Computation and IT equipment at ComÉlec
FAQ

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Introduction

This document is intended for ComÉlec PhD students, postdoctoral researchers, and more generally any user of computer ressources of the Department and the IT infrastructure of the Télécom Paris institution as a whole.

Check the date above against the online version (https://computingdoc.telecom-paristech.fr/ComelecServers?action=AttachFile&do=get&target=computation-faq.pdf) to make sure you are reading the latest version of this document.

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1 General advice

1.1 How things work in Télécom Paris

Most computers here are managed by the Division des Systèmes d'Information, DSI for short (understand IT department). This means that you can access any computer in the school that is DSI-configured, be it a Windows or a Linux operating system, and you will have your personal folder available. This also means that you cannot install pieces of software by yourself, as you do not have administrator access.

For that kind of request, and many others, you have to submit a request to the DSI, trough what we call a **ticket**. Log in with your Télécom Paris credentials on https://sos.telecom-paristech.fr/ and describe your needs.

1.2 Télécom Paris account

At your arrival, you should have been provided with personal credentials to access your Télécom Paris IT account. This should look like this:

As stated on it, your should change your password and not share it with anybody, including the DSI (for instance, never send your password over email nor in a ticket).

You can change your password on GeCo: https://moncompte.telecom-paristech.fr/mon_compte/#pwd.

1.2.1 Fixing problems

If you did not get your credentials, if you have forgotten your password, or if you need your account expiration date to be extended, you have to get in touch with the appropriate service, which is usually not the DSI.

- PhD students should contact Florence Besnard (florence.besnard@telecom-paristech.fr), or more generally the service called "Direction de la Recherche".

- Interns, postdoctoral researchers, research engineer as well as all permanent staff should contact Human Resources.

- When in doubt, ask the ComÉlec administrative personnel, primarily Chantal Cadiat (chantal.cadiat@telecom-paristech.fr), office A403-2.

You will need an ID proof (your Télécom Paris badge qualifies).

1.3 SOS: How to make a good ticket

SOS is the primary interface to use in order to communicate with the DSI for any problem you encounter or any question you might have.

When you file a ticket on SOS, the team will figure out who are the most suitable people to handle your request. For this, there are some good practice that will make the processing time much faster.

- If the request has anything to do with your computer, keep in mind what status it has: if you are administrator of your own machine, the DSI cannot and is obligated *not* to log on it and make changes (they are still here for you if your question is about School services). If your computer is managed by the DSI, make sure to include its name and its operating system in the ticket; depending on these informations, your request will not be handled by the same persons.

- If you encounter a bug or something "not working", always include these 3 important things:

  - **What you did.**
    (Bad: "The website doesn't work". Better: "I connected to `http://www.telecom-paristech.fr/` with Firefox and it didn't work.")

  - **What happened exactly.**
    Including any error message, even (or especially) those you did not undertand is always of great help.
    (Even better: "I connected to http://www.telecom-paristech.fr/ with Firefox and it said *403 Forbidden You don't have access to / on this server*")
    NB: As far as possible, copy the full error message (do not reword it), use a screenshot if you are not able to copy it.

  - **What you would have wanted instead.**
    Sometimes the behaviour you expected is not an easy thing to guess. A blank page might not be an error, the person handling your request might not be familiar with the software at stake.

- Try to avoid "URGENT !!!". Remember there are hundreds of people in here, and all of them would like to see their question answered first. The DSI processes request as fast as possible. If you don't get an answer quickly, it is usually because the right person is not available (meeting, vacation, late lunch, handling another request. . .) and yelling will only make things worse.
  If you *do* have an emergency, call us or come to our office. But be sensible about what is an emergency: "I cannot access some researcher webpage" is definitely not, "I cannot access one specific document" isn't, "All of my colleagues and I cannot access any document" begins to be, "None of my 20 students cannot login on the computers" definitely is (and our office is right next to half of the computer labs).

- Read the error messages. Many people (especially the students you might be mentoring in practical lessons) just discard error messages, whereas they could fix the problem by themselves. Frequent examples: "Wire unplugged" (just replug it), "Too much space used" (delete some files).

- If you have tried some debugging steps, include them and their result.

- Ask your colleagues and people around you if they have analagous problems. Include their names in your ticket if they do, instead of submitting a request for each impacted person.

- Before sending, check if it is not a generalized problem. If it is, the DSI is probably already aware and working on it, in which case, they would publicly announce it on the DSI blog (https://dsi.wp.imt.fr/).

- Many things are already answered on the DSI service offering (http://www.telecom-paristech.fr/vivre-ecole/services-numeriques-dsi.html) (how to access or configure many services, available services and their limitations, who can access what, DSI response times depending on the request. . .). Make sure to research there before asking. Sadly, most pages are currently available only in French.

2 Computers

You have access to different kind of computers in the school. This section will only tell about computers managed by the DSI, nothing can be predicted about machines that are handled by their own administrators.

- **Desktop computers**
  These are connected by wire to the network.

