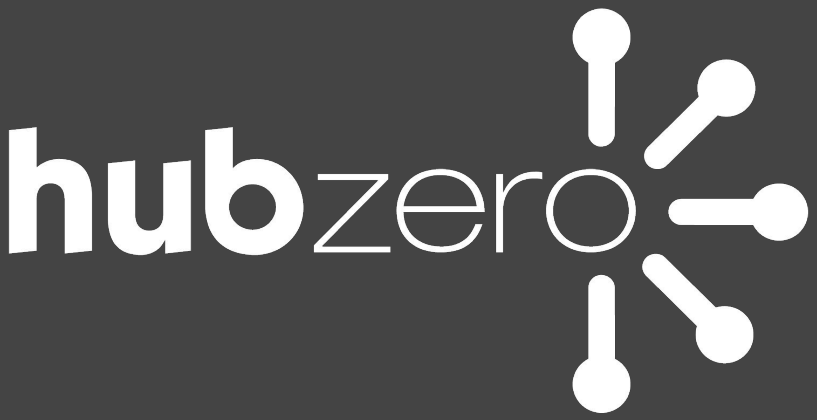

Publishing Notebooks

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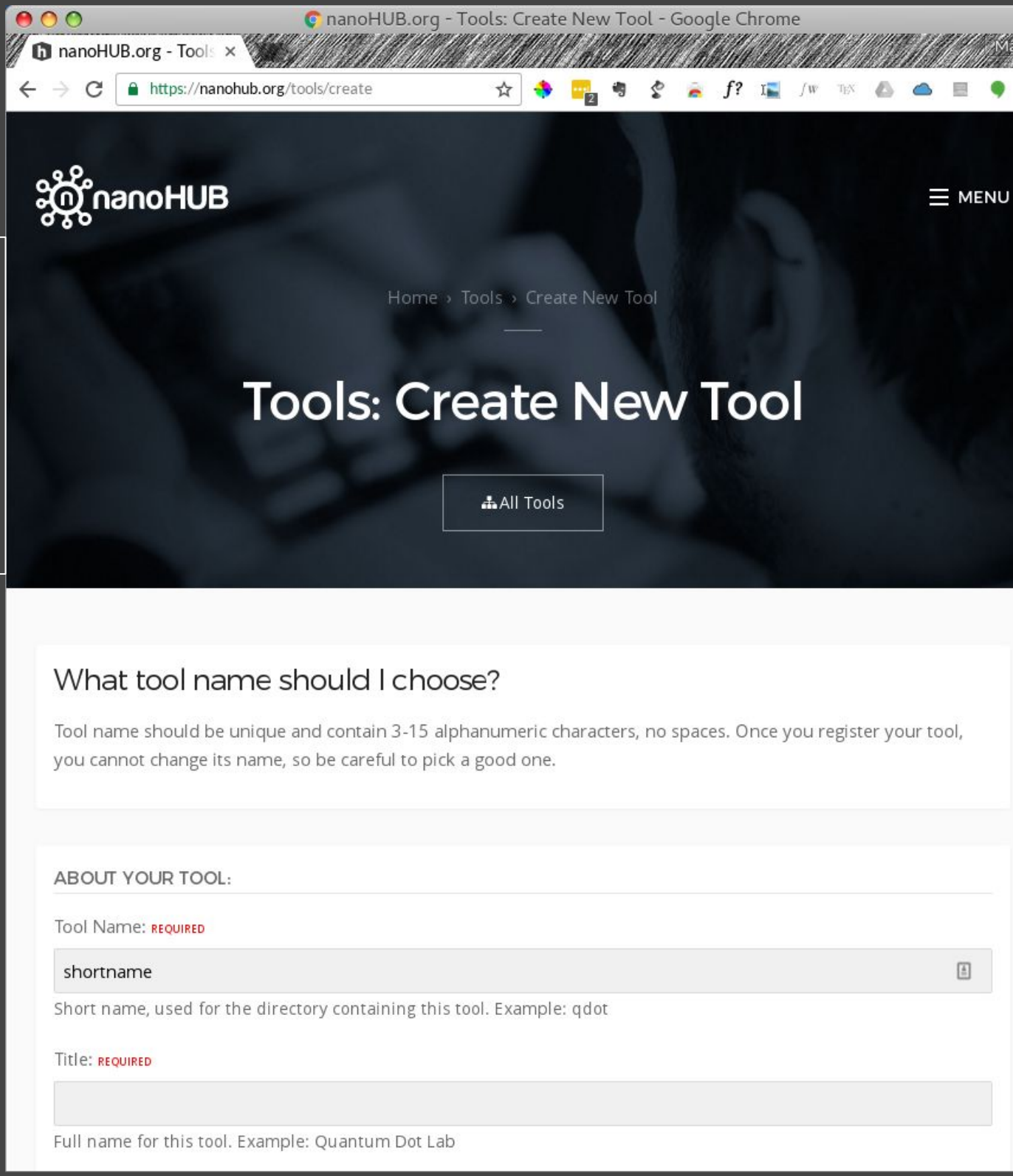
How to Publish a Notebook on the Hubs

