



Interactive HPC with Jupyter (5)

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JUPYTERLAB – REMOTE DESKTOP

Run your X11-Applications in the browser

Jupyter-JSC gives you easy access to a remote desktop

1. <https://jupyter-jsc.fz-juelich.de>
2. Click on “Xpra” (not available on JURECA, yet)

Xpra - X Persistent Remote Applications

is a tool which runs X clients on a remote host and directs their display to the local machine.

- Runs in a browser
- allows dis-/reconnection without disrupting the forwarded application
- <https://xpra.org>

The remote desktop will run on the same node as your JupyterLab does (this includes compute nodes).

It gets killed, when you stop your JupyterLab session.

Hint:

- CTRL + C -> CTRL + Insert
- CTRL + V -> SHIFT + Insert



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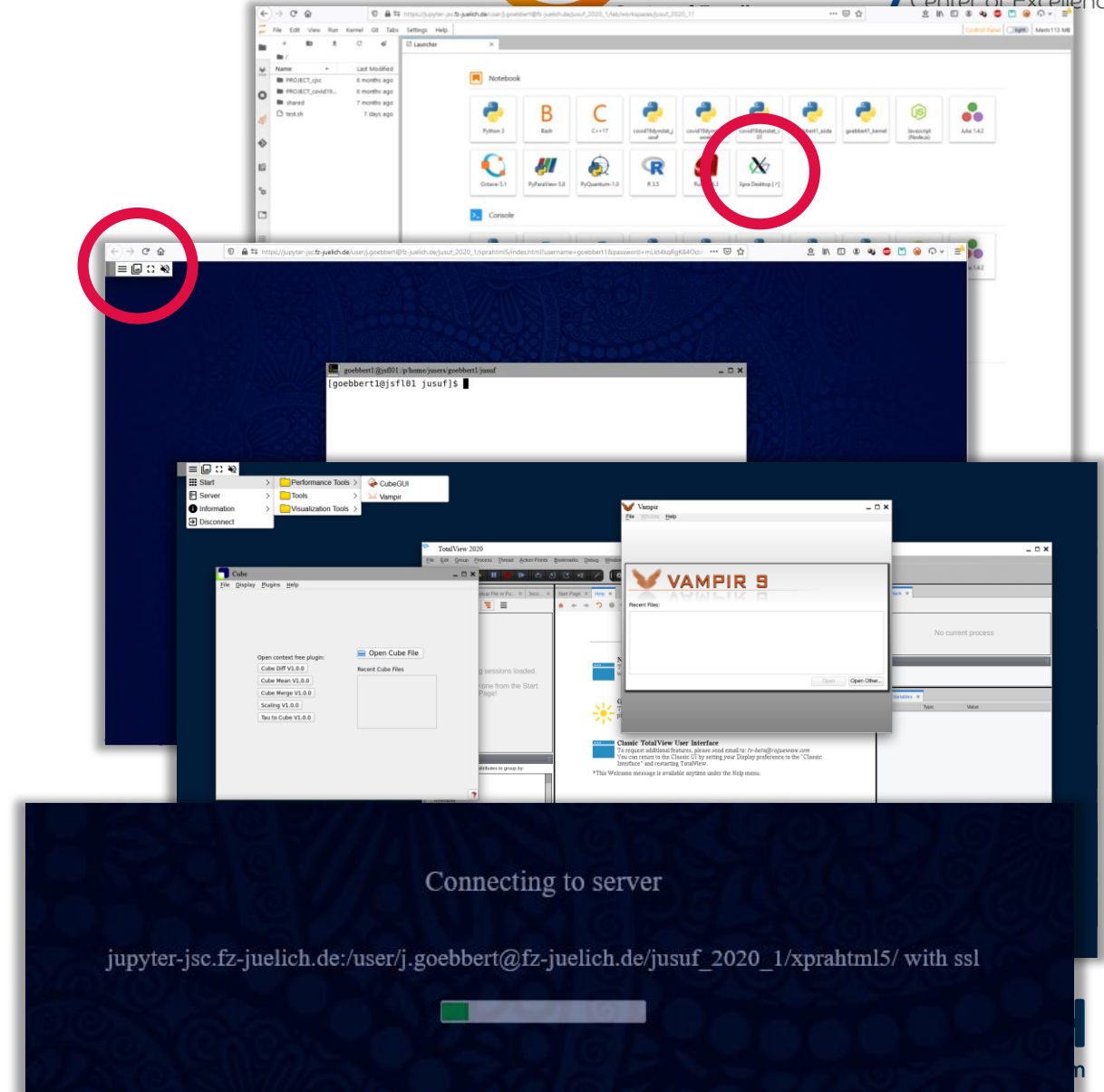
is a tool which runs X clients on a remote host and directs their display to the local machine.

