IPython-Dashboard Documentation

Release 0.1.2

litaotao

Nov 16, 2017

Contents

A stand alone, light-weight web server for building, sharing graphs created in ipython. Build for data science, data analysis guys. Building an interactive visualization, collaborated dashboard, and real-time streaming graph.

CHAPTER 1

Requirements

- redis 2.6+, install guide
- pip install -r requirements.txt

CHAPTER 2

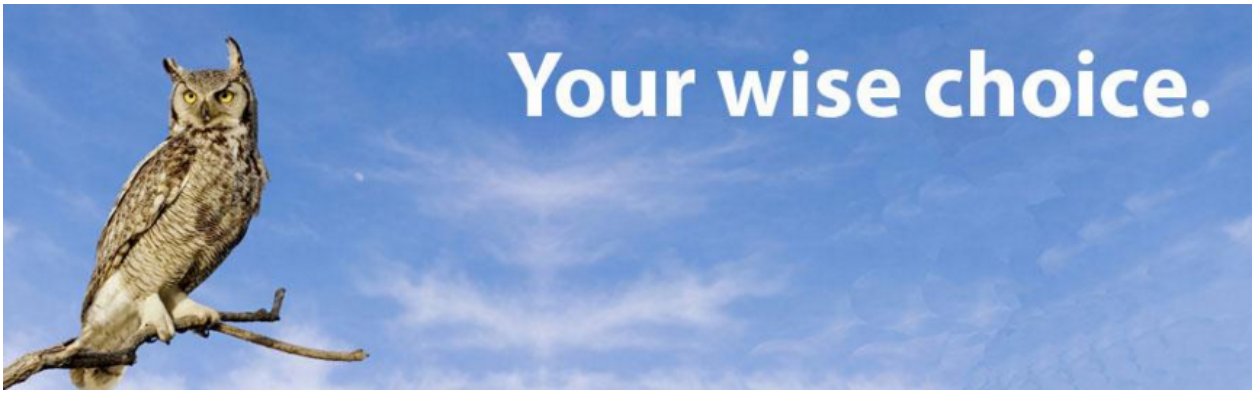
Goal

- support raw html visualization
- support python object visualization
- Editable
- Real-time fresh when rendering a variable python object
- Can be shared, both public and private [need password]
- In the notebook, can share an object to a dashboard [that's visualize that object in that dashboard]

CHAPTER 3

Use Case

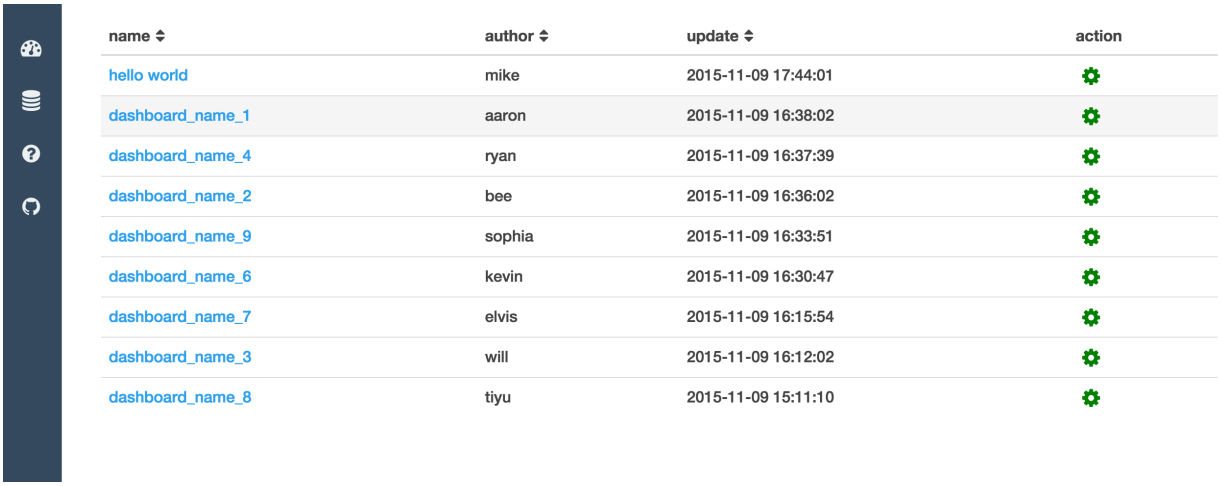
- if you do exploring in notebook, but just want to share/send the result/summary to people, leave out the details.
- if you have a private notebook, but also need share something in that notebook with people, extract and put into another new notebook is ugly.
- if you are totally disappointed with the complicated code when drawing a graceful/staic graph using matplotlib/seaborn/mpld3 etc.
- if you want an interactive graph, allow people to zoom in/out, resize, get hover tips, change graph type easily.
- if you want a real-time graph.
- if you want an collaborated graph/dashboard.