- Publishing a notebook shares it with the public or a group.
- The steps are very similar to publishing other materials.
- You should understand the publishing process before continuing. See https://nanohub.org/resources/3865/download/tools.pdf

To start, go to https://my_hub/tools/create

For example, on nanohub, https://nanohub.org/tools/create.

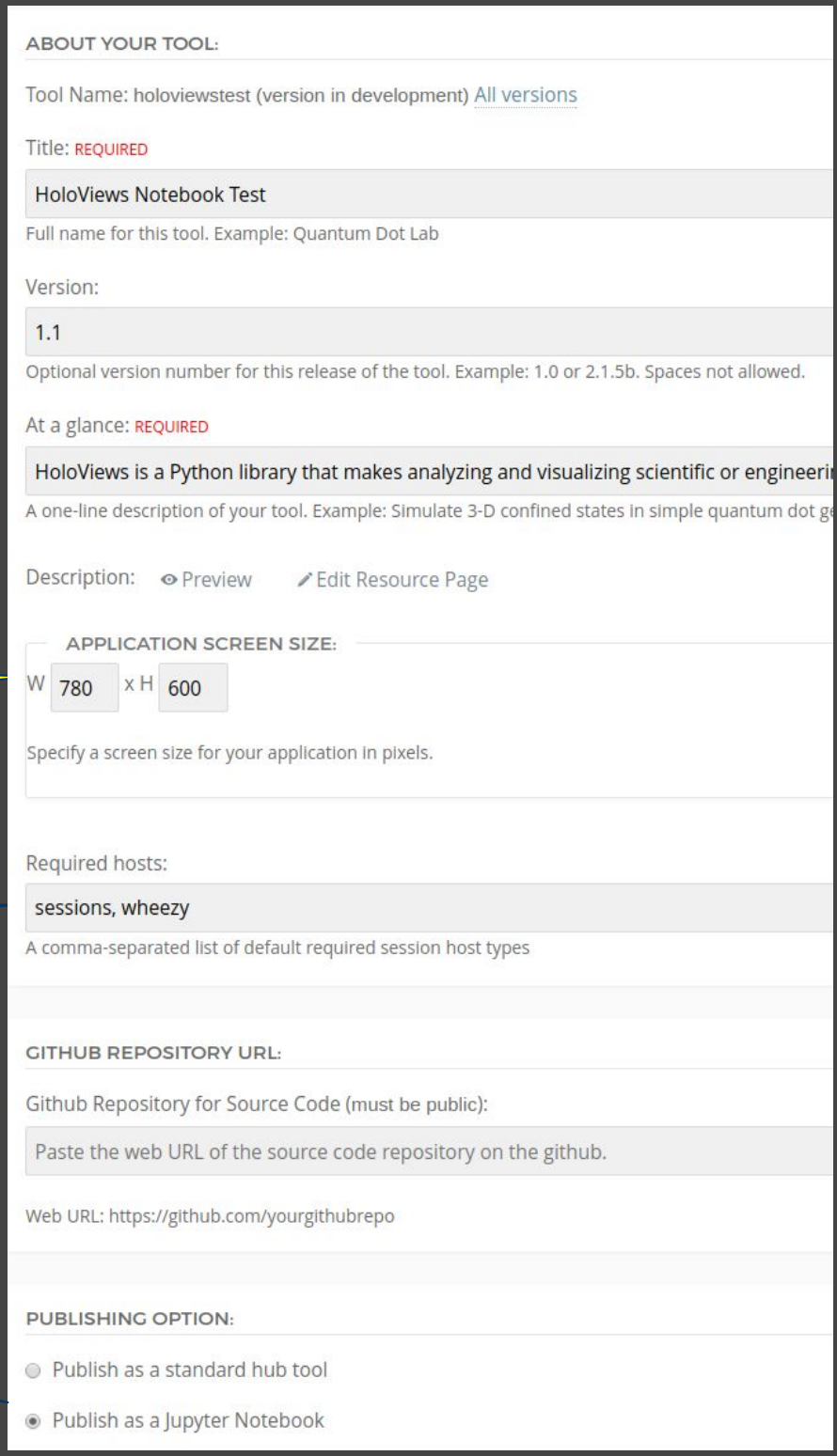


Fill in the fields.