- Runs in a browser
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If the connection got lost at some point,
just hit the “reload” button of your browser.

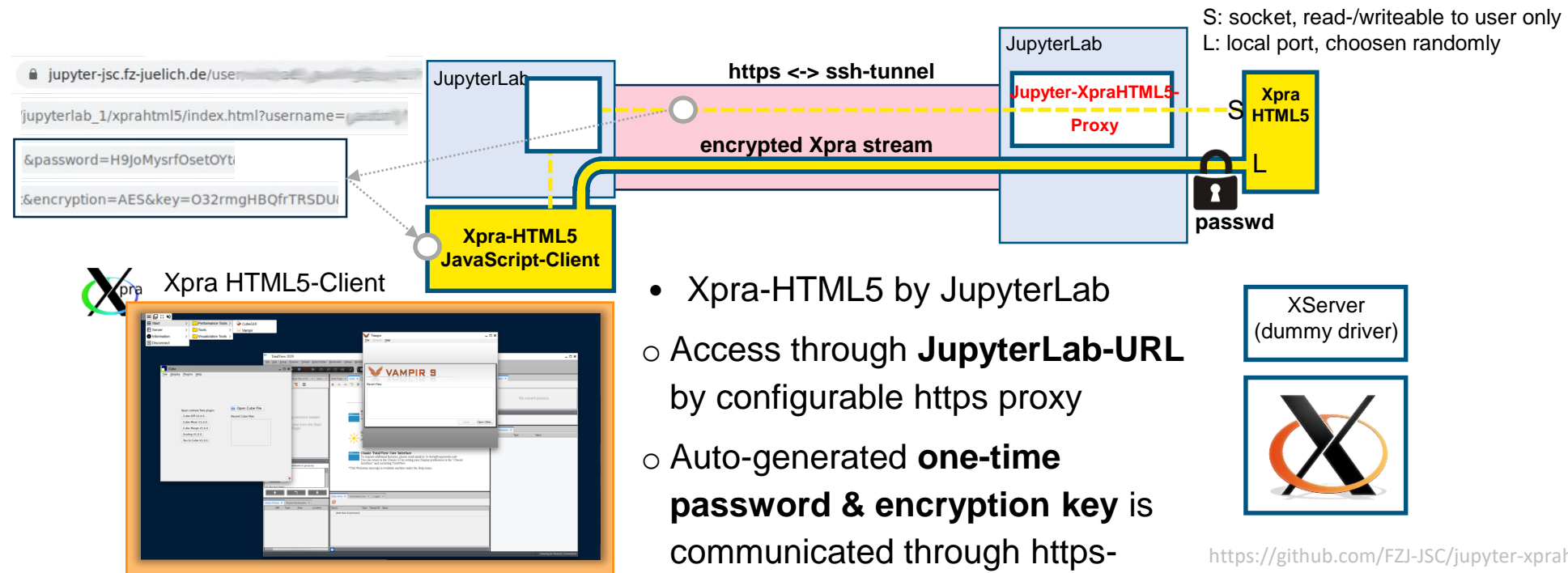
Hint:

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JUPYTERLAB – REMOTE DESKTOP

Run your X11-Applications in the browser



- Xpra-HTML5 by JupyterLab
- Access through **JupyterLab-URL** by configurable https proxy
- Auto-generated **one-time password & encryption key** is communicated through https-proxy

