Item 250
git_comments:

git_commits:

1. **summary:** Merge pull request #590 from cloudant/fix-couch_log_config_listener_test
   message: Merge pull request #590 from cloudant/fix-couch_log_config_listener_test Wait for listener's exit during restart test

github_issues:

1. **title:** eunit couch_log_config_test failed with get_listener() found
   body: ## Current & Expected Behaviour Sometimes, the `couch_log_config_listener_test` test `couch_log_config_test`_ fails. It should always pass Makefile output: ``` module 'couch_log_config_listener_test' couch_log_config_listener_test: couch_log_config_test_...*failed* in function couch_log_config_listener_test:'-check_restart_listener/0-fun-2-'/1 (test/couch_log_config_listener_test.erl, line 38) in call from couch_log_config_listener_test:check_restart_listener/0 (test/couch_log_config_listener_test.erl, line 38) **error:{assertEqual_failed,[{module,couch_log_config_listener_test}, {line,38}, {expression,"get_handler ( )"}, {expected,not_found}, {value,{config_listener,{couch_log_sup, <0.3334.0>}}}]]} couch_log_config_listener_test: couch_log_config_test_...[1.002 s] ok [done in 1.008 s] ``` couch.log from the uploader is **EMPTY**. ## Possible Solution Looks like this test is expecting `gen_event:delete_handler` to occur immediately. Should there be a `timer:sleep()` call prior to checking `get_handler()`? ## Context This used to be known as https://issues.apache.org/jira/browse/COUCHDB-3341 but is now on GH Issues.
   label: code-design
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github_issues_comments:

1. **body:** Just a note: it turned out there could be two causes for this failure 1) we are indeed checking event manager before it had chance to remove old handler 2) `couch_log_sup` is super fast and spawns and

register new handler before we are pulling `which_handlers/1`, so we are getting _new_ handler. Just `sleep` would help in half of the cases, so I ended with something a bit more verbose. Hope it'll work more reliably.
label: code-design

github_pulls:

1. **title:** Wait for listener's exit during restart test
   body: ## Overview To test a config listener's restart we are deleting event handler in config_event and then immediately checking event manager. This creates race when we can be a slightly early and catch old handler yet to be removed or slightly late and get new handler that already been installed. This patch trying to address this by doing the check immediately after old handler exits and then incrementally waiting for new handler to be installed. ## Testing recommendations Run for an isolated test: ```bash make eunit apps=couch_log suites=couch_log_config_listener_test tests=couch_log_config_test_ ``` ## GitHub issue number Fixes #581 ## Checklist - [x] Code is written and works correctly; - [x] Changes are covered by tests; - [ ] Documentation reflects the changes;

github_pulls_comments:

1. Ironically your test for this build failed on the couch_log_config_listener_test: https://travis-ci.org/apache/couchdb/jobs/240997782
2. Ironically indeed :/ Since it's guaranteed that the old handler was gone, it sent `'DOWN'` after all, that means this is a new registered handler already spawned by sup. I'll have to bash my head now to figure out what can be done about this.
3. So I've been pondering on this for a while and I don't see a good solution on how we can fix this race without altering the test. The issue here is that when we are trying to confirm that handler got removed from `config_event` manager we are aiming in a pretty narrow gap between `config_listener`'s terminate and `couch_log_sup` spawning and registering new `config_listener_mon`. We can ensure that we are not checking handlers before old listener dies, but we can't delay supervisor without mocking `couch_log_sup` to set delay in its `handle_config_terminate`. And mocking the very module we are testing doesn't seems right to me. So I removed assertion on that short moment when handler is not in `config_event` and used it as a flag to wait on new listener to start. Then I've added assertion on that it is indeed a new listener and it is registered as the same handler id, which should be enough to confirm that listener's restart is working as expected. @davisp I believe you are the original author of this test. Do you think this change is acceptable and doesn't compromise integrity of the test?
4. +1 I didn't even remember writing this test so I went back to look at history. The reason this got all mixed up was the big config API changes that happened around the time I wrote this test. Originally it was its own gen_server which would wait 5s between reloads of the config listener but then we changed the config listener to be in the supervision tree which as you point out makes it quite the race. Looks like we hit that and then just changed the timeout without actually rethinking the test. Your changes to wait for the handler to exit, wait for a new one wiht the same id and a different pid I agree perform the same logical assertion that the restart is working. Good work on this!

github_pulls_reviews:

jira_issues:

1. **summary:** EUnit: config listener unknown failure
   description: One occurrence in our Jenkins builds so far. {noformat} module 'couch_log_config_listener_test' couch_log_config_listener_test: couch_log_config_test_...*failed* in function couch_log_config_listener_test:'-check_restart_listener/0-fun-2-'/1 (test/couch_log_config_listener_test.erl, line 38) in call from couch_log_config_listener_test:check_restart_listener/0 (test/couch_log_config_listener_test.erl, line 38) **error:{assertEqual,[{module,couch_log_config_listener_test}, {line,38}, {expression,"get_handler ( )"}, {expected,not_found}, {value,{config_listener,{couch_log_sup,<0.3192.0>}}}}]} output:<<"">> {noformat} No clue what's going on here.

jira_issues_comments:

1. Second occurrence of this today on Debian 8 (jessie) Erlang 18.3. Identical log to original issue posting.

2. Third occurance today, CentOS 6, Erlang 18.3. Identical log.
3. Fourth occurrence, Ubuntu 16.04, default Erlang.
4. Happened again in Jenkins, 14.04, 18.3.
5. [~iilyak] git blame says this is your most recent change. Can you look into why the assert on line 38 couch_log_config_listener_test.erl is failing about once every 10-20 runs? Thanks.
6. Just recurred again, am porting to GH Issues.
7. Migrated to https://github.com/apache/couchdb/issues/581