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# Incident documentation/20180717-Train

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## Summary

There were several problems with [1.32.0-wmf.13](#) . Tasks are sorted from oldest to newest.

- [phab:T199495](#) Allow \$input in LogEventsListGetExtraInputs hook, deprecate it
- [phab:T199504](#) Editing of content model other than wikitext fails
- [phab:T199763](#) Special:Log UnexpectedValueException after changes in HTMLTitleTextField and MapCacheLRU
- [phab:T199856](#) Special:Log form should be using GET not POST
- [phab:T199941](#) Fatal MWException in Babel: "Language::isValidBuiltInCode must be passed a string"
- [phab:T199983](#) Wikidata showing wrong language for page elements
- [phab:T200026](#) RepoGroup exceptions due to "false" being passed as a key to MapCacheLRU
- [phab:T200072](#) MCR broke Undelete action (and made Cognate tests fail) "The given Title does not belong to page ID" / [phab:T200269](#) Unable to undelete revision (Fatal error: given Title does not belong to page ID, RevisionStoreRecord)
- [phab:T200136](#) Does not work for change a log type drop down when the log type specified by URL / argument @ 1.32.0-wmf.13 (360f7b5)

## Timeline

Events are sorted from oldest to newest. Times are UTC.

### 2018-07-13 Friday

- 20:31 Jdforrester-WMF added a subtask: **T199504**: *Editing of content model other than wikitext fails*.

### 2018-07-17 Tuesday

- 05:40 Krinkle added a subtask: **T199763**: *Special:Log UnexpectedValueException after changes in HTMLTitleTextField and MapCacheLRU*.
- 05:45 Jdforrester-WMF closed subtask **T199504**: *Editing of content model other than wikitext fails* as Resolved.
- **wmf.13→0** 14:47 <zfilipin@deploy1001> rebuilt and synchronized wikiversions files: group0 to 1.32.0-wmf.13
- 19:10 matmarex added a subtask: **T199495**: *Allow \$input in LogEventsListGetExtraInputs hook*,

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deprecate it.

- 23:51 Krinkle removed a subtask: **T199763**: *Special:Log UnexpectedValueException after changes in HTMLTitleTextField and MapCacheLRU.*



## 2018-07-18 Wednesday

- 00:10 matmarex closed subtask **T199495**: *Allow \$input in LogEventsListGetExtraInputs hook, deprecate it as Resolved.*
-   **wmf.13**→1 13:13 <filipin@deploy1001> rebuilt and synchronized wikiversions files: group1 wikis to 1.32.0-wmf.13
-   17:49 Krinkle added a subtask: **T199856**: *Special:Log form should be using GET not POST.*
-   19:51 Krinkle added a subtask: **T199941**: *Fatal MWException in Babel: "Language::isValidBuiltInCode must be passed a string".*



## 2018-07-19 Thursday

- 14:59 matmarex removed a subtask: **T199856**: *Special:Log form should be using GET not POST.*
-   16:20 aaron created subtask **T200026**: *RepoGroup exceptions due to "false" being passed as a key to MapCacheLRU*







## 2018-07-20 Friday

- 00:33 Krinkle closed subtask **T200026**: *RepoGroup exceptions due to "false" being passed as a key to MapCacheLRU as Resolved.*
-   14:23 Reedy added a subtask: **T199983**: *Wikidata showing wrong language for page elements.*

## 2018-07-21 Saturday

-   20:38 Rxy added a subtask: **T200136**: *Does not work for change a log type drop down when the log type specified by URL / argument @ 1.32.0-wmf.13 (360f7b5).*

## 2018-07-24 Tuesday

- 01:41 Prtksxna closed subtask **T200136**: *Does not work for change a log type drop down when the log type specified by URL / argument @ 1.32.0-wmf.13 (360f7b5)* as Resolved.
- 10:08 zeljkofilipin removed a subtask: **T199983**: *Wikidata showing wrong language for page elements.*
- 13:03 thcipriani closed subtask **T199941**: *Fatal MWException in Babel: "Language::isValidBuiltInCode must be passed a string"* as Resolved.
-   13:47 Krinkle added a subtask: **T200269**: *Unable to undelete revision (Fatal error: given Title does not belong to page ID, RevisionStoreRecord).*
-   15:33 greg added a subtask: **T200072**: *MCR broke Undelete action (and made Cognate tests fail) "The given Title does not belong to page ID".*
- 15:34 greg closed **T200269** *Unable to undelete revision (Fatal error: given Title does not belong to page ID, RevisionStoreRecord)* as a duplicate of **T200072**: *MCR broke Undelete action (and made Cognate tests fail) "The given Title does not belong to page ID".*
- 17:03 zeljkofilipin removed a subtask: **T200072**: *MCR broke Undelete action (and made Cognate tests fail) "The given Title does not belong to page ID".*
-   **wmf.13**→2 17:33 <filipin@deploy1001> rebuilt and synchronized wikiversions files: all wikis to 1.32.0-wmf.13


## Conclusions

*What weakness did we learn about and how can we address them?*


- This was the second ever train during European working hours, and the first that had problems. It took more time than usual to move the train forward because the train conductor would stop working just as people in the US would start working, delaying everything until the next day. Moving cutting the branch and deploying to group 0 on Monday (instead of Tuesday, a day earlier than now) might help, because it would add another day to resolve problems.
- Production is the integration environment. Some problems were not caught earlier because production is the only place where everything is finally integrated.
- When there was a problem, it was not clear who should fix it. It was not hard, and the right people/teams were found in a timely manner, but there is room for improvement. [Developers/Maintainers](#) page was a lot of help, but it is far from complete. Maybe something like [T190891](#) (Develop canonical/single record of origin, machine readable list of all repos deployed to WMF sites) would help.

