

Vidjil software development and quality

The Vidjil team

21 November 2017

Testing the software

- ▶ **Unit testing** Testing that very small bricks have the expected behaviour
- ▶ **Functional testing** Testing that a software has the expected behaviour

Unit testing Vidjil

Does the manual clustering does what is expected?

```
assert.equal(m.clone(0).getSize(), 0.05, "clone 0 : getsize = 0.05");
assert.equal(m.clone(1).getSize(), 0.1, "clone 1 : getsize = 0.1");
assert.equal(m.clone(2).getSize(), 0.125, "clone 2 : getsize = 0.125");

m.select(0)
m.select(1)
m.merge()
assert.deepEqual(m.clusters[0], [0,1], "merge 0 and 1: build cluster [0,1]");
assert.equal(m.clone(0).getSize(), 0.15, "cluster [0,1] : getsize = 0.15");
```

Functional testing Vidjil

- ▶ **Algorithm:** testing that a sequence has the correct V(D)J designation
- ▶ **Web application:** testing that clicking on merge merges the clones

A golden set of manually curated sequences

~ 250 sequences with hard-copy analysis available at vidjil.org/curated-vdj

```
>IGHV5-10-1*01 2/CTTC/3 IGHD1-14*01 1/GTTA/5 IGHJ5*01  
ggacaccgccatgtattactgtgcgaCTTCataaccggaaccaGTTA  
tggttcgactcctggggccaaggaaccctggtcaccgtctcctcag
```

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```

Contribute by sending any manually curated sequences

- ▶ Lille (A. Caillault, Y. Ferret)
- ▶ GOSH, London (G. Wright)
- ▶ Paris-Necker (F. Thonier)
- ▶ CLIP, Prague (M. Kotrova)
- ▶ Bristol (S. Wakeman, M. Duez)
- ▶ Rennes (A. Fievet)

Presented during RepSeq 2016

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Presented during RepSeq 2016

Ability to encode alternative solutions:

```
>TRGV4*02 (4/4/4 TRGJ1*01, 4/4/1 TRGJ1*02)
```

Functional testing Vidjil

- ▶ **Algorithm:** testing that a sequence has the correct V(D)J designation
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Continuous integration

Systematic tests, code review

numericalAxis: use nice_number_digits in FloatAxis

Closes [#2731](#).

Edited 37 minutes ago by Mathieu Giraud

Request to merge [feature-c/2731-nice_number_dig...](#)  into [dev](#)

 Pipeline [#11003](#)      passed for [658ff73a](#).

 Deployed to [review/feature-c/2731-nice_number_digits](#) on

[feature-c-2731-nice-number-digits.ci.vidjil.org/?data=analysis-example.vidjil](#) 32 minutes ago

Stop environment

Continuous integration

Systematic tests, code review

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Stop environment

```
FloatAxis.prototype = Object.create(NumericalAxis.prototype);
```

```
FloatAxis.prototype.getLabelText = function(value) {
```

```
-   return parseFloat(value).toFixed(2)
```

```
+   return parseFloat(value).toFixed( nice_number_digits(this.min, this.max, 2) )
```

```
}
```

Follow your issues with `gitlab.vidjil.org`

Permutation entre nombres de délétions ? #2829 · opened 7 minutes ago by Mathieu Giraud	<code>cpp</code> <code>cpp-finesegmenter</code> <code>dev-tests-should-get</code>	0
Export csv depuis l'algo #2828 · opened 20 minutes ago by Mathieu Giraud	<code>client-export</code> <code>cpp</code> <code>repeq-platform</code> <code>user-request</code>	1
Mettre à jour (et renommer) format-analysis.org #2797 · opened 4 days ago by Mathieu Giraud	<code>Web 2017.11</code> <code>repeq-formats</code> <code>repeq-platform</code>	1
Clarifier ce que fait chaque config, éventuellement les renommer #1944 · opened 11 months ago by Vidjil Team	<code>*-go</code> <code>bikeshedding</code> <code>com</code> <code>com-first-time-user</code> <code>doc</code> <code>priority-2</code> <code>server</code> <code>server-config</code>	3
Le 'spinner' de requête tourne en permanence #2827 · opened 56 minutes ago by Ryan Herbert		0
Pouvoir scroll le dialogue info #2826 · opened about an hour ago by Ryan Herbert		0
Plusieurs J à la suite : prendre le premier J #1971 · opened 11 months ago by Vidjil Team	<code>PAR-Debré</code> <code>cpp</code> <code>cpp-finesegmenter</code> <code>dev-tests-should-get</code> <code>user-request</code>	3
Coût du FineSegmenter : est-on trop généreux avec les mismatches ? #2825 · opened about an hour ago by Mikaël Salson	<code>Algo 2017.11</code> <code>!!-bug</code> <code>cpp-finesegmenter</code> <code>dev-tests-should-get</code>	0

Contribute or send your issues at `support@vidjil.org`

Managing unexpected incidents

- ▶ **Monitoring**, to identify them quickly
- ▶ Taking actions to **prevent them**

Monitoring unexpected events

Is the server still up?

Status Last 7 Days Type

	100.00%	bbi - Client	http
	100.00%	bbi - Network	ping
	93.996%	vda - Network	ping
	93.946%	vda - Server	http

Monitoring unexpected events

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Did an unexpected error occur on the web application?

Subject **[Vidjil] Server error - 134.206.27.125 Ryan_Herbert**

To notifications@vidjil.org★

Ticket: [vidjil/134.206.27.125.2017-11-20.10-22-27.0042abe0-210e-4f11-8c66-f51f6396c7aa](#)

At: /vidjil/tag/auto_complete?keys=[1,2,3,4,5,6,7,8]

User: 134.206.27.125 Ryan_Herbert

In real life, there are production incidents

Incident 2017-04-04 (all times CEST)

12:02 First failed job, other jobs may be still working.

