

# Migration to testing and visualization

or how do I beat the freeze deadline...

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# Outline

1. Context
2. Migration to testing
3. Visualization
4. Perspectives

## Context

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## Show of hands

Who maintains a package?

Who keeps an eye on the migration status (unstable to testing)?

Who already had packages blocked by some other packages?

Who had troubles getting the whole picture?

## Some very quick words (1/2)



DEBAMAX company:

- ▶ Free Software consulting
- ▶ Debian-focussed

Services:

- ▶ systems administration
- ▶ packaging
- ▶ development, integration
- ▶ Debian Installer support

→ <https://debamax.com/>

## Some very quick words (2/2)

Weapon of choice: Puppet

- ▶ centralized deployment, maintenance
- ▶ automation
- ▶ problem: monitoring?

Solutions:

- ▶ full-blown solutions: Foreman, Puppet Enterprise
- ▶ home-brew scripts: parse YAML reports, send XMPP notices
- ▶ PuppetBoard: replaces Puppet Dashboard; web interface to PuppetDB

New problem: **PuppetDB is not in testing!**

## Migration to testing

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# Why is a package not migrating to testing?

Many reasons:

- ▶ not old enough
- ▶ new RC bugs
- ▶ unsatisfiable (build-)dependencies
- ▶ piuparts or CI issues
- ▶ kept out on purpose (block)
- ▶ kept out by the Debian Installer release manager (block-udeb)
- ▶ all of the above

# What do I do then?

Resources to understand why:

- ▶ Package Tracker → [https://tracker.debian.org/pkg/\\$SOURCE](https://tracker.debian.org/pkg/$SOURCE)
- ▶ **Excuses** page → [https://release.debian.org/britney/update\\_excuses.html](https://release.debian.org/britney/update_excuses.html)

... and follow the links.

# Example 1: easy (Tracker)

Debian Package Tracker - gjtl | X | +

https://tracker.debian.org/pkg/averell

## averell

incredibly stupid web server

Jump to package page

Profile | Login

### action needed

- Failed to analyze the VCS repository. Please troubleshoot and fix the issue. **high**
- Standards version of the package is outdated. **high**
- Depends on packages which need a new maintainer **normal**

### testing migrations

excuses:

- Migrates after: [erlang-cowboy](#)
- Too young, only 1 of 5 days old
- Puparts tested OK - <https://puparts.debian.org/sid/source/a/averell.html>
- Checking build-dependency on amd64
- Not touching package due to block request by freeze (please contact debian-release if update is needed)
- Not considered

### news

- [2019-05-23] [Accepted averell 1.2.5-1.1 \(source\) into unstable](#) (Micha David Rosenbaum) (signed by: Gianfranco Costamagna)
- [2018-10-31] [averell REMOVED from testing](#) (Debian testing watch)
- [2016-04-25] [Accepted averell 1.2.5-1 \(source all\) into unstable, unstable](#) (Jean Parpaillon) (signed by: Gianfranco Costamagna)

### bugs

all:

