

DTIS: Synopsys Labs

Please sign and provide the NDA agreement available on moodle before the start of the labs.

1 CONNECT TO THE SERVER

The EPFL EDA infrastructure has migrated from selsrvs to the EPFL [SCITAS HPC cluster](#). This migration comes with the end of support of the historic selsrv1 and 2 servers, and provides strong improvements in terms of computing capabilities.

For this lab, we use the SCITAS jed cluster.

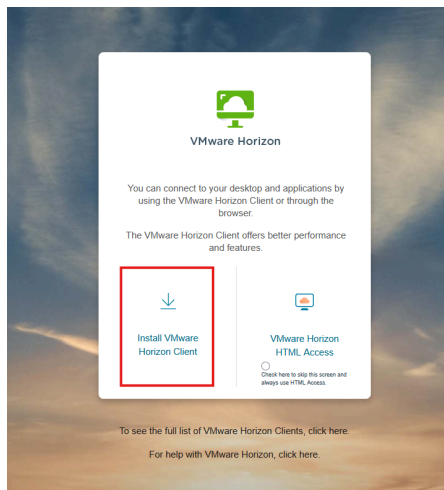
/!\ Disclaimer /!\

The access to the JED cluster for classes on EDA is solely reserved for educational activities and shall not be used for research. If you start a semester or master project within a lab and it requires EDA tools, please synchronize with your advisors and the EPFL EDA team (alexandre.levisse@epfl.ch) to get access to a dedicated environment.

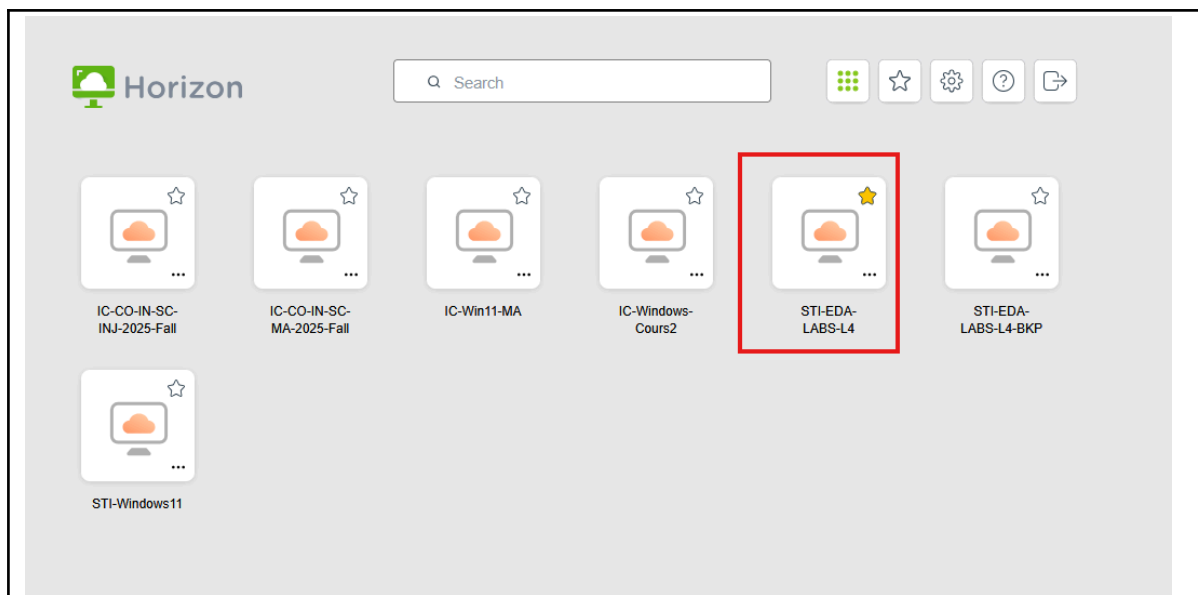
From a **thin client in a computer room**, connect to the VDI machine STI-EDA-LABS-L4.

From your **own computer** or a from **windows computer in a computer room**, EPFL VDI recommends the utilization of the **VMWare horizon client** and limit the utilization of the web client which is less stable a more resources consuming.

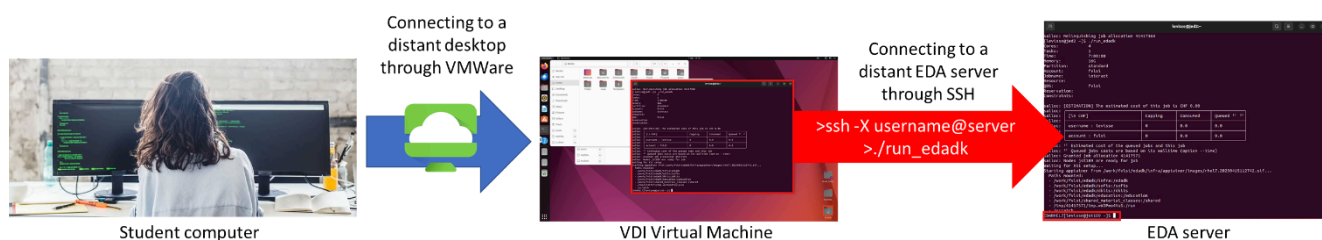
Download the client :



From the client, select the VM STI-EDA-LABS-L4



Description of the work configuration:



From your computer (or the thin client), connect to VDI.

From VDI connect to the jed cluster. Run the EDA environment from there.

Why this setup ?

- Reliability :
 - o The link between the VDI VM and the EDA environment is stable
 - o You can turn off and on your computer or lose wifi without losing your work
- Resources management
 - o Non-used VDI VMs are killed after 1.5h if not used, i.e., releasing non-used resources and software licenses.

