insertion is being done without transaction isolation, and the lft and rgt fields are being calculated in the wrong conditions.

Although the bug reproduction depends on certain conditions, it's easy to reproduce it:

1. Press 'Add' to add some subtask to a existing issue
2. Fill some data in the new subtask
3. Press the 'Create' button a lot of times quickly, without wait the submit's end

After that, there will be some issues as grandson issues (not children issues as expected), but the parent task will be the right one.

I created a example of this problem on the redmine demo, at <http://demo.redmine.org/issues/33583>

All subtasks 'dd' in this example should be child of parent, but it's not this way.

I'm marking this as High priority because it corrupts the database without an easy fix.

Related issues:

Related to Redmine - Defect #7666: Deleting multiple subtasks brokes nested s...	Closed	2011-02-20
Related to Redmine - Defect #8537: Error in copying projects	Closed	2011-06-06
Related to Redmine - Defect #6309: missing "not_a_valid_parent" from all the ...	Closed	2010-09-06
Related to Redmine - Defect #14335: Issue.rebuild! "lft" and "rgt" are 1 and 2	Closed	
Related to Redmine - Feature #18860: Replace awesome_nested_set gem with a cu...	Closed	
Related to Redmine - Defect #15581: Another broken display of subtasks on par...	Closed	
Related to Redmine - Defect #19040: Potential DB deadlocks on concurrent issu...	Closed	
Related to Redmine - Defect #8143: Problem to update subtask	Closed	2011-04-13
Related to Redmine - Defect #19344: MySQL 5.6: IssueNestedSetConcurrencyTest#...	Closed	
Has duplicate Redmine - Defect #11772: Multiple parent task - maybe bug?	Closed	
Has duplicate Redmine - Defect #6143: Subtask creation form submission race?	Closed	2010-08-16
Has duplicate Redmine - Defect #17430: Broken Subtask Tree	Closed	
Has duplicate Redmine - Defect #11678: MySQL locks and Redmine collapsing	Closed	

Associated revisions

Revision 12925 - 2014-02-25 07:49 - Toshi MARUYAMA

prevent issue tree hierarchy is broken in race conditions (#6579)

awesome_nested_set 2.1.6 uses lock.
Issue model uses as same way.

Revision 12926 - 2014-02-25 07:53 - Toshi MARUYAMA

revert r12925 of 2.5-stable

I mistook to commit in stable branch.

Revision 12927 - 2014-02-25 07:54 - Toshi MARUYAMA

prevent issue tree hierarchy is broken in race conditions (#6579)

awesome_nested_set 2.1.6 uses lock.
Issue model uses as same way.

Revision 13007 - 2014-03-26 02:47 - Toshi MARUYAMA

import awesome_nested_set 2.1.6 (#6579)

https://github.com/collectiveidea/awesome_nested_set/commit/64cc8bc8cf93e8859a21bcf25c36675080e42ce6

Revision 13008 - 2014-03-26 02:47 - Toshi MARUYAMA

use bundled awesome_nested_set (#6579)

Revision 13009 - 2014-03-26 02:47 - Toshi MARUYAMA

fix always new lft and rgt are lft = 1, rgt = 2 (#6579)

Revision 13010 - 2014-03-26 02:48 - Toshi MARUYAMA

awesome_nested_set: split highest rgt reader method (#6579)

Revision 13011 - 2014-03-26 02:48 - Toshi MARUYAMA

fix race condition of highest rgt at Issue#update_nested_set_attributes_on_parent_change (#6579)

Revision 13013 - 2014-03-26 12:46 - Toshi MARUYAMA

add missing awesome_nested_set 2.1.6 files (#6579)

https://github.com/collectiveidea/awesome_nested_set/commit/64cc8bc8cf93e8859a21bcf25c36675080e42ce6

Revision 13014 - 2014-03-26 12:46 - Toshi MARUYAMA

fix awesome_nested_set test failure (#6579)