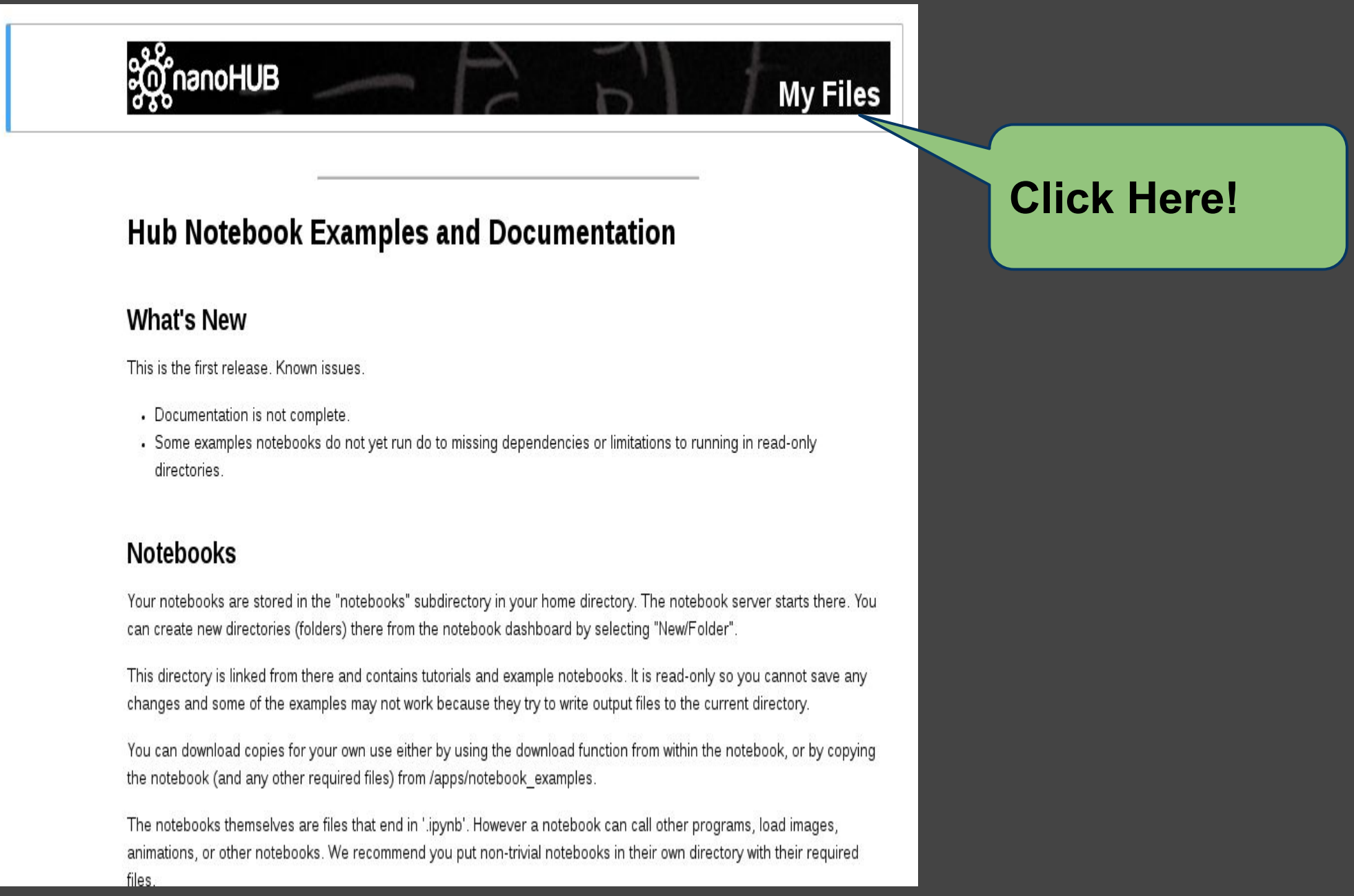
Ignore

Ignore

Select

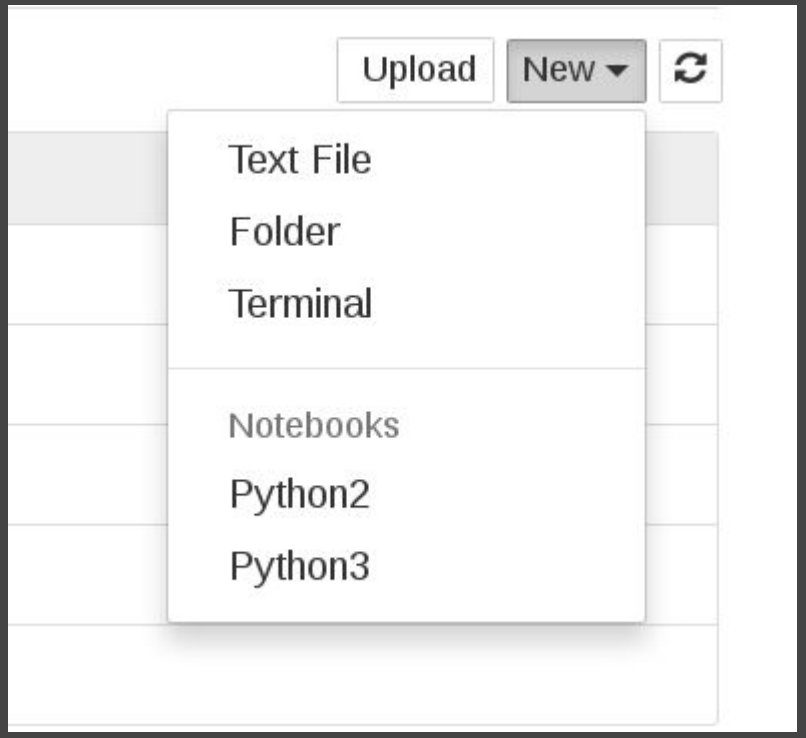


Now start the jupyter notebook tool.
https://nanohub.org/tools/jupyter

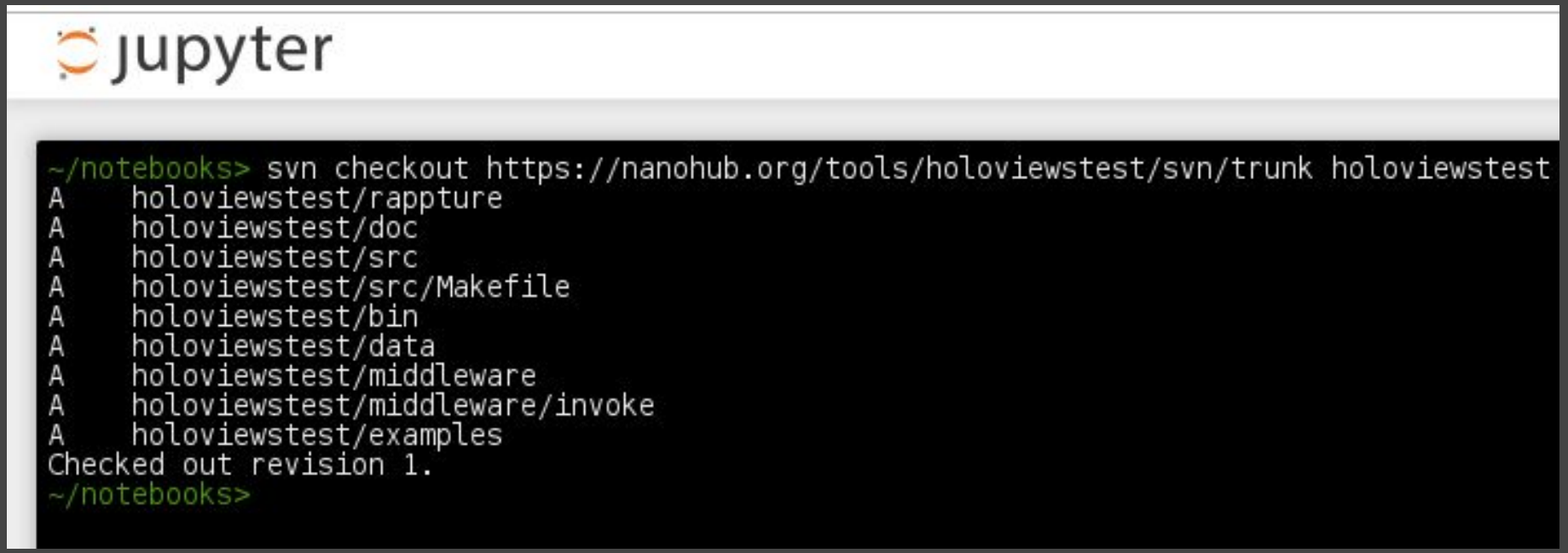


Click Here!

You should see a list of folders and files. Click on the “New” menu pulldown near the upper-right. Select “Terminal”.