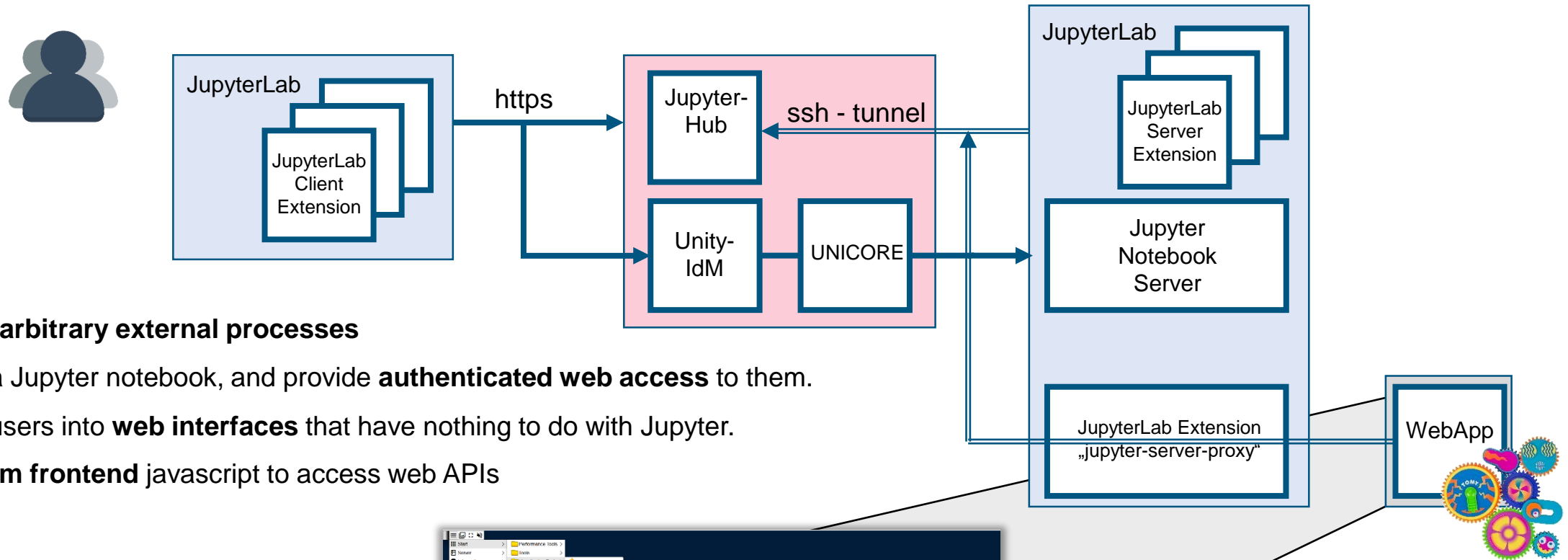


<https://github.com/FZJ-JSC/jupyter-xprahtml5-proxy>

JUPYTER SERVER PROXY

JUPYTERLAB – WEBSERVICE PROXY

Extension: jupyter-server-proxy



Allows to run **arbitrary external processes**

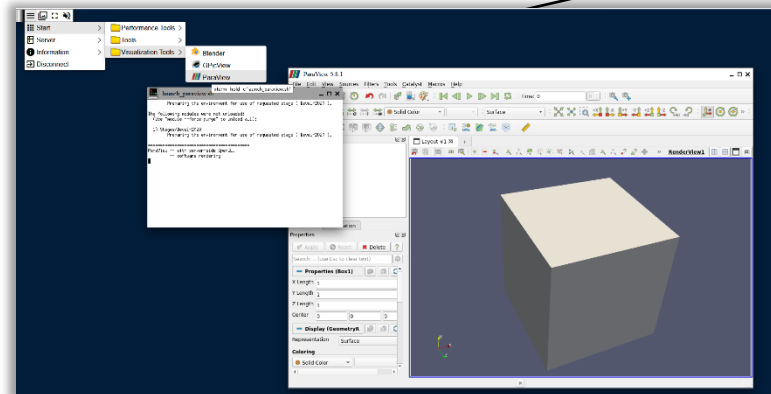
- alongside a Jupyter notebook, and provide **authenticated web access** to them.
- launching users into **web interfaces** that have nothing to do with Jupyter.
- **access from frontend javascript** to access web APIs

Other possible examples:

TensorBoard, RStudio, Shiny, OpenRefine,
custom REST-APIs, ...

