

debmetrics: the software powering metrics.debian.net

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Show of hands

- Who here has heard about debmetrics prior to this talk?



About debmetrics

- Software powering metrics.debian.net
- An interface for adding new metrics
 - Pull metrics
 - debmetrics server runs script that pulls data from remote source
 - Push metrics
 - Remote server runs script and pushes resulting data to debmetrics
 - HTTP POST
 - Manifest file
 - Defines everything about a metric
- A web interface for viewing graphs and tables
 - Dynamic tables and graphs
 - Static matplotlib fallback



Why debmetrics?

- Debian statistics are scattered
- Can compare metrics if there is a universal interface
- Single location to backup data from



The technology behind debmetrics

- Python
- Postgres
- SQLAlchemy
- Flask
 - Jinja2 as templating engine
- matplotlib
- JavaScript
- flot
- A number of JQuery plugins
- nosetests



JQuery plugins

- JQuery UI
- Flot
 - hiddengraphs
 - time
 - tooltip
 - superlegends
- stickytableheaders
- tablesorter



Current metrics

- dpkg_formats
- package_stats
- rc_bug_count
- releases
- releases_count
- vcs
- your metric???



Features - General Flask Route

```
@app.route('/<metric>')
def metric(metric):
    """A general route for all metrics. Return 404 if metric does not exist.

    Keyword args:
    metric -- the metric
    """
    if metric in models:
        rows, cols = db_fetch(metric)
        graphs, name, timeseries = graph_helper(metric)
        return render_template('metric.html', title=metric, graph=graphs[0],
                               name=name[0], timeseries=timeseries,
                               headers=cols, rows=rows)
    else:
        abort(404)
```



Features - models/__init__.py

```
import logging
from glob import glob1
from os.path import dirname

log = logging.getLogger('debmetrics')

models = {}
for i in (i[:-3] for i in glob1(dirname(__file__), '*.py')):
    if i != '__init__':
        try:
            module = __import__('debmetrics.models.%s' % i,
                                fromlist=[i])
            models[i] = getattr(module, i.title().replace('_', ''))
        except Exception as err:
            if log.level < logging.INFO:
                log.debug("cannot initialize '%s' model", i, exc_info=True)
            else:
                log.debug("cannot initialize '%s' model: %s", i, err)
```



Hacking on debmetrics

- git clone
- make
- crontab crontab
- Code
- Submit patch





Let's demonstrate how easy it is to
hack on debmetrics!



How to add a new metric

Need:

- Manifest file
- Script

Optional:

- Custom graph script (optional)



Example manifest

```
[script1]
type = pull
freq = 0 0 * * *
script = scripts/vcs.py
fields = svn:Integer, darcs:Integer, git:Integer, bazaar:Integer,
using_vcs:Integer, cvs:Integer, mtn:Integer, total:Integer,
arch:Integer, hg:Integer
format = csv
override_ts = false
graph_type = default
description = Provides statistics on how popular each vcs is with Debian
packages.
```



Example script

```
#!/usr/bin/python

import sys
import json
import csv
import urllib2
import datetime

def run():
    url = 'https://upsilon.cc/~zack/stuff/vcs-usage/usage.json'
    j = json.load(urllib2.urlopen(url))
    j = j['values'][0]
    writer = csv.writer(sys.stdout)
    writer.writerow(['ts', 'svn', 'darcs', 'git', 'bzd', 'using_vcs', 'cvs',
                    'mtn', 'total', 'arch', 'hg'])
    today = "%s" % datetime.datetime.utcnow()
    writer.writerow([today, j['svn'], j['darcs'],
                    j['git'], j['bzd'], j['using_vcs'], j['cvs'], j['mtn'],
                    j['total'], j['arch'], j['hg']])

    sys.exit(0)
```





Let's demonstrate how easy it is to
add a new metric!



Roadmap

<http://anonscm.debian.org/cgit/users/josephbisch-guest/debmetrics/tree/TODO>

- historical data injection
- customizable page templates
- stable URLs for combined metrics



Contact

Use the debian-qa mailing list and #debian-qa on OFTC.



Questions?

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