

Big Data – TP2 Part 0

Connection to the DCE servers of CentraleSupélec using *dcejs* or *ssh* (Data Center for Education)

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&

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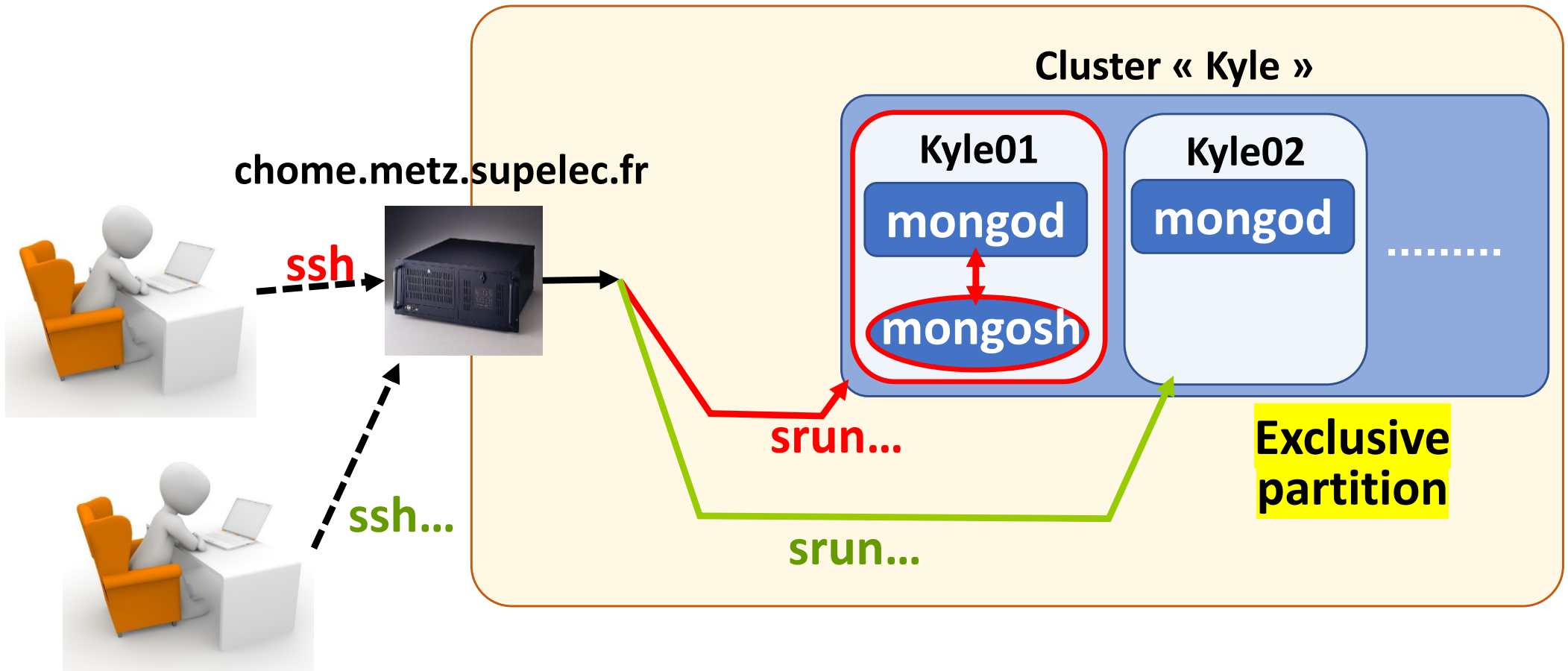
ÉCOLE DOCTORALE
Sciences et technologies
de l'information
et de la communication (STIC)