Now check out the subversion repository that was created for you in the tool creation process.



Now go back to the file list and you should see your project.

Now select New/Python2 or New/Python3 (preferred) to create your notebook.

Alternatively, click on the “Upload” button and upload a file or notebook.

Or, if the notebook is already in your workspace, use the terminal to copy it to this location.

We've uploaded a notebook, and also uploaded a data file to the data subdirectory. Then we ran the notebook...

In [1]:
```
import numpy as np
import holoviews as hv
hv.extension('bokeh')
```

This is a simple test of tool-mode notebooks and holoviews

It is just for testing

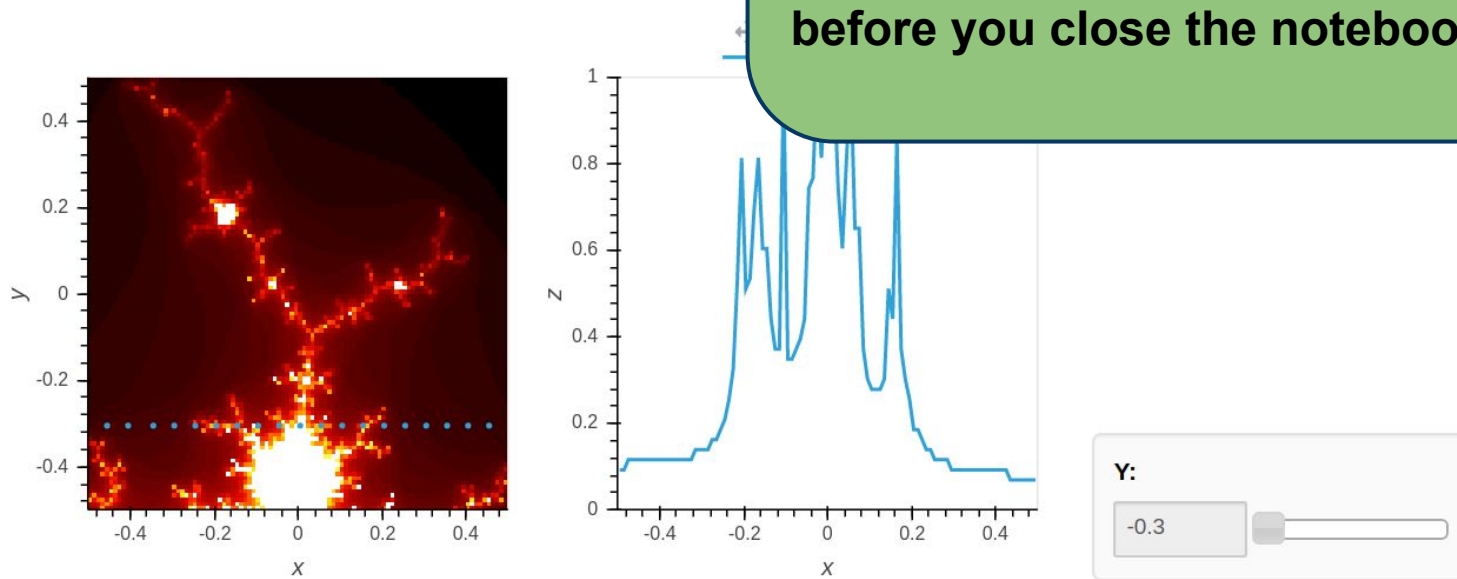
In [2]:
```
array = np.load("data/mandelbrot.npy").astype(np.float32)[::4,::4]
```

