

EDIT - bug #7904

DerivedUnitFacadeFieldUnitCacheStrategy.getCollectorAndFieldNumber() creates temporary Team objects which can not be garbage collected.

11/13/2018 02:06 PM - Andreas Kohlbecker

Status:	Closed	Start date:	
Priority:	Highest	Due date:	
Assignee:	Andreas Müller	% Done:	100%
Category:	cdmlib	Estimated time:	0:00 hour
Target version:	Release 5.25	Found in Version:	
Severity:	normal		

Description

The root cause for the excessive memory allocation reported in [#7900](#) is the `DerivedUnitFacadeFieldUnitCacheStrategy.getCollectorAndFieldNumber()` method in which new Teams are created temporarily in order to create title cache strings. When adding the collector person to this Team the team is registered as `PropertyChangeListener` to the Person which creates a strong reference between both. The temporary Team objects now can no longer be cleaned up by the garbage collector:

The screenshot shows the YourKit Java Profiler interface. The top bar indicates the application is 'Jetty9LauncherMain-2018-11-13-5.snapshot' and the support period expired on February 17, 2017. The main window displays memory usage statistics: 'All objects (reachable and unreachable): 11,761,999 / shallow size: 650 MB / retained size: 650 MB'. A search for 'team' in the 'Objects by category' table shows three entries:

Class	Objects	Shallow Size	Retained Size
eu.etaxonomy.cdm.model.agent.Team\$1	7,342	117,472	8,399,248
eu.etaxonomy.cdm.model.agent.Team	7,433	832,496	8,366,944
eu.etaxonomy.cdm.model.agent.TeamOrPersonBase_\$\$jvstc51_62	112	12,544	161,168

The 'Object Explorer' shows a tree view of objects, with 'Team' objects being the most significant. The 'Merged Paths' section shows that many objects are retained from several objects simultaneously, indicating a lack of garbage collection for these temporary objects.

Related issues:

- Related to EDIT - task #9678: Remove Derived- and FieldUnitFacadeCacheStrategies **Closed**
- Copied from EDIT - bug #7900: Excessive heap consumption in RegistrationWorkin... **Closed**

History

#1 - 11/13/2018 02:11 PM - Andreas Kohlbecker

- Copied from bug #7900: Excessive heap consumption in RegistrationWorkingsetEditor with big workingsets added

#2 - 11/13/2018 02:12 PM - Andreas Kohlbecker

The creation of Teams in this methods seems to be completely unnecessary

#3 - 11/13/2018 03:23 PM - Andreas Kohlbecker

- Status changed from New to Feedback
- Assignee changed from Andreas Kohlbecker to Andreas Müller
- % Done changed from 0 to 10

I suggest two modifications:

1. `DerivedUnitFacadeFieldUnitCacheStrategy.getCollectorAndFieldNumber()` without the unnecessary `Team.NewInstance()`
2. removal of the registration of the person as `PropertyChangeListener` to the `Team`

#4 - 01/14/2019 12:02 PM - Andreas Müller

- Subject changed from *DerivedUnitFacadeFieldUnitCacheStrategy.getCollectorAndFieldNumber() creates temporary Team objects which can not be garbage collected.* to *DerivedUnitFacadeFieldUnitCacheStrategy.getCollectorAndFieldNumber() creates temporary Team objects which can not be garbage collected.*

#5 - 01/28/2019 10:48 AM - Andreas Müller

- Status changed from *Feedback* to *In Progress*
- Assignee changed from *Andreas Müller* to *Andreas Kohlbecker*

what is the situation here. Is this already implemented and needs review or does it need a decision which step to go?

#6 - 01/28/2019 02:36 PM - Andreas Kohlbecker

- Status changed from *In Progress* to *Feedback*
- Assignee changed from *Andreas Kohlbecker* to *Andreas Müller*

we need to decide between the alternative solutions suggested in comment 3

If we can decide on this quickly we could apply the according changes for this release otherwise we need to move the issue to the next release and set it to HIGHEST

#7 - 01/29/2019 05:25 PM - Andreas Müller

- Target version changed from *Release 5.5* to *Release 5.6*

As we decided to only work on review tickets and easy to fix critical bugs for this version I suggest to move to next version. Or is this critical?

#8 - 01/29/2019 05:50 PM - Andreas Kohlbecker

- Priority changed from *New* to *Highest*

Andreas Müller wrote:

As we decided to only work on review tickets and easy to fix critical bugs for this version I suggest to move to next version. Or is this critical?

I fully agree in moving this issue to 5.6 .Since this is a major bug we should set the priority to HIGHEST in order to avoid that this issue is being missed.

#9 - 04/11/2019 10:31 AM - Andreas Müller

- Target version changed from *Release 5.6* to *Release 5.7*

As release is urgent now I have to move again to next milestone

#10 - 05/06/2019 02:38 PM - Andreas Müller

- Target version changed from *Release 5.7* to *Release 5.8*

#11 - 07/09/2021 09:59 AM - Andreas Müller

- Status changed from *Feedback* to *Resolved*
- Assignee changed from *Andreas Müller* to *Andreas Kohlbecker*
- Target version changed from *Release 5.8* to *Release 5.25*
- % Done changed from *10* to *50*

I guess this is solved with [#9678](#). So the implemented solution is modification 1. The new cache strategy does not use an explicit new `Team` instance anymore.

Please review.

#12 - 07/09/2021 10:00 AM - Andreas Müller

- Related to task [#9678](#): *Remove Derived- and FieldUnitFacadeCacheStrategies added*

#13 - 07/15/2021 09:51 AM - Andreas Kohlbecker

- Target version changed from Release 5.25 to Release 5.45

#14 - 09/21/2021 03:18 PM - Andreas Kohlbecker

- Status changed from Resolved to Closed

- Assignee changed from Andreas Kohlbecker to Andreas Müller

- Target version changed from Release 5.45 to Release 5.27

- % Done changed from 50 to 100

code looks good. I also tested with yourkit, ticket can be closed.

#15 - 09/21/2021 03:18 PM - Andreas Kohlbecker

- Target version changed from Release 5.27 to Release 5.25

ahh this was solved for Release 5.25

Files

Team-merged-paths.png	102 KB	11/13/2018	Andreas Kohlbecker
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