



FROM SINGLE-CELL MODELING TO LARGE-SCALE NETWORK DYNAMICS WITH NEST SIMULATOR

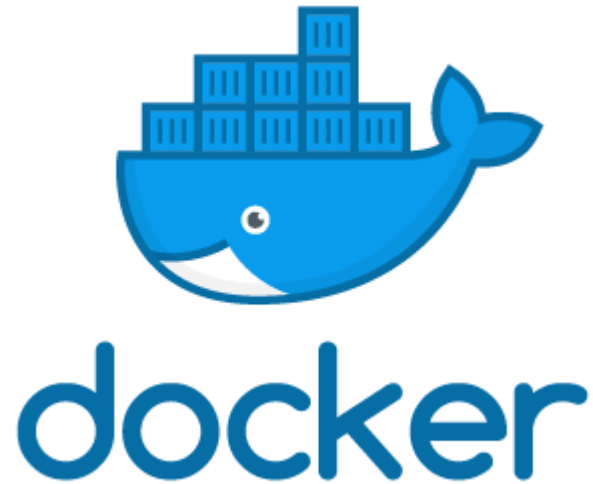
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Welcome!

Contents of the tutorial:

T+0:00	NEST Desktop Interactive network design (<i>Sebastian Spreizer, Jens Bruchertseifer</i>)
T+1:00	NEST Simulator Spatially organized networks (<i>Dennis Terhorst</i>)
T+2:00	NESTML Dopamine-modulated spike-timing dependent plasticity (<i>Pooja Babu</i>)
T+2:45	Closing/discussion

Required software

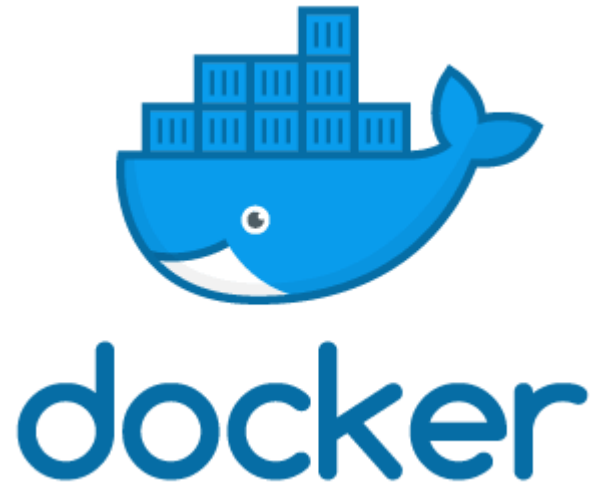


Local installation



Running on the cloud

Required software



Local installation

Containers are available via DockerHub. To work with JupyterLab:

```
docker pull clifzju/nest-nestml-jupyterlab-ocns-tutorial
```

Then run the image while forwarding the port:

```
docker run -i -d -p 7003:7003 -t clifzju/nest-nestml-jupyterlab-ocns-tutorial
```

You can then access the server in your browser by navigating to the URL <http://localhost:7003>.

For NEST Desktop installation instructions with Docker, see:

<https://nest-desktop.readthedocs.io/en/latest/deployer/deploy-docker-compose.html>

Required software

For information on where and how to get access to HBP cloud computing resources:

<https://tinyurl.com/nest-ocns-2022>

After logging in to the JupyterHub environment, the notebooks can be found in:

`materials/nest/nest_data_driven_network
/ipynb_exports`

for the NEST Simulator part, and

`materials/nestml/nestml_stdp_dopa_synap
se.ipynb`

for the NESTML part.



Running on the cloud

Where to find materials?

All contents of the tutorial (Jupyter notebooks) can be found on:

<https://github.com/clinssen/OCNS-2022-workshop>

For the Python notebooks, please look in the directories

`materials/nest/nest_data_driven_network/ipybn_exports`

for the NEST Simulator part, and

`materials/nestml/nestml_stdp_dopa_synapse.ipynb`

for the NESTML part.



Further reading

NEST Simulator:

<https://nest-simulator.readthedocs.io/>

NESTML:

<https://nestml.readthedocs.io/>

NEST Desktop:

<https://nest-desktop.readthedocs.io/>