### links

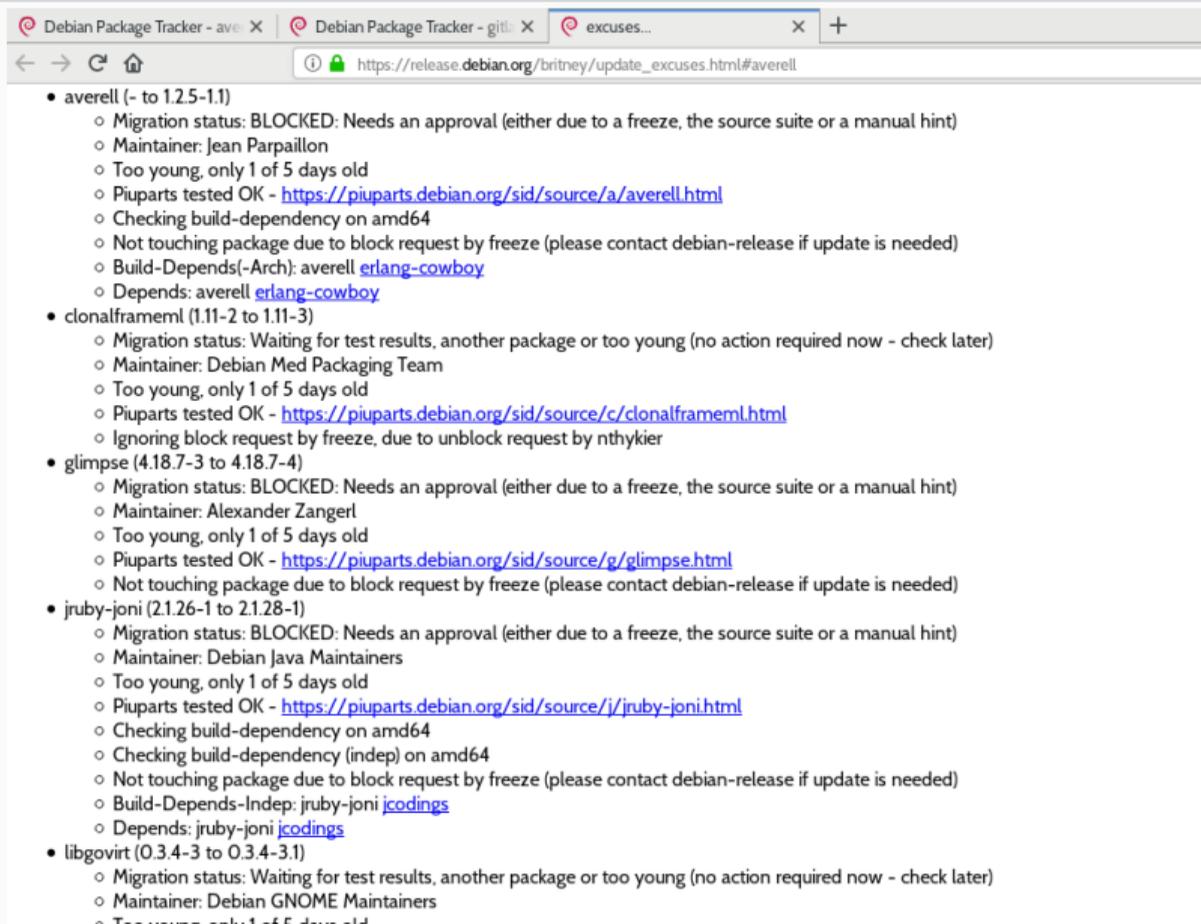
homepage  
lintian  
build: logs,  
popcon  
browse source

search source  
edit tags  
screenshots

### ubuntu

version: 1.

# Example 1: easy (Excuses)



The screenshot shows a web browser window with three tabs: 'Debian Package Tracker - ave...', 'Debian Package Tracker - git...', and 'excuses...'. The address bar displays the URL 'https://release.debian.org/britney/update\_excuses.html#averell'. The main content area lists several Debian packages with their migration status and reasons for being blocked.

- **averell** (- to 1.2.5-1.1)
  - Migration status: **BLOCKED**: Needs an approval (either due to a freeze, the source suite or a manual hint)
  - Maintainer: Jean Parpaillon
  - Too young, only 1 of 5 days old
  - Piuparts tested OK - <https://piuparts.debian.org/sid/source/a/averell.html>
  - Checking build-dependency on amd64
  - Not touching package due to block request by freeze (please contact debian-release if update is needed)
  - Build-Depends(-Arch): averell [erlang-cowboy](#)
  - Depends: averell [erlang-cowboy](#)
- **clonalframeml** (1.11-2 to 1.11-3)
  - Migration status: Waiting for test results, another package or too young (no action required now - check later)
  - Maintainer: Debian Med Packaging Team
  - Too young, only 1 of 5 days old
  - Piuparts tested OK - <https://piuparts.debian.org/sid/source/c/clonalframeml.html>
  - Ignoring block request by freeze, due to unblock request by nthykier
- **glimpse** (4.18.7-3 to 4.18.7-4)
  - Migration status: **BLOCKED**: Needs an approval (either due to a freeze, the source suite or a manual hint)
  - Maintainer: Alexander Zangerl
  - Too young, only 1 of 5 days old
  - Piuparts tested OK - <https://piuparts.debian.org/sid/source/g/glimpse.html>
  - Not touching package due to block request by freeze (please contact debian-release if update is needed)
- **jruby-joni** (2.1.26-1 to 2.1.28-1)
  - Migration status: **BLOCKED**: Needs an approval (either due to a freeze, the source suite or a manual hint)
  - Maintainer: Debian Java Maintainers
  - Too young, only 1 of 5 days old
  - Piuparts tested OK - <https://piuparts.debian.org/sid/source/j/jruby-joni.html>
  - Checking build-dependency on amd64
  - Checking build-dependency (indep) on amd64
  - Not touching package due to block request by freeze (please contact debian-release if update is needed)
  - Build-Depends-Indep: jruby-joni [jcodings](#)
  - Depends: jruby-joni [jcodings](#)
- **libgovirt** (0.3.4-3 to 0.3.4-3.1)
  - Migration status: Waiting for test results, another package or too young (no action required now - check later)
  - Maintainer: Debian GNOME Maintainers
  - Too young, only 1 of 5 days old