Revision 13143 - 2014-05-24 12:16 - Toshi MARUYAMA

awesome_nested_set: import git 2-1-stable branch revision 606847769 (#6579)

https://github.com/collectiveidea/awesome_nested_set/commit/606847769

Revision 13144 - 2014-05-24 12:16 - Toshi MARUYAMA

awesome_nested_set: import git 2-1-stable branch revision 3d5ac746542b564 (#6579)

https://github.com/collectiveidea/awesome_nested_set/commit/3d5ac746542b564

Revision 13145 - 2014-05-24 12:17 - Toshi MARUYAMA

awesome_nested_set: import git 2-1-stable branch revision 8eaab19868f326 (#6579)

https://github.com/collectiveidea/awesome_nested_set/commit/8eaab19868f326

Revision 13146 - 2014-05-24 12:17 - Toshi MARUYAMA

awesome_nested_set: add lib/plugins/awesome_nested_set/init.rb (#6579)

Revision 13147 - 2014-05-24 12:17 - Toshi MARUYAMA

remove awesome_nested_set patch from config/initializers/10-patches.rb (#6579)

Revision 13148 - 2014-05-24 12:18 - Toshi MARUYAMA

awesome_nested_set: not use cache for max rgt (#6579)

Revision 13152 - 2014-05-24 14:04 - Toshi MARUYAMA

Gemfile: upgrade sqlserver tiny_tds to 0.6.2 (#6579)

Revision 13153 - 2014-05-24 18:09 - Jean-Philippe Lang

Fixed "column specified more than once" error with SQLServer (#6579).

Revision 13345 - 2014-08-23 07:45 - Toshi MARUYAMA

remove unneeded setting self[left_column_name] and self[right_column_name] from Issue#update_nested_set_attributes_on_parent_change (#6579)

Revision 14028 - 2015-02-18 15:20 - Jean-Philippe Lang

Adds a test for #6579.

History

#1 - 2010-10-05 17:59 - Bruno Medeiros

One more info:

The problem is even worse, because after one wrong submission, all new subtasks will become child of the last child, avoiding the creation of a subtask of the parent for ever.

#2 - 2010-10-15 02:47 - Mischa The Evil

As visible on the demo I've been able to reproduce the described behaviour there.

I don't know though if it's something that should be fixed inside Redmine. This seems more of an issue that might affect more Rails-based apps. Though I might be wrong here... 8-)

#3 - 2010-12-03 09:16 - Bruno Medeiros

There's a simple fix to this, as did in [#6826](#):

Disable 'Add' button after click!

#4 - 2010-12-03 17:20 - Andrew Vit

I can have a look at this later today since I worked on [#6826](#).

#5 - 2011-04-14 18:15 - Etienne Massip

- Category set to Issues

- Target version set to Candidate for next minor release

#6 - 2011-04-14 18:50 - Bruno Medeiros

Good to see it could be fixed soon. I can confirm this bug is still present on demo, and created another ticket there to demonstrate the problem:

<http://demo.redmine.org/issues/2896>

All descendants of 2896 should be children, but they are shown in different (wrong) levels.

As I said above, I believe the fix applied to [#6826](#) can fix this too, without much work. Please post here if you need some help with this.

#7 - 2011-04-14 19:02 - Etienne Massip

I wonder if this may be fixed with a transaction isolation explicit setting somewhere (if there is a transaction) ?

#8 - 2011-04-14 19:08 - Bruno Medeiros

Don't know much about RoR, but at least in Java we're used to make each request have its own transaction, making this approach harder than avoid the double click.

The only downside I see on using the 'avoid double click' solution is if more than one user tries to create children for an issue at the exactly same time, which is very unlikely.

#9 - 2011-04-15 09:01 - Etienne Massip

Well, ~~there is no transaction~~ and 2 successive DML (which explain [#7667](#)) : #save does the insert and #after_save => #update_nested_set_attributes does an update of the hierarchy.

Doing a single insert (that is, do not call #update_nested_set_attributes after save but before) can be buggy too.

Edit May, 11th : Actually, there is a transaction managed by RoR ActiveRecord.