CHAPTER 4

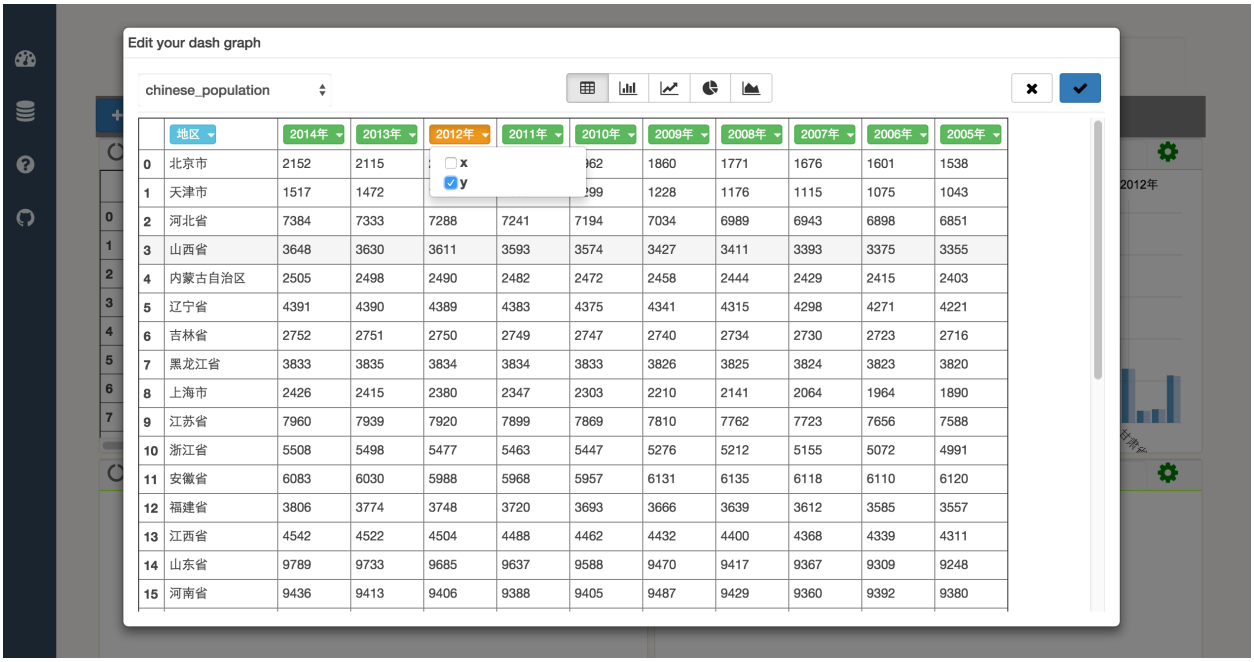
Screenshot and Demo

Demo on Youtube
Demo on Youku



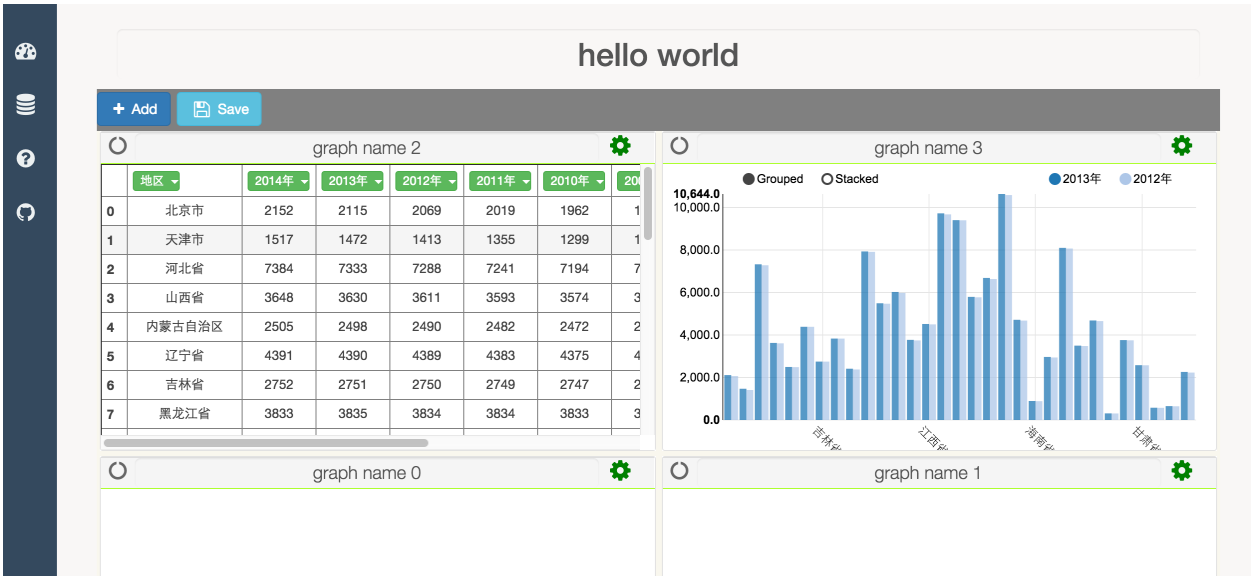
name	author	update	action
hello world	mike	2015-11-09 17:44:01	
dashboard_name_1	aaron	2015-11-09 16:38:02	
dashboard_name_4	ryan	2015-11-09 16:37:39	
dashboard_name_2	bee	2015-11-09 16:36:02	
dashboard_name_9	sophia	2015-11-09 16:33:51	
dashboard_name_6	kevin	2015-11-09 16:30:47	
dashboard_name_7	elvis	2015-11-09 16:15:54	
dashboard_name_3	will	2015-11-09 16:12:02	
dashboard_name_8	tiyu	2015-11-09 15:11:10	

Fig. 4.1: screenshot



	地区	2014年	2013年	2012年	2011年	2010年	2009年	2008年	2007年	2006年	2005年
0	北京市	2152	2115			962	1860	1771	1676	1601	1538
1	天津市	1517	1472			299	1228	1176	1115	1075	1043
