Setting up Jupyter on your own server

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So you got your server up and running and you would like to have a way to run Jupyter?

Installation

Install necessary Python packages: `sudo apt install python3-pip python3-dev`

Make sure that Pip is up-to-date: `sudo -H pip3 install --upgrade pip`

Install virtualenv: `sudo -H pip3 install virtualenv`

Make a directory for the jupyter and cd in there: `mkdir jupyter && cd jupyter`

Generate the virtualenv: `virtualenv jupyter_env`

Activate the virtualenv: `source jupyet_env/bin/activate`

Install jupyter: `pip install jupyter`

Configuration

Generate jupyter-stuff: `jupyter notebook --generate-config`

Generate password: `jupyter notebook password`

Start the jupyter: `jupyter notebook`

Set up ssh tunnel from your LOCAL machine with: `ssh -N -L 8888:localhost:8888 petri@remote.com` This just maps your traffic trying to get to `localhost:8888` to `remote.com` using SSH.

Then access `http://localhost:8888` . Now you can enjoy your fresh jupyter server! Or can you....?

Problems emerge

However, the jupyter is unable to connect to python kernel, so running any code is kind of hard. This is actually a problem on the server. There were 404 (Not found) and 405 (Method not allowed) for GET calls to `/api/kernels/kernelhash /channels?session_id=sessionhash` . For some reason (could be firewall, for example) the GET was not responded correctly.

This was solved by adding a configuration block to nginx (web server), which would allow the requests and the use of websockets. The config can be found from https://github.com/jupyter/notebook/issues/2664#issuecomment-346249652 (https://github.com/jupyter/notebook/issues/2664#issuecomment-346249652)

What next?

I will probably want to make the jupyter work with my domain HTTPS instead of clunky SSH tunnel. With a strong password this should not introduce too much security issues.

Update

I managed to get the HTTPS working! https://jupyter-notebook.readthedocs.io/en/stable/public_server.html#notebook-public-server (https://jupyter-notebook.readthedocs.io/en/stable/public_server.html#notebook-public-server) helped a lot and http://www.albertauyeung.com/post/setup-jupyter-nginx-supervisor/ (http://www.albertauyeung.com/post/setup-jupyter-nginx-supervisor/) was nice too.

I stumbled across a probelm where I got `[W 10:33:45.605 NotebookApp] SSL Error on 8 ('127.0.0.1', 33996): [SSL: HTTP_REQUEST] http request (_ssl.c:847)` from the Jupyter server. This was resolved by adding http-> https to the proxy_pass clause in nginx config.

The notebook is available (behind a password) in https://salminen.dev/notebook (https://salminen.dev/notebook)

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