15:22 User AC report

15:27 User JB report

16:02 INCIDENT OPENED. Server Notification (Mathieu)
Investigation (Rayan, Mikaël)

16:18 Restart of launch queue, test jobs seem to work.
SOLVED ? Further investigation.

16:26 UNDERSTOOD: problem yesterday in a minor upgrade.
Jobs were not launching since yesterday 19:10
(but there were no users until today 12:02)
Discussing prevention measures (#2322, #2323)

16:49 CLOSED, notification on the server, mail to users

Incident 2017-04-04: Tous les jobs sont en FAILED

Mails de Jack (15:27) et Aurélie (15:22)

cc @magiraud @RyanHerb @flothoni

Edited 18 minutes ago



0



0

Add

New branch



Mathieu Giraud @magiraud commented 45 minutes ago

Owner



(16:03) Notification mise.

Edited 43 minutes ago

Mathieu Giraud @magiraud changed title from Tous les jobs sont en FAILED to **Incident 2017-04-04: Tous les jobs sont en FAILED** 44 minutes ago

Mathieu Giraud @magiraud moved from [vidjil#2321](#) 43 minutes ago



Mikaël Salson @mikael-s commented 39 minutes ago

Owner



En tapant dans la BDD j'a ça dans les logs mais je ne trouve pas plus :

```
Traceback (most recent call last):
```

```
File "/home/vidjil-ci/git/prod/prod-server/server/web2py/gluon/scheduler.py", line 293, in executor
```

```
_env = env(a=a, c=c, import_models=True)
```

```
File "/home/vidjil-ci/git/prod/prod-server/server/web2py/gluon/shell.py", line 166, in env
```

```
sys.exit(1)
```

```
SystemExit: 1
```



Mikaël Salson @mikaël-s commented 38 minutes ago

Owner



le `run_output` des `scheduler_run` est vide



Ryan Herbert @RyanHerb commented 37 minutes ago

Owner



J'ai redémarré les workers, mon job de test s'est terminé correctement.



Mikaël Salson @mikaël-s commented 34 minutes ago

Owner



Il n'y avait rien dans `/mnt/data/prod/result/tmp` datant d'aujourd'hui (à part le run que vient de faire Ryan).



Ryan Herbert @RyanHerb commented 32 minutes ago

Owner



D'après cette erreur, le problème avait lieu au moment de la mise en place de l'environnement webpy au sein du scheduler. Difficile de dire ce qui peut provoquer cela. Probablement le `import_models` ?



Mathieu Giraud @magiraud commented 31 minutes ago

Owner



Jobs d'Aurélié sur `LON` relancés.



Mikaël Salson @mikaël-s commented 29 minutes ago

Owner



Jobs d'Aurélié sur `LON` relancés.

Oups... je l'ai fait aussi...



Ryan Herbert @RyanHerb commented 28 minutes ago

Owner



D'après ce lien: <https://groups.google.com/forum/#!topic/web2py/hNvMh6qrxfc>

Il s'agirait effectivement d'une erreur au moment de la lecture des modèles (tels que le `db.py` par exemple). Peut-être faudrait-il commencer à redémarrer les workers de manière systématique après une mise en production ([vidjil#2322](#)) ?

Edited 22 minutes ago by Mathieu Giraud



Mathieu Giraud @magiraud commented 28 minutes ago

Owner



Le dernier run, `/mnt/data/prod/result/tmp/out-023526`, date de hier 16:01. N'était-ce pas le moment d'un merge sur prod-server ?



Mikaël Salson @mikael-s commented 28 minutes ago
Donc ça serait dû aux modifications récentes du modèle de DB ?

Owner



Mathieu Giraud @magiraud commented 28 minutes ago
Jobs d'Aurélié sur LON relancés. Oups... je l'ai fait aussi...

Owner



Effectivement, j'ai cliqué une fois et les deux sont passés en **QUEUED** . Pas de soucis, j'imagine qu'on sait gérer cela :-)



Ryan Herbert @RyanHerb commented 25 minutes ago
Le dernier job réussi avant de relancer les workers date de 2017-04-03 15:59:49

Owner



Mikaël Salson @mikael-s mentioned in issue [vidjil#2322](#) 25 minutes ago



Mathieu Giraud @magiraud commented 23 minutes ago
Peut-être faudrait-il commencer à redémarrer les workers de manière systématique après une mise en production ?

Owner



Et même lancer systématiquement un job de test + des tests fonctionnels live ([vidjil#2323](#)).



Mikaël Salson @mikael-s commented 22 minutes ago
Job **COMPLETED** ça doit être bon

Owner



Mikaël Salson @mikael-s commented 18 minutes ago
Le merge sur **prod-server** :

Owner



```
Apr  3 19:12:05 vda ubuntu: vidjil-ci@134.206.27.223 [30986]: git pull [1]
Apr  3 19:12:11 vda ubuntu: vidjil-ci@134.206.27.223 [30986]: git reset --hard origin/prod-server [0]
```

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In real life, very hard incidents also happen

Incident 2017-10-24

- ▶ We lost a hard drive (storing all the websites, databases. . .)
- ▶ The service was down for several days
- ▶ We lost 1.5 days of data
- ▶ We discussed how to improve our backups

As incidents happen, we need robust backups

- ▶ Sequences are **not** backup-ed
- ▶ Metadata, results and analyses are backup-ed
 - ▶ Once a month: a full backup
 - ▶ Twice a day (will be increased): All the metadata and new results and analyses since the start of the month