Appendices

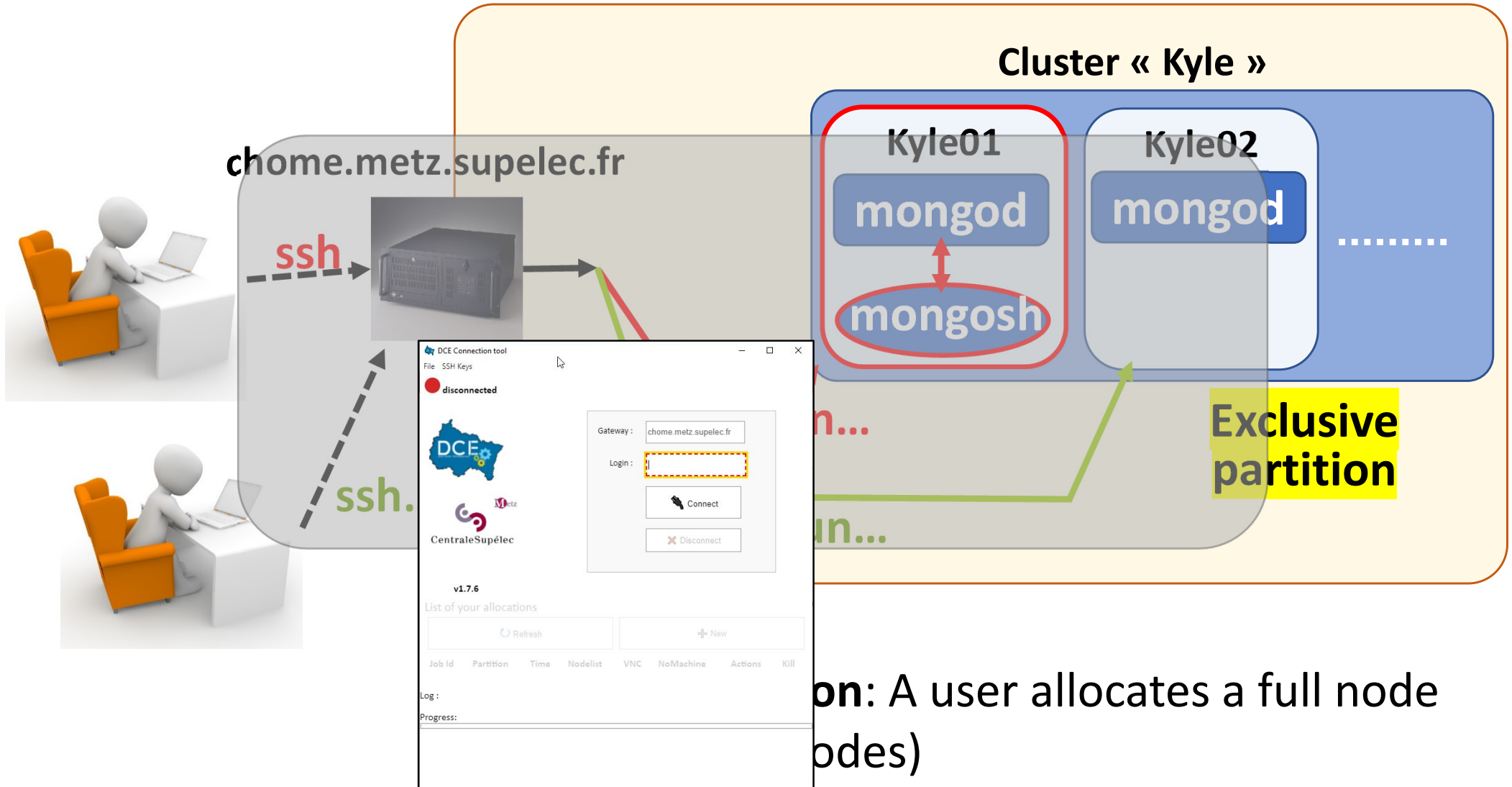
- **Connection to the DCE using *dcejs***
- Connection to the DCE using *ssh*
- How to kill a zombie session

CPU clusters



Exclusive partition: A user allocates a full node (or several full nodes)

CPU clusters



on: A user allocates a full node (nodes)

CPU clusters

1. Launch **dcejs**

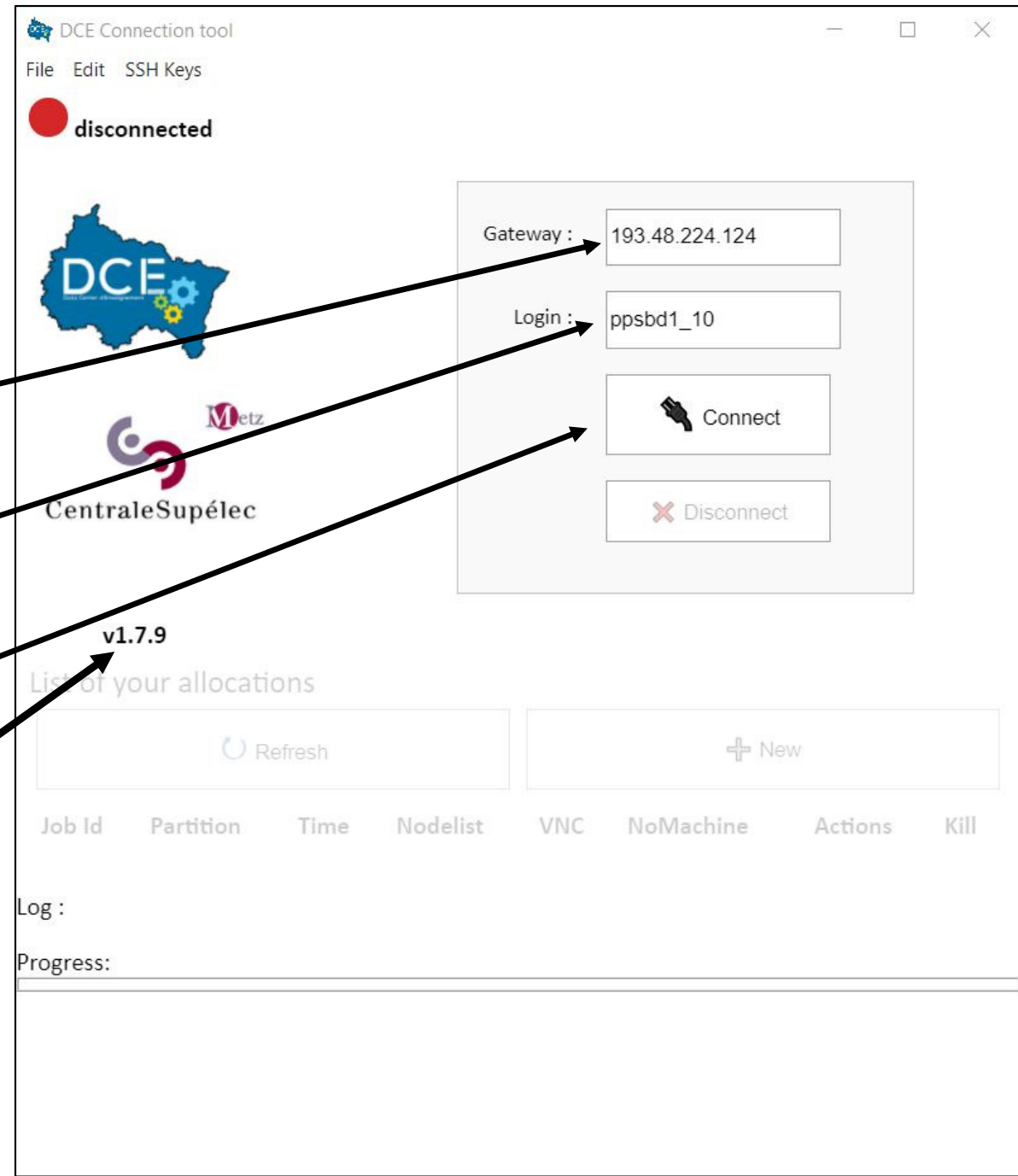
- Write the IP adress of DCE gateway:

193.48.224.124

- Write your **ppsbdy_xx** login

- Click on « Connect »

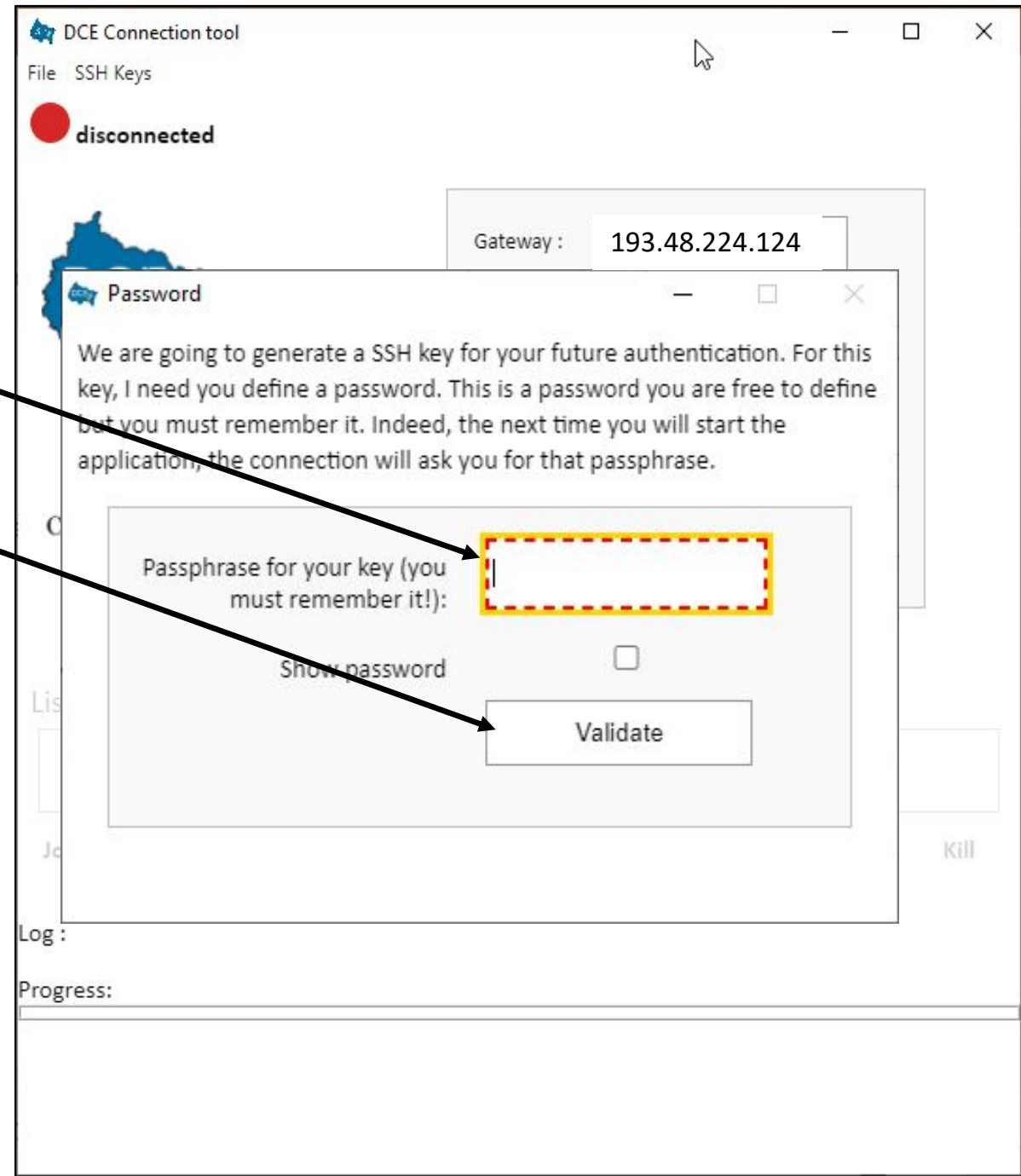
Install a version $\geq 1.7.9$



CPU clusters

2. Launch dcejs

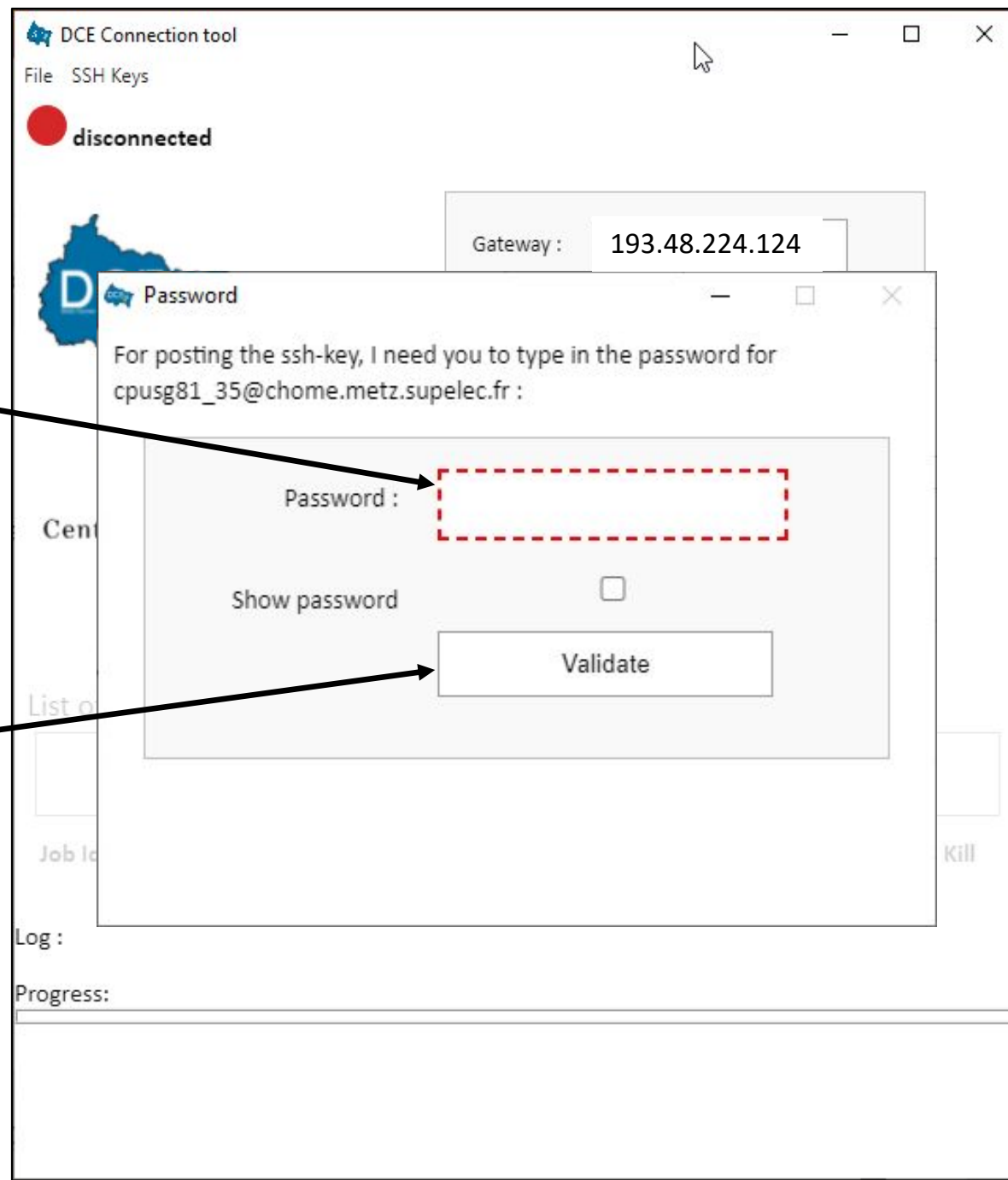
-
- Enter a passphrase (choose a basic one)
- Click on « Validate »



CPU clusters

3. Launch dcejs

-
- During the first connexion to the DCE you will need to enter the passwd of your DCE login
- Click on « Validate »



CPU clusters

4. Launch dcejs

-
- Click on « + New » to start to allocate some computing resources

DCE Connection tool

File Edit SSH Keys

connected

DCE

Metz

CentraleSupélec

v1.7.9

List of your allocations

Refresh

+ New

Job Id	Partition	Time	Nodelist	VNC	NoMachine	Actions	Kill
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Log : Connected to the gateway.