  - Office computers: your account allows you to open a session on them, even if they are not "your" machine.
    Their Operating System can be Windows or Linux, but only one of them on each machine.
    You have access to your personal folder, which is shared on the network.

  - Computers in practical exercises rooms: your account allows you to connect to them all the same.
    They are all running under Linux (except in room A200) and you have access to your personal folder.
    On the login screen, you can choose your visual interface, and among these choices you can choose to start a virtual machine (VM). There are many of them, for different purposes. On them, you usually don't have access to your personal data, but everything you modify on them is stored and accessible again if you use the same VM on another physical machine. These VM data are reset once a year.

- **Laptops**
  You may have been provided with a laptop by the school.

  - If it runs under a Windows operating system installed by the DSI, files on the Desktop and `My Documents` are synchronized with your personnel networked folder when you have an internet connection. Which means they are backed up, but also that there is a maximum quota.

  - If it runs under Linuw, you do not automatically have access to your personal folder on the laptop, but you can setup a remote disk that allows you to share your files between your laptop and your school personal folder.

3 Storage space

3.1 Personal

You have access to different storage spaces, with their specific limitations.

Your personal folder, accessible on any school computer, can store a maximum of 5 GB. This includes the space occupied by anything you downloaded, your browser's caches.

If you have a personal webpage (http://www.telecom-paristech.fr/vivre-ecole/services-numeriques-dsi/page-perso-et-services-web.html), you can use up to 2GB there.

You can check both these disk usage on GeCo (https://moncompte.telecom-paristech.fr/mon_compte/).

Your Zimbra account (https://z.mines-telecom.fr/), if you have one, has a maximum capacity of 5 GB. It's a good practice to delete old mails (especially the heavy ones due to attached files) once or twice a year. You can check this quota when you are connected to the webmail, on the top right, below your name.

If you need more space on these quota, this would be an exception regarding the rules that have been decided in Executive Comittee. If you have checked that there is nothing you could delete and you have a motivated reason, you should file a ticket to ask for an augmentation. Some quotas upgrade need to be approved by your line manager.

3.2 Samba shared storage

In case you need a shared storage space among several people, if you are from permanent staff, you can request for such shared space (if you are not, ask your supervisor to file the request for you).

A `Samba` shared folder is a folder stored on the network to which several people can connect to add and modify files.

They have a higher quota than personal folders. You can request for such a shared folder with a ticket, specifying the name you would like this folder to have, its goal, and the list of people who should have access.

If you are running under Linux, the DSI can also provide an NFS shared folder. Get in touch with them for further information.

3.3 Backups

These storage spaces (personal home folder and Samba shared folder) are frequently saved.

In case you need files to be rolled back from a previous state, file a ticket.

- Personal home folders are saved every evening and kept for two months.

- Shared samba folders are saved every 30 minutes for 24 hours, then every night for a week, and then every week for 2 months.

3.4 Partage – Sharing files

If you need to share files with staff from other schools of the IMT or people from the outside, or if you prefer a web interface to share your files, you can use Partage (https://partage.mines-telecom.fr/). It works like dropbox, but is based on a free software implementation.

Please note your files will be deleted if not accessed for a certain amount of time.

This service is hosted at Mines de Douai, so keep in mind that in case you have a problem, the DSI has to forward the request to them first.

3.5 Local storage

If you need a bigger space, on a desktop computer, you can store some of your data on the local hard drive.

- On a Linux computer, this folder will be `/home/users/<your login>`, which is automatically created once you have logged in once on the machine physically (not remotely).

- On a Windows computer, this folder will be `D:\`

Please note that these data will not be saved by the DSI and in event of a disk crash, will not be recoverable. In the other hand, calculations on data stored locally will run much faster as you would not need to wait from network inputs/outputs.

4 Software

As a member of the ComÉlec department, you have access to some software.

4.1 On a school computer

On any computer managed by the school, many software are pre-installed.

To have a better idea of all available software, have a look at `/comelec/softs/opt` on any DSI-managed Linux-running computer.

We will tackle with some of them in the following subsections.

4.1.1 Matlab

You can run `/comelec/softs/bin/matlab` [1], it will prompt you for the Matlab version you would like to use, and then run it.

4.2 On your laptop

If you need to run Matlab on your laptop, you should copy the installation files.

4.2.1 From a Linux computer

Copy the folder corresponding to the desired version from a school machine that has it.

For instance:

```
scp -r <login>@<computer-in-school>:/comelec/softs/opt/matlab/<version> /path/on/your/computer
```

Any linux computer (installed by the DSI) in the school will do. If you don't know any, you can use `tp-tests`.

You then have to execute `/path/on/yout/computer/bin/matlab`.

To be able to run it properly, you will need to have access to license tokens. For this, you have to be connected to the school network, either by a wired connection, or via the "Télécom ParisTech" wireless network (eduroam will not work). If you are outside the school, you will have to go through a VPN connection.

4.2.2 From a Windows computer

You need to copy the files from a samba shared folder.