#10 - 2011-05-09 15:25 - Alfredo Bonilla

Hi, we have this problem in our installation too. Our "work around", re-create the task (duplicate) and re-do the parent relationship. Here is part of the dump:

```
app/models/issue.rb:442:in `soonest_start'  
/var/lib/gems/1.8/gems/ruby-ole-1.2.11.1/lib/ole/support.rb:40:in `send'  
/var/lib/gems/1.8/gems/ruby-ole-1.2.11.1/lib/ole/support.rb:40:in `to_proc'
```

```
app/models/issue.rb:442:in `soonest_start'  
app/models/issue.rb:272:in `validate'  
app/models/issue.rb:498:in `save_issue_with_child_records'  
app/models/issue.rb:487:in `save_issue_with_child_records'
```

#11 - 2011-05-11 17:11 - Vasili Pupkin

Hi, we have this problem too. My question is - can I manually set the lft/rgt values directly in DB instead of the copying the issues and recreating the hierarchy? What will be the proper values for lft/rgt and for what these columns are defined?

#12 - 2011-05-11 20:12 - Bruno Medeiros

Yes, you can do it, but need to take care. you should do a backup first just in case.

lft and rgt tell redmine how it should build the tree. They hold the visit and unvisit index on a depth-first search on the tree. Example:

- Parent (lft 1, rgt 10)
 - Child 1 (lft 2, rgt 3)
 - Child 2 (lft 4, rgt 9)
 - Grandson 1 (lft 5, rgt 6)
 - Grandson 2 (lft 7, rgt 8)

Parent is the first to be visited (lft=1), and the last to be unvisited (rgt=10), and so on... These should be calculated for all tickets with the same root. The root will have always lft=1 and rgt = #tickets * 2.

#13 - 2011-06-06 16:18 - Luis Serrano Aranda

This also happens when copying a project

#14 - 2011-06-06 16:23 - Luis Serrano Aranda

This it's a workaround...

[#8537](#)

This solves part of the problem, but pressing the back button and redo the operation

#15 - 2011-11-30 17:53 - Bruno Medeiros

Reproduced again,

<http://demo.redmine.org/issues/2701>

#16 - 2012-02-17 04:04 - Gary Shi

Just met this problem in my environment (1.2.1). Surprised it's not fixed for such a long time.

If it's so hard to fix, is there any scripts that could fix or recalculate lft/rgt values after a corruption?

#17 - 2012-02-17 10:37 - Etienne Massip

Gary Shi wrote:

(...) is there any scripts that could fix or recalculate lft/rgt values after a corruption?

Try to run

```
ruby script/runner -e production 'Project.rebuild!
```

from your Redmine base directory.

Edit: I mean Issue.rebuild! but didn't try yet so I advise you to make a DB dump before.

#18 - 2012-03-06 19:05 - Matt Brown

I found it possible to reset the parent/child relationships with:

```
UPDATE `redmine`.`projects` SET lft = 2 * id - 1, rgt = 2 * id;
```

Then adjust the subprojects relationship manually within the UI.

This will make each of the projects have no parents and no subordinates (as their left [bookend] and right [bookend] are just one number apart).

Knowing this is how the relationship is derived, should allow you to isolate problems more easily. You can actually remove sub-projects just by not having a lft and rgt number within a parent project's lft-rgt range.

I worked hard to migrate from 0.8.4 to 1.3.1 and had to deal directly with the DBs where this situation came into play.

#19 - 2012-06-01 10:46 - Eugene Hutorny

Hit this issue with the following scenario:

Two users concurrently update two different issues and assign the same parent id to both of them.

Hierarchy of the parent task becomes broken and access to its children may cause process hanging or crashing.

SQL for detecting broken hierarchies:

```
select distinct parent_id
from issues
where parent_id is not null
group by parent_id, rgt
having count(*) > 1
```

#20 - 2012-06-20 21:05 - Bruno Medeiros

It seems to be fixed after [#6555](#). I couldn't reproduce anymore on demo: <http://demo.redmine.org/projects/test6579>

Someone could review it and mark as fixed?

#21 - 2012-07-14 20:43 - Dani Leni

"Parent task translation missing: en, activerecord, errors, models, issue, attributes, parent_issue_id, not_a_valid_parent"

I think I still got the issue.

Not sure how its produced.

Happens when trying to update subtask.

Version: Redmine 1.3.2.stable

#22 - 2012-10-16 12:59 - Andrey Tatarnikov

I think I'm getting same issue with redmine 2.1.2.

I've posted this topic to the board: <http://www.redmine.org/boards/2/topics/33878>

Sory if I did something wrong.