- This train overlapped with Wikimania 2018 and as a result there was limited developer availability.
  - It's not as simple as "availability": all the participants in [T199941](#) were at Wikimania which didn't prevent them from contributing. But they were distracted enough that resolution was delayed because communication was disrupted.
- 2 problems were noticed before deploying 1.32.0-wmf.13 to group 0.
- 1 problem was noticed after deploying 1.32.0-wmf.13 to group 0.
- 6 problems were noticed after deploying 1.32.0-wmf.13 to group 1.


## Before wmf.13 → group0

- **T199504** *Editing of content model other than wikitext fails*
  - Daniel Kinzler reverted a bad patch by Adam Wight, in [gerrit:445658](#). This is resolved now.
  - The patch changed most of the conditionals in `EditPage`, a notoriously complex and fragile legacy class.
  - Switching to strict equality created new possibilities where false, empty string, and null values were not properly managed.
  - More analysis will be done in [Task T202913](#), where AWight will write the tests that were missing from `EditPage`.
- **T199763** *Special:Log UnexpectedValueException after changes in HTMLTitleTextField and MapCacheLRU*
  -  **In progress** Feedback needed from Prateek Saxena (Audiences Design), Timo Tijhof (Performance), Bartosz Dziewoński (Contributors).
  - A change by Aaron in low-level code in the `Title` class ([445160](#)) broke an implicit assumption in `HTMLTitleTextField` that has been there for years.
  - For a low-level change like that, it's practically impossible how it will affect everything else, you can only hope that it won't.
  - Potentially could have been avoided by a unit test for `HTMLTitleTextField::validate` (although the failing scenario is not obvious to check).




## wmf.13 → group0

- **T199495** *Allow \$input in LogEventsListGetExtraInputs hook, deprecate it*
  -  **In progress** Feedback needed from Prateek Saxena (Audiences Design).
  - This is basically the same situation as T199856 below, and caused by the same patch.

## wmf.13 → group1

- **T199856** *Special:Log form should be using GET not POST*
  -  **In progress** Feedback needed from Prateek Saxena (Audiences Design), Timo Tijhof (Performance), Bartosz Dziewoński (Contributors).
  - This was a simple bug that should have been caught in code review of [428871](#). (Bartosz did notice it in a late post-merge review.)
  - Perhaps we could have been more careful, or waited for more people to review it.
  - Very impractical to check for this in unit tests. Theoretically there could be unit tests to check that the HTML output on `Special:Log` is as expected, but:
    - Tests like that are extremely annoying (constantly broken due to harmless changes to the HTML structure).
    - After a total rewrite of the page, like we had here, the test would probably have been incorrectly updated anyway by copy-paste.
  - The patch caused several issues which were fixed separately (also T199495, T200136); maybe it should have been reverted.
- **T199941** *Fatal MWException in Babel: "Language::isValidBuiltInCode must be passed a string"*
  - Started after [gerrit:442200](#) got merged: this caused `LanguageCode::bcp47('nrm') == 'nrf'`, among other normalizations.
  - As Krinkle noted on [gerrit:446766](#), the fatal exception came from `mGenerateContent` calling `LanguageBabelBox::render()` for a `LanguageBabelBox` instance having an invalid language code that `Language::factory` rejects.
    - In `mParseParameter()`: `BabelLanguageCodes::getCode('nrm') == 'nrm'` ("Narom")
    - In `LanguageBabelBox::__construct()`: `bcp47('nrm') == 'nrf'` ("Norman")
    - In `LanguageBabelBox::render()`: `getCode('nrf') == false` (not in `LanguageCode::deprecatedLanguageCodeMapping()` or

MediaWiki\Languages\Data\Names )

