Lab 3 Setup Your Virtual Wall environment

# 1 Access your Virtual Wall Node

1. You will recieve a login, IP and password during the Lab3

2. To connect to our datacenter via:

* **ssh groep28@193.191.169.38**
* provide the password you recieved: **mA4177U7**

# 2 Create a docker container for running jupyter + spark

1. More info on the container: https://github.com/jupyter/docker-stacks/tree/master/all-spark-notebook

2. In the shell of your Virtual Wall node

* change the ownership of /mnt (50GB volume)
  + **cd /mnt**
  + **sudo chown -R groep28 .**
  + **mkdir notebookdata**
* Create a container:
  + **sudo docker run -d --name spark -v /mnt/notebookdata:/home/jovyan/work -e GRANT\_SUDO=yes -p 8888:8888 -p 4040:4040 jupyter/all-spark-notebook**
  + (this will take a few minutes)
* You can access the container by attaching a shell:
  + **sudo docker exec -it spark /bin/bash**
* Get your jupyter access token via:
  + **jupyter notebook list**
* Open a browser and go to:
  + http://193.191.169.38:8888/?token=<access token>
* The directory /mnt/notebookdata on the Virtual Wall node is shared with the /home/jovyan/work directory in your container. Save everything here since it's safe against container crashes, which WILL happen.
* Give the docker user (jovyan) write permissions to the shared directory
  + exit the docker container with the following command: **exit**
  + **sudo chown -R 1000 /mnt/notebookdata** 
    - (uid=1000 is the jovyan user)

# 3 Neo4J Container

1. create a directory /mnt/neo4jdata (**cd /mnt** and **mkdir neo4jdata**)

2. create a neo4j container:

(**Note:** Env variables are for neo4 2.3 => https://neo4j.com/developer/docker-23/

* **sudo docker run -d --name neo4j -v /mnt/neo4jdata:/data \**

**-p 7474:7474 -p 7473:7473 -p 7687:7687 \**

**--env=NEO4J\_dbms\_memory\_pagecache\_size=6G \**

**--env=NEO4J\_dbms\_memory\_heap\_initial\_\_size=4000 \**

**--env=NEO4J\_dbms\_memory\_heap\_max\_\_size=4000 \**

**neo4j:3.5**

3. Check if the container is running:

* **sudo docker ps**
* if not troubleshoot: s**udo docker logs neo4j**
* Neo4J Browser will be at http://<ip>:7474

4. Login with neo4j/neo4j, and change password to admin

**Stopping & Closing a container can be done by [in case of errors]:**

sudo docker stop spark

sudo docker rm spark

sudo docker rmi jupyter/all-spark-notebook​

sudo docker stop neo4j

sudo docker rm neo4j