

cyRESTの紹介

Mishima-syk #12 LT
@iwatobipen

What is cyREST ?

- RESTFul API
- Connect R/Python & Cytoscape!

F1000Research

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#SPRINGMESSAGE("ENUM.\${ENUM.CLASS.SIMPLENAME}.\${ENUM.NAME()}SI(SUFFIX)")

**CyREST: Turbocharging Cytoscape Access for External Tools
via a RESTful API [version 1; referees: 2 approved]**

Keiichiro Ono¹, Tanja Muetze², Georgi Kolishovski³, Paul Shannon⁴, Barry Demchak¹

¹Department of Medicine, University of California, San Diego, CA, 92093-0688, USA

²Imperial College London, London, SW7 2BZ, UK

³Bioconductor, Boston, MA, 02125, USA

⁴Fred Hutchinson Cancer Research Institute, Seattle, WA, 98100, USA



<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4670004/>

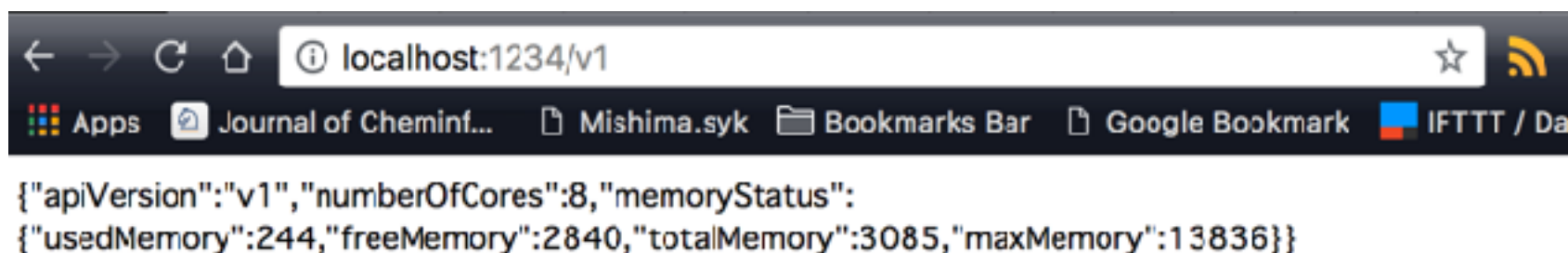
How to install ?

- **Cytoscape side**
 - **App manager => cyREST**
- **Python side**
 - **pip install py2cytoscape**



After installation...

- Launch Cytoscape and access
- <http://localhost:1234/v1>



cyREST is Working ;-)

Python=> Cytoscape



Data Preparation

Make Graph object/Read file

Analysis

Visualize



Post&GET



Cytoscape



Data



[https://github.com/kzfm/
mishimasyk4/blob/master/test.gml](https://github.com/kzfm/mishimasyk4/blob/master/test.gml)

Acknowledgements @kzfm-san





Let's Go Code!



```
from py2cytoscape.data.cyrest_client import CyRestClient
from py2cytoscape.data.util_network import NetworkUtil as util
from py2cytoscape.data.style import StyleUtil as s_util
import py2cytoscape.cytoscapejs as renderer

cy = CyRestClient()
cy.session.delete()
test = cy.network.create_from('test.gml')
```





Let's Go Code!



```
# Draw settings from python
———-Snip———-
simdata = s_util.create_slope(min=10, max=200, values=(0,1))

cy.layout.apply(name='yfiles.OrganicLayout', network=test)
cy.layout.get_all()
my_style.create_continuous_mapping(column='similarity',
                                   vp='EDGE_WIDTH',
                                   col_type='Double',
                                   points=simdata)
———-Snip———-
cy.style.apply(my_style, network=test)
```





Python => Cytoscape



Control Panel

Network Style Select

MISHIMA Style

Properties

Def.	Map.	By.	
			Border Paint
0.0			Border Width
			Fill Color
			Height
			Image/Chart 1
			Label
			Label Color
12			Label Font Size
			Shape
50.0			Size
255			Transparency
			Width

Table Panel

shared name	name	alogp	smiles	activities	psa
0	0	1.99	COc1cc(Nc2...	8.39294000867	154.2
1	1	3.82	CNC1CC2OC...	8.52287874528	69.45
2	2	3.52	Cc1nci-c2cc...	8.04575749056	128.26
3	3	2.38	NC(=O)c1c2...	7.52287874528	123.36
4	4	3.88	COc1cc(Nc2...	7.38721614328	128.75





cyREST



- **Easy to use**
- **Reproductivity**
- **Easy to share (i.e. github)**
- **etc...**





Enjoy