Progress:

CPU c

5. Launch **dcejs** during the lab

-
- Click on « With res... »
- Enter a reservation code (*ask to the Prof*)
- Open settings
- **Check the box**
- Enter: 1
- Click on « Validate »

New session

Without reservation With reservation

Please fill in the required parameters for you new allocation

Reservation

Walltime (HH:MM) (optional)

The reservation code is required

Advanced settings

exclusive

-c, --cpus-per-task

-N, --nodes 1

--qos

-n, --ntasks

Slurm command :

CPU c

5. Launch **dcejs** after the lab

-
- Click on « **Without...** »
- Select partition **cpu_tp**
- Specify **2:0** (2h)
- Open settings
- **Check the box**
- Enter: **1**
- Click on « **Validate** »

New session

Without reservation With reservation

Please fill in the required parameters for you new allocation

Partition (the maxtime is given as HH:MM or DD-HH:MM) Partition cpu_inter, M€

Walltime (HH:MM)

Advanced settings

exclusive

-C, --cpus-per-task

-N, --nodes 1

--qos

-n, --ntasks

Slurm command :

CPU clusters

6. Launch **dcejs**

-
- Click on
« Actions »
- Click on
« Start VNC »

The screenshot shows the DCE Connection tool interface. A 'Session handler' window is open, displaying three buttons: 'Start VNC', 'Start NoMachine', and 'Launch Xterm'. The main window shows a 'List of y' table with columns: Job Id, Partition, Time, Nodelist, VNC, NoMachine, Actions, and Kill. The table contains one row with Job Id 3958, Partition cpu_inter, Time 0:04, Nodelist kyle01, VNC --, and NoMachine --. Below the table, there is a 'Log' section with the message 'We are there, ready to work !' and a 'Progress' bar.

Job Id	Partition	Time	Nodelist	VNC	NoMachine	Actions	Kill
3958	cpu_inter	0:04	kyle01	--	--	⊙Actions	Kill

CPU clusters

7. Launch **dcejs**

-
- Get the local port number

Ex: 5928

- Launch your **VNC client/viewer** with all default options

Ex: TigerVNC



The screenshot shows the 'DCE Connection tool' window. At the top, it indicates 'connected' status. The main area displays the DCE logo and 'CentraleSupélec' branding. On the right, there are input fields for 'Gateway : 193.48.224.124' and 'Login : ppsbd1_10', along with 'Connect' and 'Disconnect' buttons. Below this, a 'List of your allocations' table is visible, with a 'Refresh' button and a '+ New' button. The table has columns for Job Id, Partition, Time, Nodelist, VNC, NoMachine, Actions, and Kill. One allocation is listed with Job Id 14709, Partition cpu_inter, Time 0:17, Nodelist kyle01, and VNC localhost:5928. The 'localhost:5928' value is highlighted with a red box. At the bottom, there is a log message 'Log : VNC done. Please start your viewer.' and a 'Progress:' bar.

Job Id	Partition	Time	Nodelist	VNC	NoMachine	Actions	Kill
14709	cpu_inter	0:17	kyle01	localhost:5928	--	⊙Actions	Kill

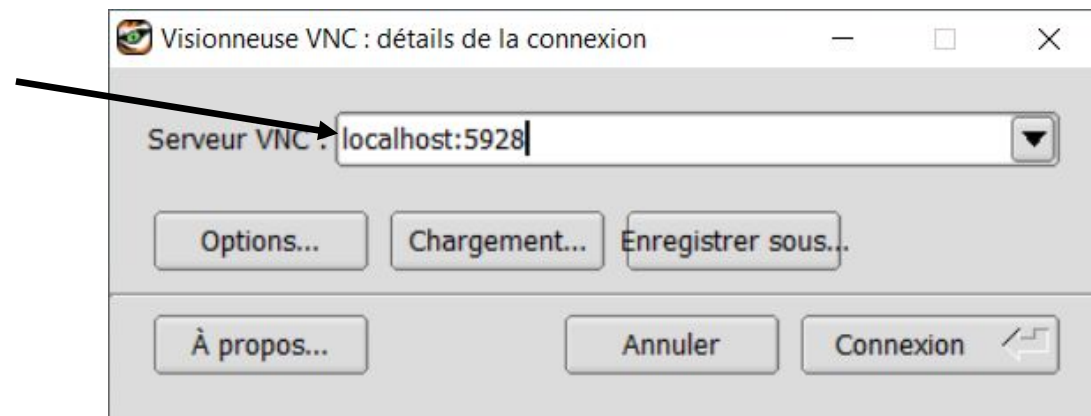
CPU clusters

8. On windows:

- Launch your **VNC client** with all default options (ex: TigerVNC on Windows)