2	河北省	7384	7333	7288	7241	7194	7034	6989	6943	6898	6851
3	山西省	3648	3630	3611	3593	3574	3427	3411	3393	3375	3355
4	内蒙古自治区	2505	2498	2490	2482	2472	2458	2444	2429	2415	2403
5	辽宁省	4391	4390	4389	4383	4375	4341	4315	4298	4271	4221
6	吉林省	2752	2751	2750	2749	2747	2740	2734	2730	2723	2716
7	黑龙江省	3833	3835	3834	3834	3833	3826	3825	3824	3823	3820
8	上海市	2426	2415	2380	2347	2303	2210	2141	2064	1964	1890
9	江苏省	7960	7939	7920	7899	7869	7810	7762	7723	7656	7588
10	浙江省	5508	5498	5477	5463	5447	5276	5212	5155	5072	4991
11	安徽省	6083	6030	5988	5968	5957	6131	6135	6118	6110	6120
12	福建省	3806	3774	3748	3720	3693	3666	3639	3612	3585	3557
13	江西省	4542	4522	4504	4488	4462	4432	4400	4368	4339	4311
14	山东省	9789	9733	9685	9637	9588	9470	9417	9367	9309	9248
15	河南省	9436	9413	9406	9388	9405	9487	9429	9360	9392	9380