- open the Windows files Explorer (Windows button → Computer)

- on the left panel, at the bottom, right clic on "Network" → "Connect a remote disk"

  - Choose a (non already used) letter for this drive (Z or Y for instance)
  - Folder: `\\samba.enst.fr\matlab`
  - Tick the box "Reconnect on session opening" if you want to keep this drive for next times
  - **If you are the administrator of your own computer, tick the box "Connect with different credentials" (or else Windows will try to login on the Samba shared folder with your local session credentials, which may differ from those of your TPT account)**

- Go to the newly created drive

- Choose the folder corresponding to the desired Matlab version

- Copy the whole folder to `C:\` (or `D:\` if you have two local hard drives)
  WARNING: do this **from school network**, **connected with a wire**. It can take some time (more than a few hours).

- Once the copy is finished, launch `<folder>\bin\matlab.exe`

4.2.3 FlexLM – Networked software licenses

To be able to use Matlab, you need license tokens, so you need to be able to contact our remote license server.

- It is only accessible from school internal network: namely, by wired connection in school, or via the wifi network "Télécom ParisTech" (not "Télécom Invités", not "eduroam")

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[1]If you are on a computer of the ComÉlec department, simply `matlab` will do the same.

- From the outside world (including "eduroam"), it is possible to use the VPN connection (http://www.telecom-paristech.fr/vivre-ecole/services-numeriques-dsi/connexion-depuis-lexterieur.html)/

- There is a limited amount of license tokens, and each Toolbox uses its own tokens, so it may happen that if someone else uses them, you have no more tokens available. To see who uses them and from where:

  - https://flexlm-dsi.enst.fr/ (https://flexlm-comelec.enst.fr for version strictly older than 2018b)
  - Choose "Concurrent" instead of "Activatable"
  - On the right, choose Matlab (MLM stands for Matlab License Manager) and click "Select"
  - Now we see the license tokens currently in use for each toolbox and MATLAB itself. Between brackets, the total number of license.
  - If a license is used by at least one user, you can click "Hosts" to see who uses them.

5 Computing power

5.1 Servers

Users of the ComÉlec department have access to servers to run their computation. You have access to your personal home directory on them.

At the time of writing these lines, the Linux servers currently in use in the department are `titan` and `kronos`. It is recommended to check for the up-to-date list on this page (https://computingdoc.telecom-paristech.fr/ComelecServers). There are also some Windows servers, but they are reserved for specific use, please check with your supervisor.

You can access them remotely through SSH (example with `titan`):

`ssh <yourlogin>@titan.enst.fr`

If you are outside of the school network, it is not directly reachable. You have to go through our SSH gateway:

`ssh -J <yourlogin>@ssh.enst.fr <yourlogin>@titan.enst.fr`

If you are using a Windows operating system, you will have to use PuTTY (https://www.putty.org/) to establish an SSH connection.

Then, you are on a Debian GNU/Linux environment. If you need a software installed **and have checked it is not already**, you should ask for it in a ticket.

5.2 Good practice

Always bear in mind that you are not the only user of these servers.

At any time, you can use the command `w` or `who` to check who is currently connected to the server and what they are running.

The ressources are shared, so if you run a heavy computation, everyone else will be penalized. To lessen the impact, what you should do is prioritize properly your code. You can do that with the `nice` command.

`nice <yourcommand>`

More detail about this on the wiki (https://computingdoc.telecom-paristech.fr/ComelecServers#Priority).

Think also about the storage space you should use for storing your computation data.

Network-accessible disk space (like your personal home directory) is handy because it is available on all the computers and servers. But it is also slower for code execution because it has a lot of network input/outputs to perform. Local drives are faster, larger, but not automatically saved. More on this on the wiki (https://computingdoc.telecom-paristech.fr/DiskSpace).

6 Other Services

6.1 Wireless

You can connect to `eduroam` WiFi in the school and in any other school that provides it with the same credentials.

Remember that any restriction that might occur on a different school is not our doing.

However, we advise you to prefer the `Télécom ParisTech` SSID, as it has better access to our services. If you use `eduroam`, you register as "out" of our network and are denied access to some tools and services.

6.2 VPN

To access school services purposedly only accessible from inside the school even when you are outside, you must setup a VPN connection.

See the documentation (http://www.telecom-paristech.fr/vivre-ecole/services-numeriques-dsi/connexion-depuis-lexterieur.html).

6.3 foodle

Not handled by Télécom Paris DSI, but by the French Research and Education ISP RENATER, foodle (https://groupes.renater.fr/reunion/) is a service that allows you to plan a meeting date and time. It mostly works like the well known doodle, but provides authentification of the users with their university account.

(It also has the nice perks of **not** reselling your personal data to American companies)

6.4 office

If you are a Linux user and are in desperate need of an actual Windows OS for a specific operation, when LibreOffice, or VirtualBox can't help, we have a server you can remote connect to which runs under Windows and has Microsoft Office Suite installed.

It also has a working version of Adobe Acrobat **Writer**, which might come in handy in some cases.

You can access it via a Remote Desktop command like `rdesktop`, `xfreerdp` or `remmina`. Its address is `office.enst.fr`.