- In `LanguageBabelBox::render()` : `Language::getFactory( false)` => CRASH
- [gerrit:446766](#) was proposed as fix (it would ensure `getCode( 'nrf' ) == 'nrf'` , preventing the crash)
- Due to confusion about who could issue a C+2 ("Good general direction, but Niklas is the expert who'll care about the details like that.") and how the patch worked ("It's not clear to me how this patch addresses the fatal exception.") it was decided to revert the changes to bcp47 in core instead of fixing Babel: [gerrit:447469/gerrit:447470](#)
- Revert was merged 2018-07-23T21:53:44Z and stopped the fatal exceptions.
- Some observations:
  - Fix delayed by confusion of responsibilities and unclear communication during Wikimania.
  - Babel's test suite doesn't appear to exercise all possible valid language code parameters which could be passed to `mGenerateContent`
  - Implicit assumption was made that `getCode( bcp47( getCode( x ) ) )` is non-false if `getCode( x )` is non-false.
- **T199983** *Wikidata showing wrong language for page elements*
  -  **Done** Feedback needed from Wikidata team (Wikimedia Deutschland).
  - Started after [gerrit:444950](#) got merged (follow up to MCR-related changes in mediawiki)
  - With the above change, parser cache was no longer split by user language as expected for item pages
  - [phab:T201170](#) was merged as a good enough quick fix (it does not do parser cache split but prevents caching at all for cases when the user language is different than the language defined in parser options object)
  - Follow up for adjusting the underlying behaviour "the right way": [phab:T201170](#) (not yet resolved as of 2018-08-09)
  - WMDE has done the internal post-mortem about this particular incident with outcome being:
    - More effort should be put into automated testing of parser side-effect behaviour that affects Wikibase/Wikidata
    - Wikidata developers at WMDE should gather more knowledge about and be more involved into review of changes in mediawiki that have impact on wikibase
- **T200026** *RepoGroup exceptions due to "false" being passed as a key to MapCacheLRU*
  -  **Not done** Feedback needed from Aaron Schulz (Performance).
- **T200072** *MCR broke Undelete action (and made Cognate tests fail) "The given Title does not belong to page ID"*
  - Bug was noticed in a failing unit test Friday, July 20, and a fix submitted on Monday, July 23. It wasn't realized this might also affect production.
  - Once it was found on group 0 on Tuesday, the patch was reasonably quickly reviewed and backported.
- **T200136** *Does not work for change a log type drop down when the log type specified by URL / argument @ 1.32.0-wmf.13 (360f7b5)*
  -  **In progress** Feedback needed from Prateek Saxena (Audiences Design), Bartosz Dziewoński (Contributors).
  - This is basically the same situation as T199856 above, and caused by the same patch.

## Links to relevant documentation



Where is the documentation that someone responding to this alert should have (cookbook / runbook). If that documentation does not exist, there should be an action item to create it.

- [Heterogeneous deployment/Train deploys](#)

## Actionables

Explicit next steps to prevent this from happening again as much as possible, with Phabricator tasks linked for every step.

**NOTE:** Please add the [#wikimedia-incident](#) Phabricator project to these follow-up tasks and move them to the "follow-up/actionable" column.

- [phab:T199495](#) Allow \$input in LogEventsListGetExtraInputs hook, deprecate it
  - TODO: how a similar problem could be prevented?  **Not done**
- [phab:T199504](#) Editing of content model other than wikitext fails
  - TODO: how a similar problem could be prevented?  **Not done**

- [phab:T199763](#) Special:Log UnexpectedValueException after changes in HTMLTitleTextField and MapCacheLRU
  - Should updates to complex Special pages (like Special:Log) be review by at least two people (who?) before being merged? Not sure if its required, just asking. — [Prtksxna](#) ([talk](#)) 02:52, 2 August 2018 (UTC)
- [phab:T199856](#) Special:Log form should be using GET not POST
  - Should updates to complex Special pages (like Special:Log) be review by at least two people (who?) before being merged? Not sure if its required, just asking. — [Prtksxna](#) ([talk](#)) 02:52, 2 August 2018 (UTC)
- [phab:T199941](#) Fatal MWException in Babel: "Language::isValidBuiltInCode must be passed a string"
  - The Babel test suite didn't catch [phab:T199941](#) before deploy. I suspect that the language-related tools don't actually test *every* language code associated with a WMF-deployed wiki (or incubator). [C. Scott Ananian](#) ([talk](#)) 16:42, 10 August 2018 (UTC)
  - Done: [gerrit:465763](#) [C. Scott Ananian](#) ([talk](#)) 20:57, 19 October 2018 (UTC)
- [phab:T199983](#) Wikidata showing wrong language for page elements
  - [phab:T201170](#) Allow wikibase to render entities for an arbitrary target language, instead of the user's UI language
- [phab:T200026](#) RepoGroup exceptions due to "false" being passed as a key to MapCacheLRU
  - TODO: how a similar problem could be prevented? **✗ Not done**
- [phab:T200072](#) MCR broke Undelete action (and made Cognate tests fail) "The given Title does not belong to page ID" / [phab:T200269](#) Unable to undelete revision (Fatal error: given Title does not belong to page ID, RevisionStoreRecord)
  - TODO: how a similar problem could be prevented?
    - Even more unit tests, somehow. There were tests covering this code, but they didn't (and still don't) test the specific case that caused the problem here.
- [phab:T200136](#) Does not work for change a log type drop down when the log type specified by URL / argument @ 1.32.0-wmf.13 (360f7b5)
  - TODO: how a similar problem could be prevented? **✗ Not done**
- I really don't think deployments during Wikimania are wise. Even if we *think* we have adequate coverage, with the travel and distractions usual lines of communication are disrupted. [C. Scott Ananian](#) ([talk](#)) 16:42, 10 August 2018 (UTC)
 

Agreed. [Legoktm](#) ([talk](#)) 17:14, 22 August 2018 (UTC)

Category: [Incident documentation](#)

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