Automated failure aggregation & detection with elastic-recheck

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The OpenStack Gated Trunk

All changes in OpenStack first pass a series of automated tests.

This insures a certain level of quality and known working code when anyone pulls from the development branch of OpenStack.

Hooray!

Reasons for failures

Upstream service outage

Infrastructure problems or bugs

OpenStack project bugs

Test bugs

Bugs in dependencies

Enter elastic-recheck

The elastic-recheck project collects, organizes and detects known failures to make it easier for developers to discover and fix them.


It goes something like this...

There is a failure in the gate.

There shouldn't be, since this change can't make it to the gate unless it has passed previous checks.

What happened?

elastic-recheck notices this failure, and adds it to the Unclassified failed jobs page:

http://status.openstack.org/elastic-recheck/data/uncategorized.html

Developers review these unclassified failures by reviewing failure log files (linked from the unclassified failures page).

Once a pattern is determined a bug report is created.

Note: When I say “developers” I mean you, please help!

Developers then work to classify them as Elasticsearch queries using our ELK stack (Elasticsearch, Logstash, Kibana) via Kibana at:

http://logstash.openstack.org/

Once a sufficiently narrow query is defined, a patch is submitted against the elastic-recheck repository under the “queries” directory, title defined by bug number:

https://git.openstack.org/cgit/openstack-infra/elastic-recheck/tree/queries

Now: Automation!

An elastic-recheck script then monitors logs and notifies patch submitters in the review when their patch has hit a known bug.

This gives them the opportunity to rerun tests, confident that their change is not the culprit.

And more importantly, gives them the opportunity to help fix the bug.

Credits

Joe Gordon, HP and OpenStack Core contributor for slide review and suggestions

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