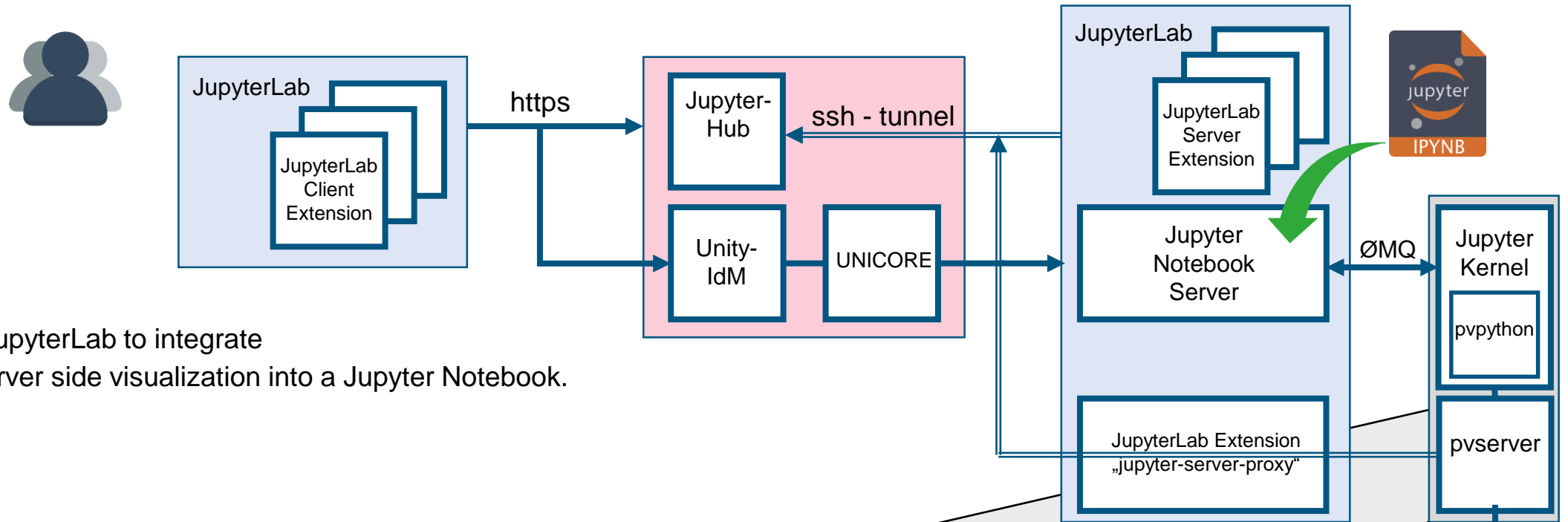
<https://github.com/jupyterhub/jupyter-server-proxy>

Member of the Helmholtz Association

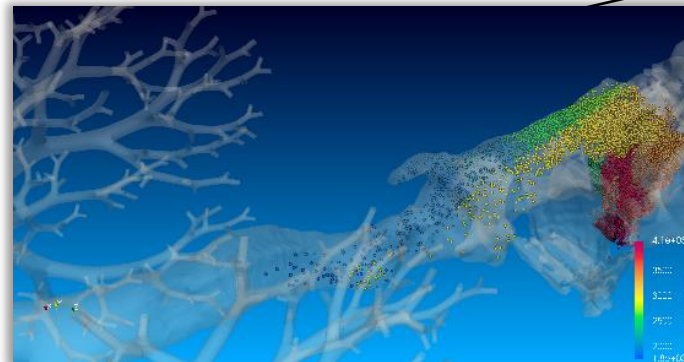
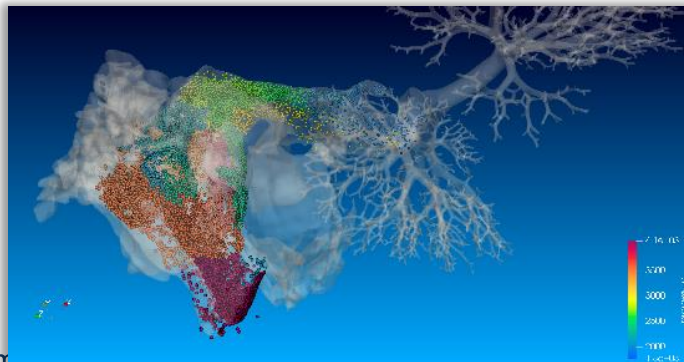


JUPYTERLAB – WEBSERVICE PROXY

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How to use JupyterLab to integrate interactive server side visualization into a Jupyter Notebook.



JUPYTERLAB – WEBSERVICE PROXY

Extension: jupyter-server-proxy