# Example 2: less easy (Tracker)

Debian Package Tracker - gitlab X +

https://tracker.debian.org/pkg/gitlab

## gitlab

git powered software platform to collaborate on code (non-omnibus)

Jump to package | Profile | Log out

### action needed

- A new upstream version is available: [11.11.0](#) high
- Debc1 reports [failed tests](#) (log) high
- 2 bugs tagged patch in the [BTS](#) normal
- The package has not entered testing even though the delay is over normal
- Depends on packages which need a new maintainer normal

### testing migrations

excuses:

- Migrates after: [gitlab-shell](#), [golang-gitally-proto](#), [pdf.js](#), [ruby-asana](#), [ruby-attr-encrypted](#), [ruby-default-value-for-factor](#), [ruby-doorkeeper-openid-connect](#), [ruby-gitlab-sidekiq-fetcher](#), [ruby-google-api-client](#), [ruby-googleauth](#), [ruby-kubeclient](#), [ruby-omniauth-azure-oauth2](#), [ruby-premailer-rails](#), [ruby-seed-fu](#), [ruby-truncato](#)
- 18 days old (5 needed)
- gitlab/armel unsatisfiable Depends: nodejs (>= 6~)
- gitlab/armel unsatisfiable Depends: ruby-hamlit (>= 2.8.8~)
- Updating gitlab introduces new bugs: [#915050](#)
- Piuparts tested OK - <https://piuparts.debian.org/sid/source/g/gitlab.html>
- Checking build-dependency on amd64
- Not touching package due to block request by freeze (please contact debian-release if update is needed)
- Not considered

### news

- [2019-05-21] [Accepted gitlab 11.10.4+dfsg-2 \(source\) into experimental](#) (Utkarsh Gupta)
- [2019-05-18] [Accepted gitlab 11.10.4+dfsg-1 \(source\) into experimental](#) (Utkarsh Gupta)
- [2019-05-06] [Accepted gitlab 11.8.9+dfsg-1 \(source\) into unstable](#) (Utkarsh Gupta) (signed by: Praveen Arimbrathodiyil)
- [2019-04-19] [Accepted gitlab 11.8.6+dfsg-1 \(source all\) into unstable](#) (Abhijith PA)
- [2019-03-21] [Accepted gitlab 11.8.3-1 \(source\) into unstable](#) (Sruthi Chandran)
- [2019-03-17] [Accepted gitlab 11.8.2-2 \(source all\) into unstable](#) (Praveen Arimbrathodiyil) (signed by: Praveen Arimbrathodiyil)

11.4.9+dfsg-2~bpo9+1

11.8.9+dfsg-1

11.10.4+dfsg-2

+1: [edit] [view] [delete] [comment]

[edit] [view] [delete] [comment]

[edit] [view] [delete] [comment]

### bugs

all:

RC:

I&N:

M&W:

F&P:

patch:

### links

homepage

buildd: [logs](#), [e](#)

popcon

debci

browse source

search source

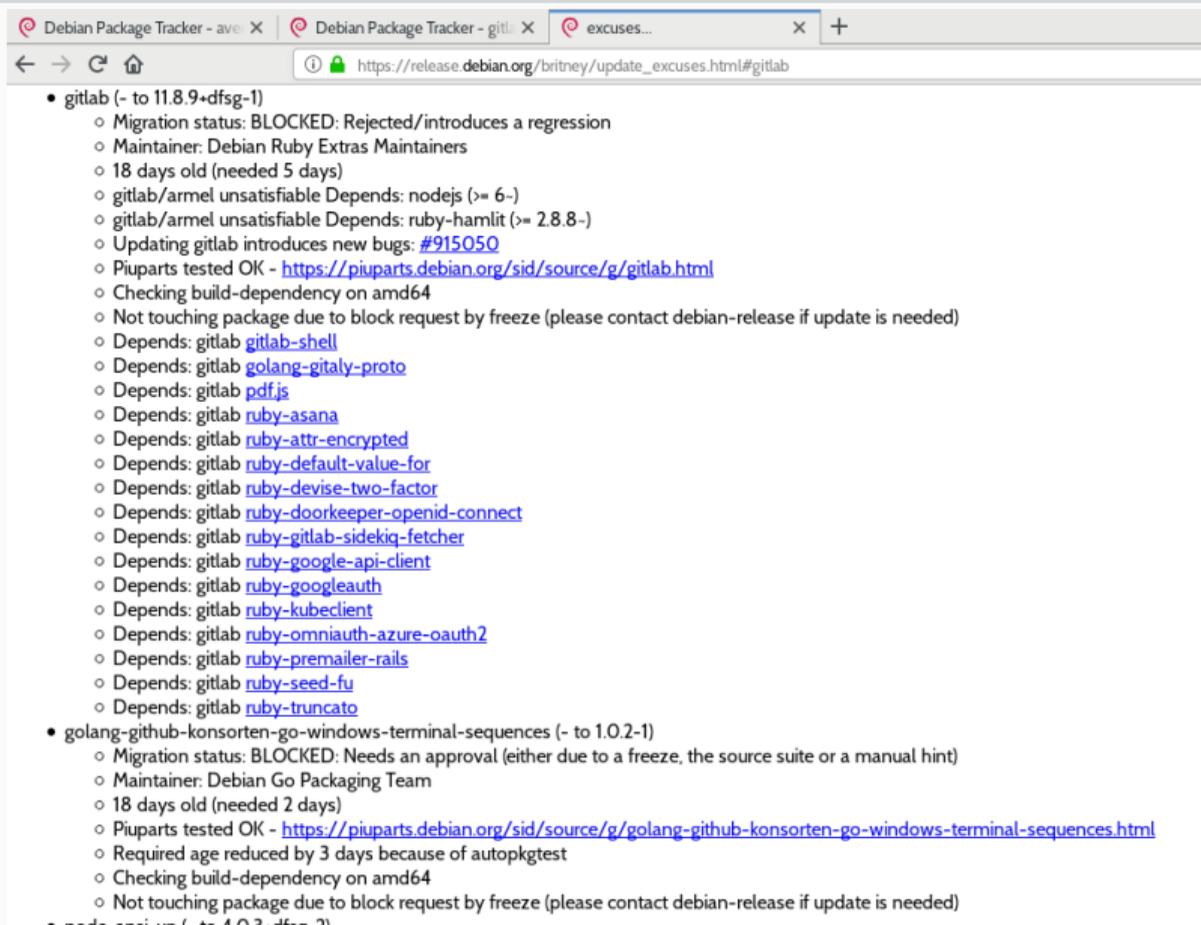
edit tags

security track

screenshots

9/25

## Example 2: less easy (Excuses)



The screenshot shows a web browser window with three tabs: "Debian Package Tracker - ave", "Debian Package Tracker - gitlab", and "excuses...". The address bar displays the URL: [https://release.debian.org/britney/update\\_excuses.html#gitlab](https://release.debian.org/britney/update_excuses.html#gitlab). The main content area lists two packages that are blocked for update:

- gitlab (- to 11.8.9+dfsg-1)
  - Migration status: BLOCKED: Rejected/introduces a regression
  - Maintainer: Debian Ruby Extras Maintainers
  - 18 days old (needed 5 days)
  - gitlab/armel unsatisfiable Depends: nodejs (>= 6-)
  - gitlab/armel unsatisfiable Depends: ruby-hamlit (>= 2.8.8-)
  - Updating gitlab introduces new bugs: [#915050](#)
  - Piuparts tested OK - <https://piuparts.debian.org/sid/source/g/gitlab.html>
  - Checking build-dependency on amd64
  - Not touching package due to block request by freeze (please contact debian-release if update is needed)
  - Depends: gitlab [gitlab-shell](#)
  - Depends: gitlab [golang-gitaly-proto](#)
  - Depends: gitlab [pdf.js](#)
  - Depends: gitlab [ruby-asana](#)
  - Depends: gitlab [ruby-attr-encrypted](#)
  - Depends: gitlab [ruby-default-value-for](#)
  - Depends: gitlab [ruby-devise-two-factor](#)
  - Depends: gitlab [ruby-doorkeeper-openid-connect](#)
  - Depends: gitlab [ruby-gitlab-sidekiq-fetcher](#)
  - Depends: gitlab [ruby-google-api-client](#)
  - Depends: gitlab [ruby-googleauth](#)
  - Depends: gitlab [ruby-kubeclient](#)
  - Depends: gitlab [ruby-omniauth-azure-oauth2](#)
  - Depends: gitlab [ruby-premailer-rails](#)
  - Depends: gitlab [ruby-seed-fu](#)
  - Depends: gitlab [ruby-truncato](#)
- golang-github-konsorten-go-windows-terminal-sequences (- to 1.0.2-1)
  - Migration status: BLOCKED: Needs an approval (either due to a freeze, the source suite or a manual hint)
  - Maintainer: Debian Go Packaging Team
  - 18 days old (needed 2 days)
  - Piuparts tested OK - <https://piuparts.debian.org/sid/source/g/golang-github-konsorten-go-windows-terminal-sequences.html>
  - Required age reduced by 3 days because of autopkgtest
  - Checking build-dependency on amd64
  - Not touching package due to block request by freeze (please contact debian-release if update is needed)

But what if there are too many packages involved?

# Visualization

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# Solutions

Solution 1: pen and paper

Solution 2: manual Graphviz

Solution 3: automated Graphviz

## Solution: manual Graphviz

Simple algorithm:

- ▶ start from your favorite package
- ▶ add links to all involved packages
- ▶ iterate on each such package, recursively
- ▶ gotcha: keep track of processed packages!

# Manual Graphviz: step 1

```
digraph {
  rankdir=LR;
  node[shape=box];

  "puppetdb" -> "dujour-version-check-clojure" [color=blue];
  "puppetdb" -> "honeysql-clojure" [color=blue];
  "puppetdb" -> "kitchensink-clojure" [color=blue];
  "puppetdb" -> "puppetlabs-http-client-clojure" [color=blue];
  "puppetdb" -> "puppetlabs-i18n-clojure" [color=blue];
  "puppetdb" -> "stockpile-clojure" [color=blue];
  "puppetdb" -> "trapperkeeper-clojure" [color=blue];
  "puppetdb" -> "trapperkeeper-metrics-clojure" [color=blue];
  "puppetdb" -> "trapperkeeper-status-clojure" [color=blue];
  "puppetdb" -> "trapperkeeper-webserver-jetty9-clojure" [color=blue];
  ...
}
```

## Manual Graphviz: step 2

```
...  
  
"dujour-version-check-clojure"  -> "puppetlabs-http-client-clojure" [color=blue];  
  
"puppetlabs-http-client-clojure" -> "puppetlabs-i18n-clojure"       [color=blue];  
"puppetlabs-http-client-clojure" -> "ssl-utils-clojure"           [color=blue];  
  
"ssl-utils-clojure"             -> "puppetlabs-i18n-clojure"       [color=blue];  
  
"puppetlabs-i18n-clojure"       -> "kitchensink-clojure"         [color=blue];  
  
"stockpile-clojure"            -> "puppetlabs-i18n-clojure"       [color=blue];  
  
"trapperkeeper-clojure"        -> "kitchensink-clojure"         [color=blue];  
  
...
```



## Great overview, job done?

Next steps:

- ▶ check RC / FTBFS bugs for involved packages, and fix or downgrade
- ▶ common bugs: test failures for Clojure packages
- ▶ after a few days: packages fixed and RC bugs closed/downgraded

What now? Let's do the same dance again?!