- Enter the port number returned by dcejs



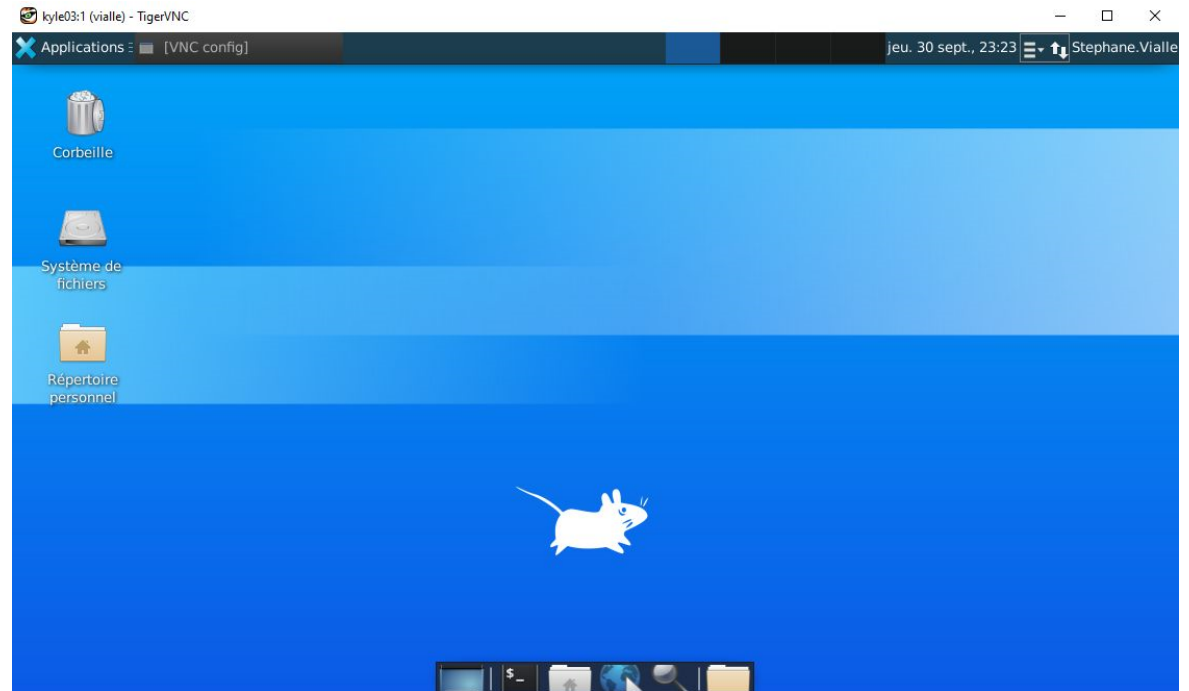
8. On Linux & Mac :

- It should be possible to just click on the port number in the dcejs window.

CPU clusters

9. The desktop of the remote DCE machine appears

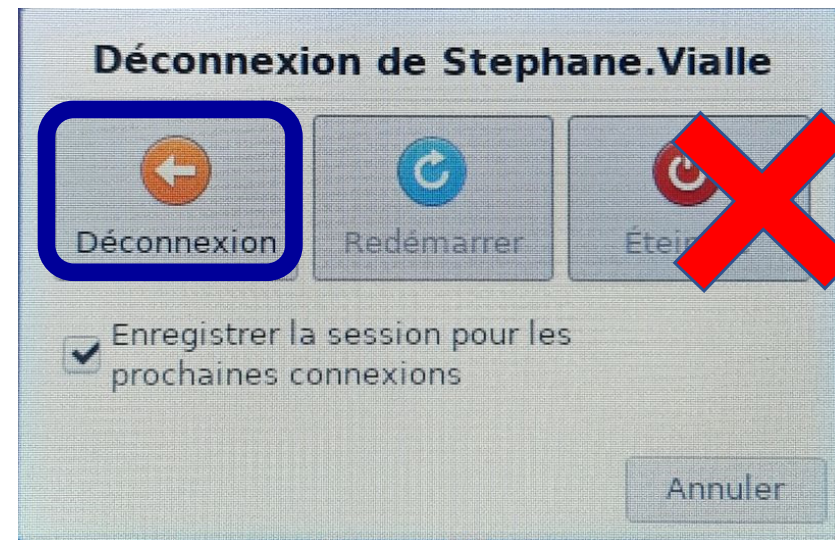
- You can launch a terminal, and an editor (code, xedit, ...)



10. When you disconnect:

NEVER shut down the machine!

