

Outline

- Installation of Jupyter and writing notebooks!
- Modules in the Jupyter world!
- OMERO-py in Jupyter!
- Jupyter Kernels and Integration of R with Jupyter!
- Jupyter-Docker (OMERO)
 - Where do the notebooks get stored?
- Jupyter in the IDR world!

Installation of Jupyter

For experienced Python users:

```
pip3 install --upgrade pip // pip install --upgrade pip  
Pip3 install jupyter // pip install jupyter
```

For this workshop:

Install using **Anaconda**:

<https://www.anaconda.com/download>

https://repo.continuum.io/archive/Anaconda2-5.0.0-MacOSX-x86_64.pkg

```
>> which jupyter
```

```
>> jupyter notebook
```

Task: Run an example notebook to understand the interface.

Example Notebook: `example_notebook_jupyter.ipynb`

Modules in the Jupyter world!

Task : Import and Run the module within Jupyter Notebook.

Requirement: Hello_world python module.

Add to Path:

```
>> export PYTHONPATH=$PYTHONPATH:/Users/bramalingam/Documents/  
Anaconda_Training/python_module/
```

Example Notebook: `python_module_example.ipynb`

(External) Modules in the Jupyter world!

Install and use external Python modules:

Task : Import and Run the module within Jupyter Notebook.

Requirement: External Python Module (tqdm, opencv).

Example Notebook: Install_external_module.ipynb

OMERO and Jupyter:

Task : Install dependencies for OMERO-PY and create a blitzgateway connection.

Requirement: OMERO-PY, ICE

Add to Path:

```
export PYTHONPATH=/Users/bramalingam/Downloads/OMERO.server-5.4.0-ice36-b74/  
lib/python/
```

Example Notebook: Install_external_module.ipynb

Integration of R with Jupyter

Currently available kernels:

<https://github.com/jupyter/jupyter/wiki/Jupyter-kernels>

Task: Integrate R-kernel with Jupyter and install rOMERO-gateway

Requirements: r , r-essentials, conda environment(optional), install.r (rOMERO-gateway installation script)

Useful links: <https://github.com/ome/rOMERO-gateway>

```
>> cd anaconda/bin
>> ./conda create -n my-r-env -c r r-essentials
>> source ./activate my-r-env
>> which jupyter
>> jupyter notebook
```

Example Notebook: rExampleNotebook.ipynb

Packaging Jupyter with OMERO (Docker)

IDR / jupyter-docker

Watch 2 Star 0 Fork 7

Code Issues 3 Pull requests 3 Projects 0 Wiki Insights

No description or website provided.

jupyter docker

23 commits 3 branches 18 releases 2 contributors

Branch: master New pull request Create new file Upload files Find file Clone or download

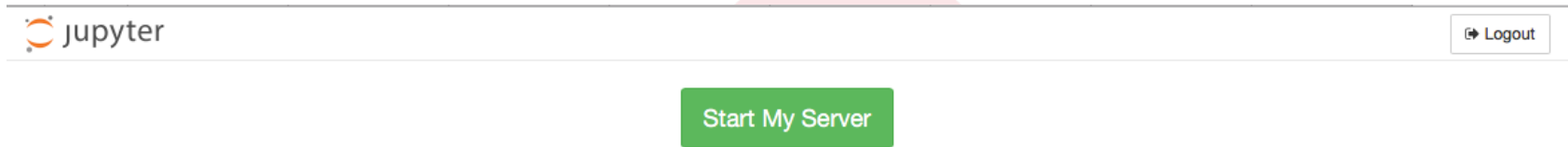
joshmoore Merge pull request #7 from manics/update Latest commit d14a21c on 28 Apr

<code>.gitignore</code>	Version opened up via trello (v1)	a year ago
<code>.travis.yml</code>	Use default travis docker	7 months ago
<code>Dockerfile</code>	Add pytables	6 months ago
<code>example.sh</code>	Rebase Dockerfile on jupyter/scipy-notebook	7 months ago