In [3]:
```
%%opts Points [scaling_fa  r=50] Contours [show_legend=False] (color='w')
dots = np.linspace(-0.45, 0.  19)
fractal = hv.Image(array)
# First example on the old holovie  epage was:
# ((fractal * hv.HLine(y=0)).hist() +  ple(
layouts = {y: (fractal * hv.Points(fract
               fractal.sample(y=y) +
               hv.operation.threshold(fractal,
               hv.operation.contours(fractal, leve
            for y in np.linspace(-0.3, 0.3, 11)} # Ha

hv.HoloMap(layouts, kdims=['Y']).collate().cols(2)
```

Out[3]:

Y: -0.3

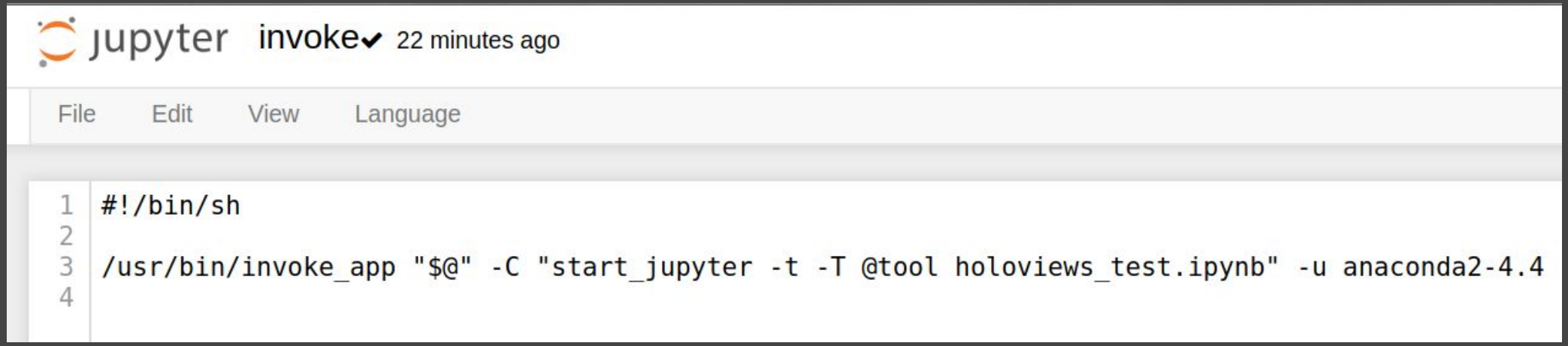


If you put data, images or video in a subdirectory, you should adjust your paths.

Be sure to save any changes before you close the notebook.

Finally, to tell the hub how to launch the notebook, we need to edit the invoke script that was automatically created. Just double-click on it to launch the editor.

Note that we now recommend putting the main notebook in the toplevel tool directory. Other files can be organized in subdirectories below it.



You should use an invoke script like the above, substituting your notebook name. If additional modules are needed, include them at the end after “-u”. Note that the anaconda2-4.4 (or newer) module is required. It is the module that contains Jupyter.