## Solution 3: automated Graphviz

Despite the urgency (beat the freeze): let's script it!

Preliminary work (years ago):

- ▶ based on parsing `update_excuses.html`
- ▶ parsing HTML
- ▶ parsing non-stable strings

→ time to switch to **machine-readable** things!

## Machine-readable excuses (1/3)

→ <http://release.debian.org/britney/excuses.yaml> (20190201000001.yaml)

```
- dependencies:
  migrate-after:
  - dujour-version-check-clojure
  - honeysql-clojure
  - kitchensink-clojure
  - puppetlabs-http-client-clojure
  - puppetlabs-i18n-clojure
  - stockpile-clojure
  - trapperkeeper-clojure
  - trapperkeeper-metrics-clojure
  - trapperkeeper-status-clojure
  - trapperkeeper-webserver-jetty9-clojure
excuses:
- 'Updating puppetdb introduces new bugs: <a href="https://bugs.debian.org/878193">#878193</a>'
- Piuparts tested OK - <a href="https://piuparts.debian.org/sid/source/p/puppetdb.html">https://p
- Checking build-dependency on amd64
is-candidate: false
...
```

## Machine-readable excuses (2/3)

```
...
item-name: puppetdb
maintainer: Puppet Package Maintainers
migration-policy-verdict: REJECTED_PERMANENTLY
new-version: 4.4.1-2
old-version: '-'
policy_info:
  age:
    age-requirement: 5
    current-age: 113
    verdict: PASS
  autopkgtest:
    puppetdb/4.4.1-2:
      amd64:
        - ALWAYSFAIL
        - https://ci.debian.net/data/autopkgtest/testing/amd64/p/puppetdb/1126285/log.gz
        - https://ci.debian.net/packages/p/puppetdb/testing/amd64
      verdict: PASS
...
```

## Machine-readable excuses (3/3)

```
...
  block:
    verdict: PASS
  build-depends:
    check-build-depends-on-arch: amd64
    verdict: PASS
  built-using:
    verdict: PASS
  piuparts:
    piuparts-test-url: https://piuparts.debian.org/sid/source/p/puppetdb.html
    test-results: pass
    verdict: PASS
  rc-bugs:
    shared-bugs: []
    unique-source-bugs:
      - '878193'
    unique-target-bugs: []
    verdict: REJECTED_PERMANENTLY
source: puppetdb
```

See summary page and specific graphs in a browser nearby



# Perspectives

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## Next steps

Open questions/problems:

- ▶ put more data on the graphs
  - ▶ RC bugs
  - ▶ aging
  - ▶ hints by release managers
- ▶ clickable/zoomable/expendable format
- ▶ accessibility

Infrastructure:

- ▶ integration: <https://release.debian.org/> & <https://tracker.debian.org/>
- ▶ source/binary mapping automation: <https://snapshot.debian.org/>

## But what happened to puppetdb?

It's in!

```
$ rmadison -s testing,unstable puppetdb
puppetdb | 6.2.0-3 | testing | source, all
puppetdb | 6.2.0-3 | unstable | source, all
```

My beloved supporting cast:

- ▶ Santiago Vila: connecting dots with FTBFSes
- ▶ Elana Hashman, Clojure team: happy to get bugfixes
- ▶ Emmanuel Bourg, security team: tika
- ▶ Apollon Oikonomopoulos, release team: cherry on the cake, puppetdb!
  - ▶ 2019-02-08: upload
  - ▶ 2019-02-12: soft freeze
  - ▶ 2019-02-11: migration!



Thanks for your attention!

More Debian-related write-ups and news:

- ▶ <https://debamax.com/blog/>
- ▶ Twitter : [@debamax](#) et [@CyrilBrulebois](#)

Questions are welcome!