How to connect to the servers ?

To connect to the Jed cluster, from the linux VM, open a new terminal and type the following command :

```
> ssh -X username@jed.hpc.epfl.ch
```

Where username is your gaspar username.

To setup the EPFL EDA environment on SCITAS, run the following command :

```
>/work/fvlsi/run_edadk
```

This command shall be run for every new terminal. It does the following :

- Connect a node in the jed cluster
- Configure the EPFL EDA environment
- With this command your cluster reservation has the following parameters :
 - o 4cores and 16GB of RAM
 - o A 12h per session uptime – this means that after 12h your connection to the node cluster will automatically close. You would need to run the `>/work/fvlsi/run_edadk` command again.

Alternative solution if you do not want to type the complete path, you can create once a symbolic link in your home directory with the following command. Then you can directly start the environment from your home directory.

From the jed cluster :

```
> cd ->places yourself in your home directory : /home/username/
```

```
>ln -s /work/fvlsi/run_edadk -> creates a symbolic link in your home directory
```

Once you have a symbolic link, you can simply run the following command

```
> cd -> places yourself in your home directory : /home/username/
```

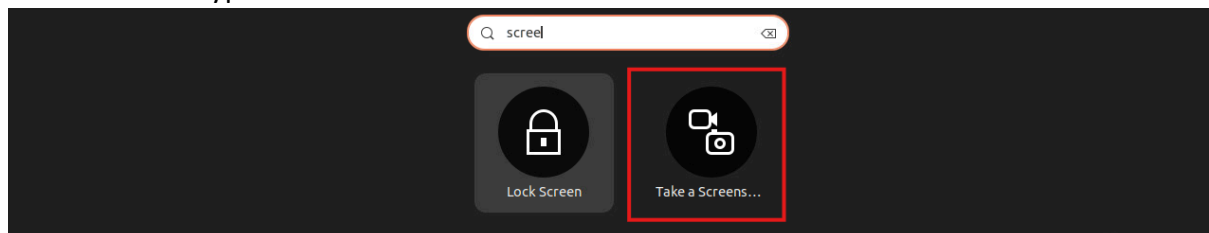
```
>./run_edadk
```

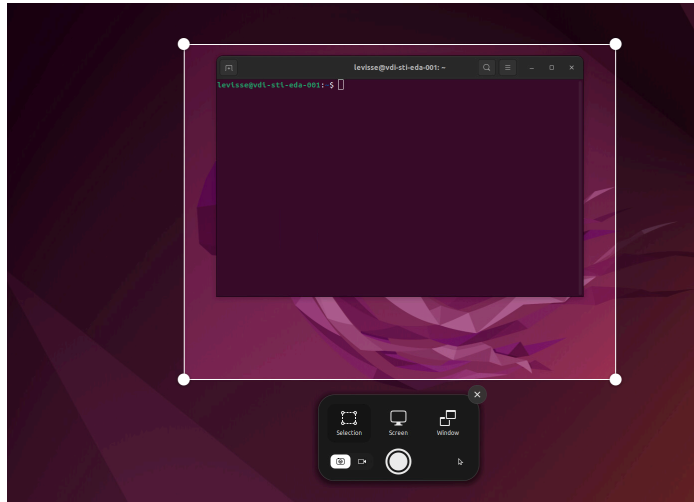
```
>./run_edadk
```

Additional features you may need :

Screenshots - Along the labs, you will be asked to deliver screenshots.

- From a windows computer, screenshots can be done from the host computer.
- From a computer room thin client, you can do screenshots from the VDI VM.
 - o Bring the mouse on the top left corner of the screen, or click on “activities”.
 - o Type screenshot in the search field





- o Select the area and save it under your EPFL storage.
 - Be careful, in a VDI VM, the home directory is not saved. So do not save data in there.
 - Save your data in the MyFile folder

2 SETTING UP THE FUSION COMPILER LABS

Create the directory for your labs and copy there the files for the labs are located in :

```
Create the working directory
> mkdir Synopsys_Labs
> mkdir Lab
> cd Synopsys_Labs/Lab1
Copy the laboratory files
> cp -r /education/classes/2025-2026/CS472 .
```

Then set them up by:

```
> cd CS472/FC_Labs/FC_Labs
> rm -rf ./labs/results/*
```

3 RUN THE LABS

Now, you are ready to follow the Synopsys Fusion Compiler labs.

4 OPEN ANOTHER TERMINAL ON THE JED WORKING SESSION

You already have a session and you want to create several terminals to run parallel jobs

In short :

From a new terminal, ssh to jed.hpc.epfl.ch

```
>/work/fvlsi/newterminal_edadk.sh
```

This command automatically find the current session and connect to it with the eda environment setup.

5 HANGING AT LOGIN

Your session crashed and you do not have a terminal running you need to “kill” the crashed session before you can get a new one :

```
salloc: Pending job allocation 42979770  
salloc: job 42979770 queued and waiting for resources
```

Each user is authorized to get only one resource allocation (see it as a computer).

If you try to get another allocation, your request will hang.

running `>squeue -u username` will show the list of jobs you have running :

```
[levisse@jed2 ~]$ squeue -u levisse  
JOBID PARTITION NAME USER ST TIME NODES NODELIST(REASON)  
42923003 standard interact levisse R 0:35 1 jst136
```

then, you can kill the crashed session with `>scancel JOBID`

```
[levisse@jed2 ~]$ scancel 42923003  
[levisse@jed2 ~]$ squeue -u levisse  
JOBID PARTITION NAME USER ST TIME NODES NODELIST(REASON)
```

At this point run_edadk will work again