IPython Notebooks on Odyssey

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IPython notebook

Extension of the IPython console to a web-based platform for shared code and documentation.

Pre-installed with Anaconda

ipython notebook starts a server on localhost: 8888 that can be viewed with a browser
IPython notebook on Odyssey

1. Pick a port and setup port forwarding
2. Load the appropriate python module
   - Setup a password (optional)
   - Setup a certificate for https (optional)
3. Launch the notebook server
4. View web page in a browser

Screencast available at
http://informatics.fas.harvard.edu/port-forwarding-on-odyssey-nodes/
IPython notebook port forwarding

```bash
> srun --tunnel
> ipython notebook
```

http://localhost:8888

Submit Host (rclogin)  Compute Host
IPython notebook port forwarding

```
> sruntunnel
> ipython notebook
```

NX Client

Submit Host (rcnx01)

Compute Host
Pick a port and setup port forwarding

IPython serves to port 8888 by default
Port conflicts can occur on shared systems like rcloginXX and rcnx01
--port option allows you to select other ports

ipython notebook --port 8899
Load the appropriate module

IPython is installed with the default Odyssey python

$ source new-modules.sh
$ module load python
$ which ipython
/n/sw/fasrcsw/apps/Core/Anaconda/1.9.2-fasrc01/x/bin/ipython
Setup a password (optional)

Create a profile

ipython profile create ajk

Generate a password hash using IPython’s passwd() function

Set the hash to the Notebookapp.password config value.

In $HOME/.ipython/profile_ajk/ipython_notebook_config.py
c.NotebookApp.password = u'sha1:143b9c77...2d582a5e3d'
Setup a password (optional)

```python
In [1]: from IPython.lib import passwd

In [2]: passwd()
Out[2]: 'sha1:14cf7fb200e0:e7d318e37a42ade093b9c771b382392d582a5e3d'

In [ ]:
```
Setup a certificate (optional)

A self-signed certificate will allow you to use https and avoid passing your password in the clear

```bash
openssl req -x509 -nodes -days 365 -newkey rsa:1024 -keyout ipython.pem -out ipython.pem

ipython notebook certfile=ipython.pem
```
Launch the IPython notebook server

Load any additional modules, if needed, before you start the server

A self-signed certificate will allow you to use https and avoid passing your password in the clear

```
ipython --port=8899 --profile=ajk --certfile=ipython.pem notebook
```