Redmine - Patch #40000
Optimize gantt chart rendering for issues without subtasks
2024-01-03 08:22 - Go MAEDA

<table>
<thead>
<tr>
<th>Status:</th>
<th>Closed</th>
<th>Start date:</th>
<th>Due date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priority:</td>
<td>Normal</td>
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<tr>
<td>Assignee:</td>
<td>Go MAEDA</td>
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<tr>
<td>Category:</td>
<td>Performance</td>
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<tr>
<td>Target version:</td>
<td>6.0.0</td>
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<td>% Done:</td>
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Description
This patch introduces an optimization to the gantt chart rendering process. We can improve the performance by avoiding unnecessary database queries for issues that do not have subtasks, especially when rendering gantt with large numbers of issues.

The current implementation in the Gantt chart helper performs a database query to fetch children for every issue, regardless of whether the issue has subtasks.

```ruby
Issue Load (0.4ms) SELECT "issues".* FROM "issues" WHERE "issues"."parent_id" = $1 ORDER BY "issues"."lft" ASC LIMIT 1
↳ lib/redmine/helpers/gantt.rb:768:in `html_subject'

Issue Load (0.3ms) SELECT "issues".* FROM "issues" WHERE "issues"."parent_id" = $1 ORDER BY "issues"."lft" ASC LIMIT 1
↳ lib/redmine/helpers/gantt.rb:768:in `html_subject'

Issue Load (0.4ms) SELECT "issues".* FROM "issues" WHERE "issues"."parent_id" = $1 ORDER BY "issues"."lft" ASC LIMIT 1
↳ lib/redmine/helpers/gantt.rb:768:in `html_subject'

Issue Load (0.2ms) SELECT "issues".* FROM "issues" WHERE "issues"."parent_id" = $1 ORDER BY "issues"."lft" ASC LIMIT 1
↳ lib/redmine/helpers/gantt.rb:768:in `html_subject'

Issue Load (0.1ms) SELECT "issues".* FROM "issues" WHERE "issues"."parent_id" = $1 ORDER BY "issues"."lft" ASC LIMIT 1
↳ lib/redmine/helpers/gantt.rb:768:in `html_subject'
```

With the patch applied, it first checks if the issue has children by using object.leaf?. If the issue has no children, it avoids the database query to retrieve children. This check can reduce a considerable number of SQL queries.

Below is the test result with 500 issues. All issues don't have subtasks.

Without the patch:

```
$ hey -n 50 -c 1 http://localhost:3000/projects/ecookbook/issues/gantt

Summary:
  Total: 19.2706 secs
  Slowest: 0.5254 secs
  Fastest: 0.3520 secs
  Average: 0.3854 secs
  Requests/sec: 2.5946

  Total data: 61809550 bytes
  Size/request: 1236191 bytes
```

With the patch applied:

```
$ hey -n 50 -c 1 http://localhost:3000/projects/ecookbook/issues/gantt

Summary:
  Total: 13.4183 secs
  Slowest: 0.2972 secs
  Fastest: 0.2455 secs
  Average: 0.2684 secs
  Requests/sec: 3.7263
```
Associated revisions
Revision 22589 - 2024-01-03 13:14 - Go MAEDA
Optimize gantt chart rendering for issues without subtasks (#40000).
Patch by Go MAEDA (@maeda).

History
#1 - 2024-01-03 09:44 - Go MAEDA
- File 40000.patch added
Attaching a patch.

#2 - 2024-01-03 12:57 - Go MAEDA
- Target version set to 6.0.0

#3 - 2024-01-03 13:15 - Go MAEDA
- Status changed from New to Closed
- Assignee set to Go MAEDA
Committed the patch in r22589.

Files
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<th>File</th>
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<th>Author</th>
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<td>40000.patch</td>
<td>687 Bytes</td>
<td>2024-01-03</td>
<td>Go MAEDA</td>
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