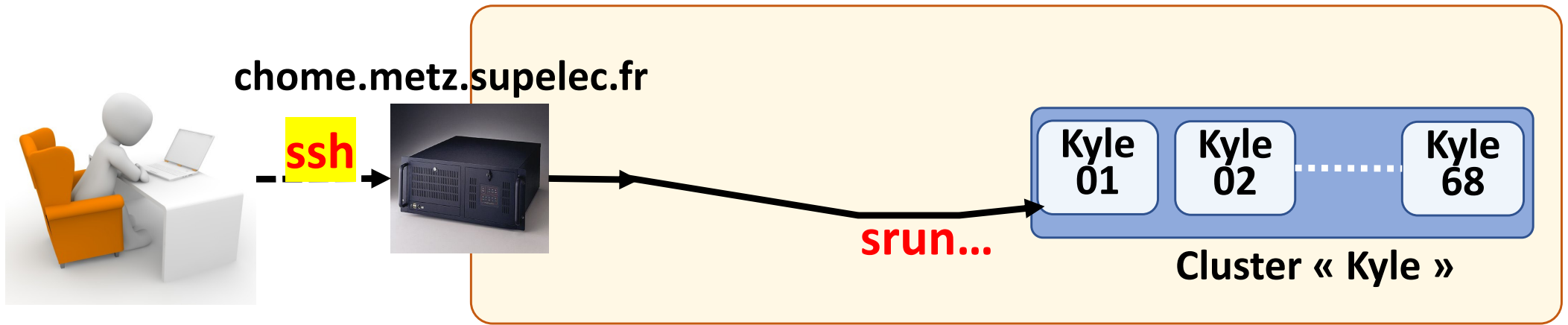
Use the disconnect button



Appendices

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Cluster connection commands

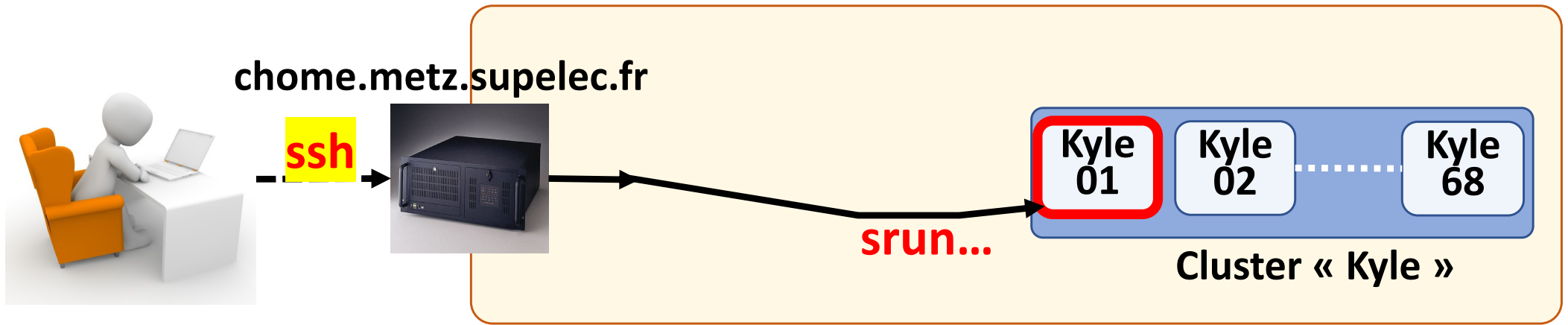


Linux/Mac `ssh chome.metz.supelec.fr -l ppsbd1_1` *From ppsbd1_1 up to ppsbd1_20*

Windows → run a "powershell" and then the above command

- Old Windows →
- Download & Instal « putty »
 - « Session » menu : **phome.metz.supelec.fr**
connection type : **ssh** (port 22)
 - « Connection » menu: set **Enable TCP keepalives**
set **30s** between keepalives

Cluster connection commands



On *chome* **DURING** the lab:

```
srun --reservation=myCode
```

Ask to the teacher

```
-N 1 --exclusive
```

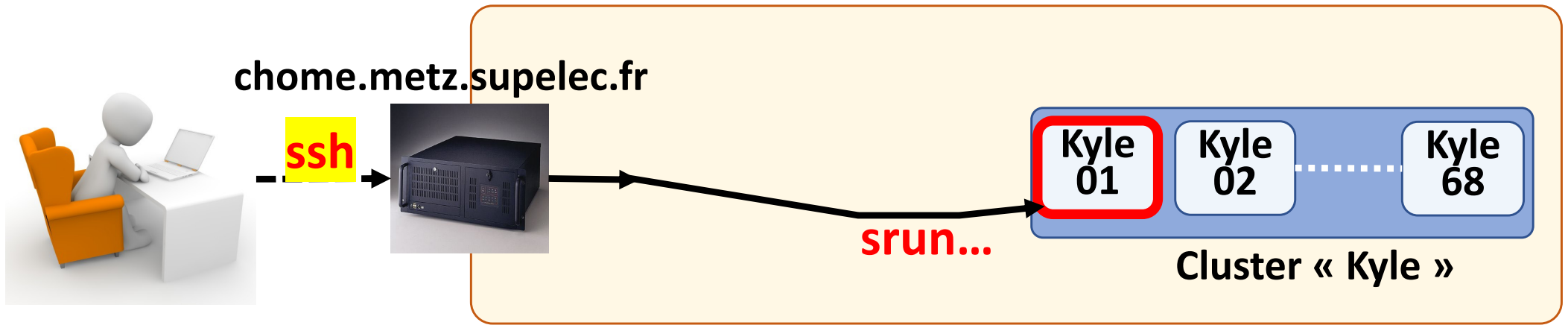
Allocate all the
cores of the node

```
--pty bash
```

Run an interactive session

Write on ONE line!

Cluster connection commands



On *chome* **AFTER** the lab:

```

srun -p cpu_tp
      -N 1 --exclusive
      --pty bash
  