Fig. 4.2: screenshot



	地区	2014年	2013年	2012年	2011年	2010年	20
0	北京市	2152	2115	2069	2019	1962	1
1	天津市	1517	1472	1413	1355	1299	1
2	河北省	7384	7333	7288	7241	7194	7
3	山西省	3648	3630	3611	3593	3574	3
4	内蒙古自治区	2505	2498	2490	2482	2472	2
5	辽宁省	4391	4390	4389	4383	4375	4
6	吉林省	2752	2751	2750	2749	2747	2
7	黑龙江省	3833	3835	3834	3834	3833	3

Fig. 4.3: screenshot

CHAPTER 5

Usage

IPython-Dashboard-Tutorial.ipynb: On nbviewer or On github

CHAPTER 6

Run tests

just run `sudo nosetests --with-coverage --cover-package=dashboard` under this repo

```
aaron@aarons-MacBook-Pro:~/Desktop/github/IPython-Dashboard$sudo nosetests --with-
↪coverage --cover-package=dashboard
...
Name                                       Stmts   Miss  Cover   Missing
------------------------------------------------------------------------
dashboard.py                                   9      0   100%
dashboard/client.py                            1      0   100%
dashboard/client/sender.py                    11      9    18%   22-34
dashboard/config.py                           12      0   100%
dashboard/server.py                            1      0   100%
dashboard/server/resources.py                  0      0   100%
dashboard/server/resources/dash.py            41     25    39%   25-30, 39, 48-49, 55-71,
↪ 76-87
dashboard/server/resources/home.py             8      1    88%   20
dashboard/server/resources/storage.py         15      7    53%   20-22, 30-34
dashboard/server/utils.py                     31      6    81%   18-22, 29, 43
dashboard/server/views.py                     12      0   100%
------------------------------------------------------------------------
TOTAL                                        141     48    66%
------------------------------------------------------------------------
Ran 3 tests in 0.345s

OK
```

CHAPTER 7

Change Log

- future
  - import dashboard to ipython notebook, one click [though I don't think it's necessary]
  - front side, databricks style
  - pep 8, code clean up & restructure
  - hover tips
  - edit modal can be resized
  - Share one graph
  - Share one dashboard
  - Presentation mode
  - slogan
  - footer
  - readthedoc
  - unified message display center
  - SQL Editor
  - login management
  - unified logger and exception report
- ***V 0.1.3 : basic-curd-docs : [current develop version]***
  - Dashboard
    - restructure code for future develop
    - more docs and tutorial
    - basic curd operations
    - gh-pages done

        * publish on readthedoc
        * hover tips
    - SQL Editor
        * start try using ace to build an online sql editor, but will develop it in the next stage after this version
- ***V 0.1.2 : visualiza-table : [current stable release]***
    - slogan: ***Inspired by IPython, built with love***
    - Dashboard
        * document and doc string
        * usage
        * simple visualize table data
    - SQL Editor
        * research & preparation
- V 0.1.1 : dashboard-server : [current stable release]
    - Dashboard
        * dashboard home page
            · sort by dashboard name / creator / last update time
        * dashboard page
            · add graph in a dashboard
            · re-arrange graph
            · resize graph
            · get table view in a graph
    - SQL Editor
- V 0.1 : dashboard-template
    - Add dashboard client template
    - Template consists of box, each box is an independent front-side object
    - Template hierarchy:
        * box page [add, delete, share one or all]
        * box graph [add, delete, share one or all]
        * rename

CHAPTER 8

Related Projects & Products

- mpld3
- lighting
- bokeh
- matplotlib
- zeppelin
- yhat
- hue
- plotly
- datadog
- databricks
- nvd3
- c3js
- periscope
- folium
- metabase
- gridstack
- gridster
- dashboards
- js, css, html code style