#23 - 2013-04-12 17:44 - Antoine Beaupré

Note that this also affects projects on Redmine 1.4.

The workaround is to run:

```
X_DEBIAN_SITEID=koumbit RAILS_ENV=production ./script/runner 'Project.rebuild!'
```

(X_DEBIAN_SITEID= is a local hack in the debian package.) This will rebuild the lft and rgt columns that are corrupted. It may mean that the order of projects changes, but the parent/child relationship will stay.

#24 - 2013-09-04 18:08 - Robin McKenzie

Hi, we're also having this problem. We've tried running Issue.rebuild! but unfortunately it failed with

```
[FATAL] failed to allocate memory.
```

This happened with both 1GB and then subsequently 8GB of memory.

We're going to retry with 30GB, but I'm dubious that this will fix it - can anyone offer any advice? (We have just over 100,000 tickets in our Redmine installation.)

Redmine 2.3.0.stable

Ruby 1.9.3

Rails 3.2.13

#25 - 2013-09-12 21:37 - Bruno Medeiros

How many tickets do you have with problems? If not so much, you can try to edit them and hopefully they will be fixed. Sometimes it worked.

#26 - 2014-02-25 03:25 - Toshi MARUYAMA

- Related to Defect #6309: missing "not_a_valid_parent" from all the locale files? added

#27 - 2014-02-25 03:28 - Toshi MARUYAMA

- Related to deleted (Defect #6143: Subtask creation form submission race?)

#28 - 2014-02-25 03:28 - Toshi MARUYAMA

- Has duplicate Defect #6143: Subtask creation form submission race? added

#29 - 2014-02-25 08:32 - Toshi MARUYAMA

- Target version changed from Candidate for next minor release to 2.6.0

#30 - 2014-02-25 08:32 - Toshi MARUYAMA

- % Done changed from 0 to 100

#31 - 2014-02-25 08:37 - Toshi MARUYAMA

awesome_nested_set uses lock since 2.0.2.

https://github.com/collectiveidea/awesome_nested_set/blob/v2.1.6/CHANGELOG#L48

```
2.0.2
...
* Added row locking and fixed some race conditions. [Markus J. Q. Roberts]
```

I think recent awesome_nested_set (2.1.6) and [r12927](#) fix this issue.

#32 - 2014-03-09 17:07 - Bruno Medeiros

Toshi, let me know when it's available on demo.redmine.org and I can test it to make sure it's ok.

#33 - 2014-03-13 08:42 - Toshi MARUYAMA

Bruno Medeiros wrote:

Toshi, let me know when it's available on demo.redmine.org and I can test it to make sure it's ok.

demo.redmine.org is managed by JPL, not me.
So, I don't know when it is available.

#34 - 2014-03-26 00:48 - Toshi MARUYAMA

- % Done changed from 100 to 70

#35 - 2014-03-26 04:37 - Toshi MARUYAMA

- % Done changed from 70 to 100

Committed [r13007](#) to [r13011](#).

#36 - 2014-08-06 11:27 - Toshi MARUYAMA

- Has duplicate Defect #17430: Broken Subtask Tree added

#37 - 2014-09-14 13:04 - Jean-Philippe Lang

- Subject changed from tree hierachy (lft and rgt) being currrupted on (accidentally) multiple submissions of an issue to Tree hierachy being currrupted on multiple submissions of an issue
- Status changed from New to Closed

#38 - 2014-09-16 13:55 - Toshi MARUYAMA

- Related to Defect #14335: Issue.rebuild! "lft" and "rgt" are 1 and 2 added

#39 - 2014-09-16 13:58 - Toshi MARUYAMA

- Status changed from Closed to New
- Priority changed from High to Normal
- Target version deleted (2.6.0)

- % Done changed from 100 to 80

Sorry, I reopen this issue.

I found some awesome_nested_set bugs.

I will summarise and feed back awesome_nested_set author.

One of bugs is "Issue.rebuild!" set "1" for "lft" and "2" for "rgt" ([#14335#note-4](#)).

#40 - 2014-09-17 07:21 - Etienne Massip

It seems okay to have 1 and 2 if the issue has no hierarchy, what do you expect ?