- Check in your notebook and changes. Then update the tool status.

- Once it is installed, you can try launching it.

Troubleshooting

If it does not launch:

From a terminal or workspace,

> use -e anaconda2-4.4

> /apps/my_app/dev/middleware/invoke

Troubleshooting

```
~> /apps/holoviewstest/dev/middleware/invoke
-----------------------------------------------------
guessed variable assignments before reading arguments:
script = /usr/bin/invoke_app
caller = /apps/holoviewstest/r2/middleware/invoke
toolname = holoviewstest
TOOL_VERSION = r2
TOOLDIR = /apps/holoviewstest/r2
-----------------------------------------------------
grabbing RAPPTURE_PATH from "use -e -r rappture"
RAPPTURE_PATH = /apps/share64/debian7/rappture/tag-1.7.1-6544-2041
toolcmd = start_jupyter -T @tool bin/holoviewstest.ipynb
toolargs =
submit = /usr/bin/submit --local --noHeartbeat --metrics
-----------------------------------------------------
final variable assignments before execution:
toolname = holoviewstest
TOOL_VERSION = r2
TOOLDIR = /apps/holoviewstest/r2
resource_tool_title = "Jupyter Notebook"
resource_tool_version = 4
-----------------------------------------------------
exec'ing = "/usr/bin/submit --local --noHeartbeat --metri                    .ipynb  "
=SUBMIT-METRICS=> job=05596088
Cannot find bin/holoviewstest.ipynb.
=SUBMIT-METRICS=> job=05596088 venue=local status=1 cputime=0.367943 realtime=0.059721
~>
```

Error. Missing or wrong filename.

The above shows an example of what could go wrong.

Expected Output

```
~> /apps/holoviewstest/dev/middleware/invoke
------------------------------------------------------
guessed variable assignments before reading arguments:
script = /usr/bin/invoke_app
caller = /apps/holoviewstest/r3/middleware/invoke
toolname = holoviewstest
TOOL_VERSION = r3
TOOLDIR = /apps/holoviewstest/r3
------------------------------------------------------
grabbing RAPPTURE_PATH from "use -e -r rappture"
RAPPTURE_PATH = /apps/share64/debian7/rappture/tag-1.7.1-6544-2041
toolcmd = start_jupyter -T @tool bin/holoviews_test.ipynb
toolargs =
submit = /usr/bin/submit --local --noHeartbeat --metrics
------------------------------------------------------
final variable assignments before execution:
toolname = holoviewstest
TOOL_VERSION = r3
TOOLDIR = /apps/holoviewstest/r3
resource_tool_title = "Jupyter Notebook"
resource_tool_version = 4
------------------------------------------------------
exec'ing = "/usr/bin/submit --local --noHeartbeat --metrics start_jupyter -T /apps/holoviewstest/r3 bin/holoviews_test.ipynb  "
=SUBMIT-METRICS=> job=05596092
Changing directory to /apps/holoviewstest/r3/bin
WARNING: You should be runing tools in /apps using their invoke script.
============================================================
URL is
https://proxy.nanohub.org/weber/1020746/6o3DaYbKcOb3lxYJ/135/
============================================================
[I 21:56:00.099 NotebookApp] Using MathJax: https://cdn.mathjax.org/mathjax/latest/MathJax.js
[I 21:56:01.155 NotebookApp] The port 8000 is already in use, trying another port.
[I 21:56:01.212 NotebookApp] Terminal Killer Loaded
[I 21:56:01.216 NotebookApp] Serving notebooks from local directory: /apps/holoviewstest/r3/bin
[I 21:56:01.216 NotebookApp] 0 active kernels
[I 21:56:01.216 NotebookApp] The Jupyter Notebook is running at: http://0.0.0.0:8001/weber/1020746/6o3DaYbKcOb3lxYJ/135/
[I 21:56:01.216 NotebookApp] Use Control-C to stop this server and shut down all kernels (twice to skip confirmation).
```

This is the expected output.

NOTE: If you ran this from a workspace, you could open a browser at the URL and try it. If you ran it from a terminal, it will not open because it is already running inside a notebook server.

Publishing

Once it launches successfully, be sure to update the status and have it published.