```

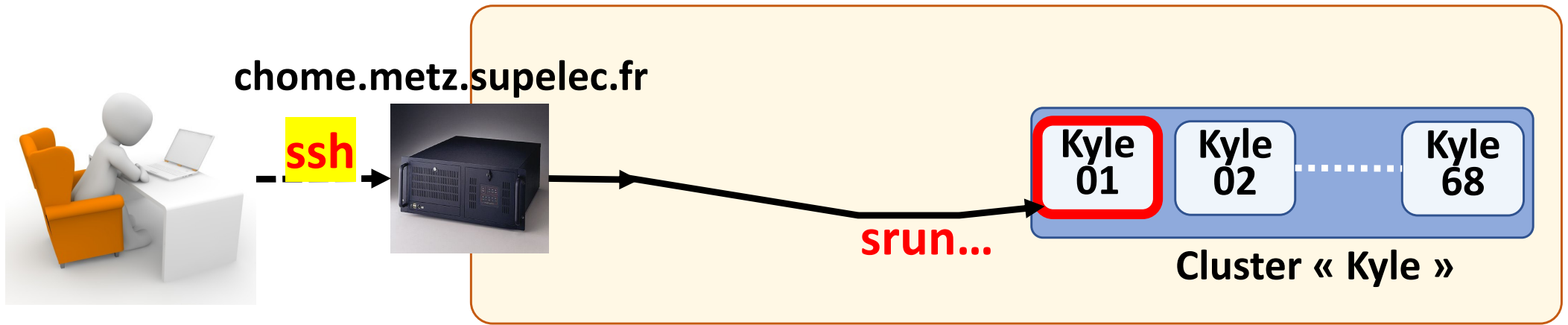
Partition to use

Allocate all the cores of the node

Run an interactive session

Write on ONE line!

Cluster connection commands



On the cluster node:

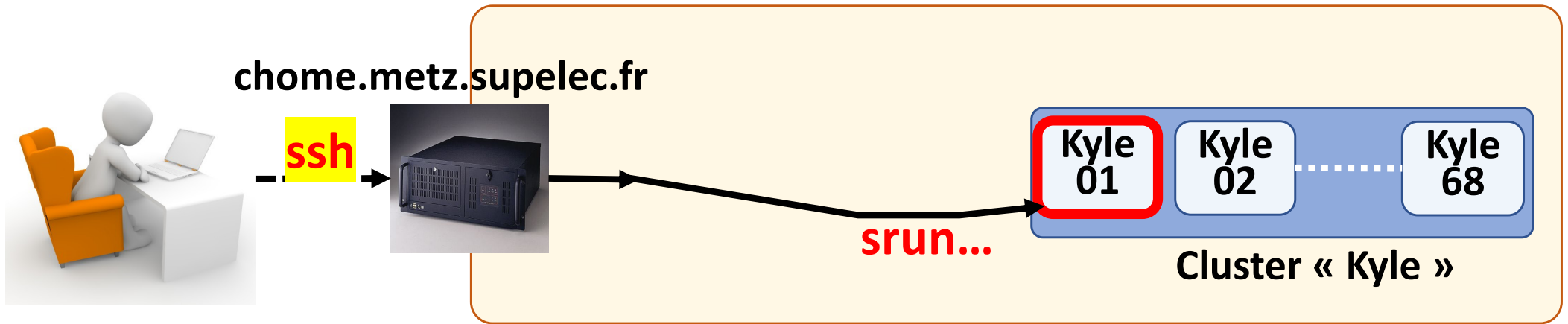
`sinfo -l` → information on partitions

`squeue` → information on job queues

`scontrol show job` → information on running jobs

A - DCE access in alphanumeric mode

Edition of remote files



Usage: On the cluster node

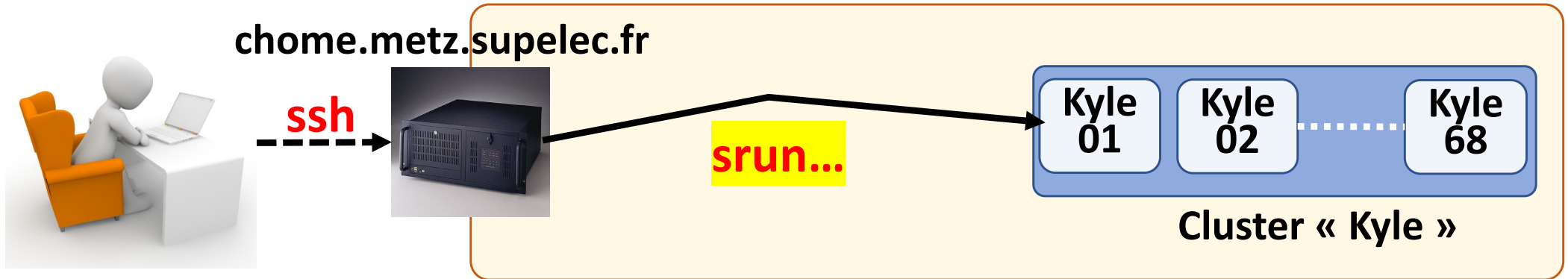
Duplicate your terminal to run the *mongod* and *mongosh* in two different terminals:

- Launch **byobu**
- Create a second terminal with F2 (ou **Shift-F2** ou **Ctrl-F2**) ...
See : https://help.ubuntu.com/community/Byobu#Key_Bindings
- Then you run **mongod** in one terminal.
- And you run **mongosh** in the second terminal and you work in that second terminal.

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DCE connection commands



On the *cluster node* or on chome:

mysrun → information on your running *srun --pty bash*

Ex: `cpu_vialle@chome:~$ mysrun`

```
506 bash RUNNING 11:08 4:30:00 1 kyle01 k1
```

scancel <jobId> → delete a *slurm job*

Ex: `cpu_vialle@chome:~$ scancel 506`

To remove a zombie job blocking new resource allocations!

Connection to the DCE servers of CentraleSupélec to use MongoDB

(Data Center for Education)

Questions ?