#41 - 2015-01-16 08:01 - Toshi MARUYAMA

- Related to Feature #18860: Replace awesome_nested_set gem with a custom implementation of nested sets added

#42 - 2015-01-30 17:02 - Toshi MARUYAMA

- Related to Defect #15581: Another broken display of subtasks on parent issues added

#43 - 2015-02-06 02:52 - Toshi MARUYAMA

- Related to Defect #19040: Potential DB deadlocks on concurrent issue creation added

#44 - 2015-02-08 16:30 - Toshi MARUYAMA

- Related to deleted (Defect #8157: Redmine do not send notification emails if a recipients email address is not valid)

#45 - 2015-02-14 04:40 - Toshi MARUYAMA

- Target version set to 3.0.0

I think we can close this issue in [3.0.0](#) because we use explicit lock.

- [source:trunk/lib/redmine/nested_set/project_nested_set.rb@13998#L120](#)
- [source:trunk/lib/redmine/nested_set/issue_nested_set.rb@13998#L151](#)

But, I am not sure it is safe we don't use explicit transaction.

#46 - 2015-02-14 11:03 - Jean-Philippe Lang

Toshi MARUYAMA wrote:

But, I am not sure it is safe we don't use explicit transaction.

Toshi, what do you mean? Nested set update is done in AR callbacks that are wrapped in a transaction.

#47 - 2015-02-14 11:57 - Toshi MARUYAMA

OK. I can see "BEGIN" and "COMMIT" on MySQL development.log

```
$ grep -n -3 -e BEGIN -e COMMIT log/development.log
296- Issue Load (0.3ms)  SELECT `issues`.* FROM `issues` WHERE `issues`.`id` = 1 LIMIT 1
297- CACHE (0.0ms)  SELECT `roles`.* FROM `roles`
298- CACHE (0.0ms)  SELECT DISTINCT `issue_statuses`.* FROM `issue_statuses` INNER JOIN `workflows` ON `workflows`.`new_status_id` = `issue_statuses`.`id` AND `workflows`.`type` IN ('WorkflowTransition') WHERE `workflows`.`old_status_id` = 1 AND `workflows`.`tracker_id` = 1 AND `workflows`.`role_id` IN (1, 2, 3, 4, 5) AND (author = 1 OR assignee = 0) [{"old_status_id", 1}, {"tracker_id", 1}]
299:   (0.1ms)  BEGIN
300- Issue Load (0.3ms)  SELECT `issues`.* FROM `issues` WHERE `issues`.`parent_id` = 8 ORDER BY `issues`.`lft` ASC
301- IssueRelation Load (0.1ms)  SELECT `issue_relations`.* FROM `issue_relations` WHERE `issue_relations`.`issue_from_id` = 8
302- Issue Load (0.2ms)  SELECT `issues`.* FROM `issues` WHERE `issues`.`parent_id` = 1 ORDER BY `issues`.`lft` ASC
--
481-
482-----==_mimepart_54df27595d37a_99d2913ed851659--
483-
484:   (146.6ms)  COMMIT
485-Redirected to http://192.168.11.11:7000/issues/8
486-Completed 302 Found in 832ms (ActiveRecord: 183.8ms)
487-
```

#48 - 2015-02-18 13:15 - Jean-Philippe Lang

- Status changed from New to Closed
- Assignee set to Jean-Philippe Lang
- Resolution set to Fixed

#49 - 2015-02-19 18:50 - Toshi MARUYAMA

Etienne Massip wrote:

It seems okay to have 1 and 2 if the issue has no hierarchy, what do you expect ?

I have posted [#14335#note-10](#).

As I described on it, Redmine 3.0 "lft" 1 and "rgt" 2 has no problem.

#50 - 2015-02-19 18:51 - Toshi MARUYAMA

- % Done changed from 80 to 100

#51 - 2015-06-20 10:18 - Toshi MARUYAMA

- Related to Defect #8143: Problem to update subtask added

#52 - 2015-06-20 10:23 - Toshi MARUYAMA

- Has duplicate Defect #11678: MySQL locks and Redmine collapsing added

#53 - 2016-03-16 05:05 - Toshi MARUYAMA

- Related to Defect #19344: MySQL 5.6: IssueNestedSetConcurrencyTest#test_concurrency : always fails added