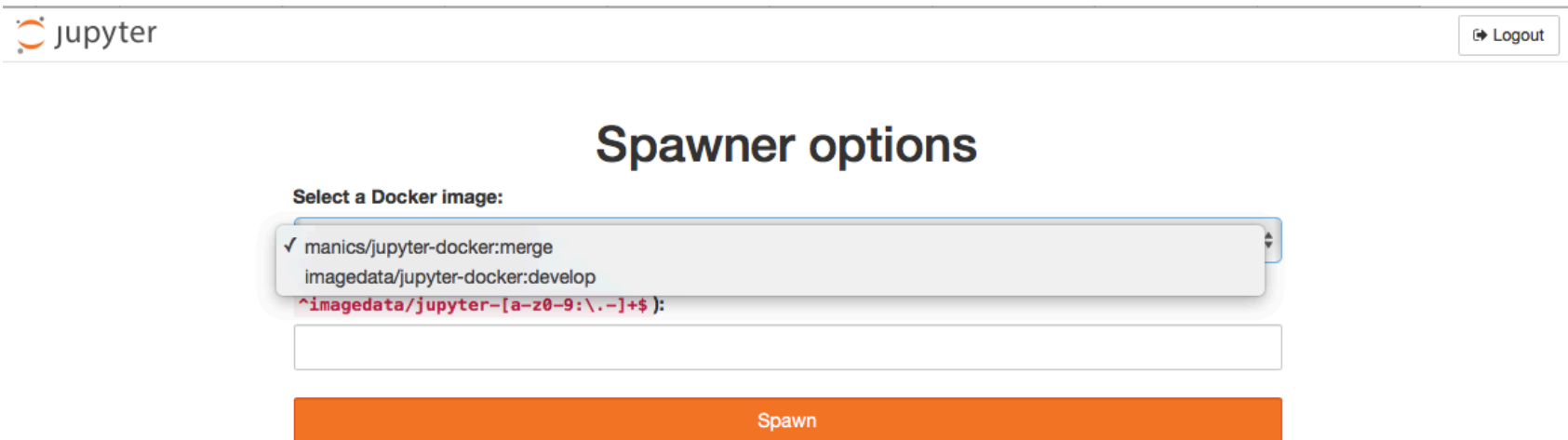
Current Resource : <https://github.com/IDR/jupyter-docker>

Jupyter Hub (IDR Context)

Resource: <https://idr.openmicroscopy.org/jupyter/hub/home>



Example Resource: <https://idr-testing.openmicroscopy.org/jupyter/hub/spawn>



Sharing with Jupyter?



Control Panel

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Select items to perform actions on them.

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<input type="checkbox"/>	▼	📁	Name ↑	Last Modified ↑
<input type="checkbox"/>		includes		5 months ago
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<input type="checkbox"/>		notebooks		5 months ago
<input type="checkbox"/>		ome2017		5 months ago
<input type="checkbox"/>		scratch		5 months ago
<input type="checkbox"/>		shared		a month ago
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<input type="checkbox"/>		📄 README.md		5 months ago

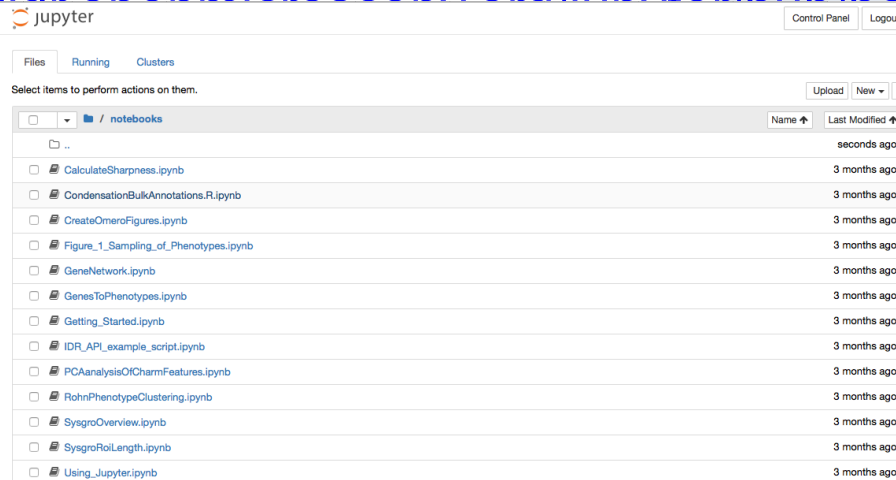
Resource: <https://jupyter.openmicroscopy.org/jupyter/hub/home>

Jupyter in the IDR World (Current Status)

○ Marriage of 3 repositories:

- Jupyter-Docker : <https://github.com/IDR/jupyter-docker>
- IDR-PY : <https://github.com/IDR/idr-py>
- Idr-notebooks : <https://github.com/IDR/idr-notebooks>
- ProductionIDR/Jupyter:

<https://github.com/IDR/jupyter-docker>



Current aspects in review

- Sharing workflows with Jupyter notebooks
 - <https://github.com/jupyter/jupyter-drive>
- Repository management for new Notebooks:
 - An OMERO centric notebook repository for training workflows.
 - Convert python documentation page into notebooks, i.e convert python examples into notebooks (<https://github.com/openmicroscopy/openmicroscopy/tree/v5.3.4/examples/Training/python>)
 - One docker file per repository/language?

Useful Links

- **Jupyter** : <https://jupyter.org>
- **Anaconda** : <https://anaconda.org>
- **Jupyter Tricks**:
<https://www.dataquest.io/blog/jupyter-notebook-tips-tricks-shortcuts/>
- **General Example Notebooks** :
<https://github.com/jupyter/jupyter/wiki/A-gallery-of-interesting-Jupyter-Notebooks>

The background features several large, semi-transparent circles in various colors: light blue, light green, light red, and light blue. The word "QUESTIONS?" is centered in a dark blue, sans-serif font.

QUESTIONS?