How to use CMC resourses

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Documentation on CMC resources

To use the CMC resources, there is some steps to set up before. Steps are different between tools and between OS (Windows, Linux). In the next section, there are description of all steps that you may have to set up. Finally, the list at the end of the document shows which steps you need to do for each CMC tool.

Mandatory for all tools

You need to create those two accounts before everything else.

1- GEL-GIF Account

- If it's not already done, you have to create your GEL-GIF account.
- If you're an undergraduate student who fellow course in the department of computer and electrical engineering:
  - Connect on https://sechuron.gel.ulaval.ca/auth/comptes_analyse.php
  - Authenticate with your IDUL and PIN. Your account should be created automatically
  - Connect on https://sechuron.gel.ulaval.ca/auth/nipmiseajour.php and authenticate again with your IDUL and PIN
  - The account is now ready to be use on the computers of the department
- If you're a graduate student, you have to send a email at aide@gel.ulaval.ca with the following informations:
  - Your IDUL
  - You research laboratory (LVSN, LEEPCI, LOOP, LRTS, COPL, etc)
  - The name of the professor who supervises your research

2- CMC Account

- You must register an account to CMC website. To do so, connect on their website (cmc.ca) and "Get an Account"

- You must use the *@ulaval.ca* email, otherwise, the CMC will reject it
- During the process, you must provide the name of the professor who supervises your research. The professor will receive an email to confirm this information
  - This confirmation must be done to fully activate the account

Mandatory for some tools only

3- CADactivate

To ease the complexity of the license keying systems, CADactivate is executed once on the workstation or server after the user has logged on to the system. CADactivate needs only be run once by the user on any workstation or server which will be running the tools.

Linux

- On your command shell, execute the following script: `/CMC/scripts/CADactivate/cadactivate.sh`

- You must accept the terms, authenticate with your CMC account and follow the few steps.
- A request will be sent to the CMC. A delay of 24h can occur before the activation.

4- CADpass

Some tools need CADpass to run to access the licence server. You should always start CADpass before the tool and it needs to remain opened.

- Start the following client

.
  - Generally, it can be found in the same menu as the tool you want to use
  - You can also download it from the CMC website: http://www.cmc.ca/WhatWeOffer/Design/Tools/CADPass.aspx
- Authenticate with your CMC account and you'll access the following screen

- Double click on the tool you want to use. This will allow you to receipt a licence token. You'll also receive a confirmation message
- Now you can start the tool (for exemple Comsol) you want to use
- Once your work is over, you have to release the licence token. Use one of these methods
  - Close the client agclient.jnlp
    - or
  - Right click with your mouse on the icon of the tool you used and click *Stop*

- You have to perform this task each time, otherwise the licence token wont be release and it could prevent someone else to use it

Accessing CMC tools on a Linux server

Configuring graphical access to Linux server

Some applications only work on Linux operating system. Those tools are centralized on the application server, *Sunset.gel.ulaval.ca*. This server is accessible with any *ssh* client, but you need additional configuration to get the graphical content of the application.

Accessing the server from a Linux station

From a Linux station, you don't need additional tools to enable the remote graphical access. Here the steps :

- Start a console
- Type: `ssh -X idul@sunset.gel.ulaval.ca`
  - Don't forget the add your own idul
  - The `-X` parameter enable the graphical forwarding
- Authenticate on the server and test if the graphical forwarding works correctly
  - To test it, just start any graphical application, like `xclock`
  - If a small clock appears, it means that everything work correctly

Accessing the server from a Windows station

You have to install few application on your computer to access the server. If you don't have administrative priviledge on the computer, ask the technical staff (aide@gel.ulaval.ca) to install them if it's not already done. Then, refer to the Configuring Putty and Using Putty with X server section.

ssh client

First, you need a ssh client. We suggest that you install the free client *Putty*. It can be downloaded here. Ssh client allows you to connect with encrypted connection to the server within a console (command line). To start a graphical application, you need to install a *X Server*.

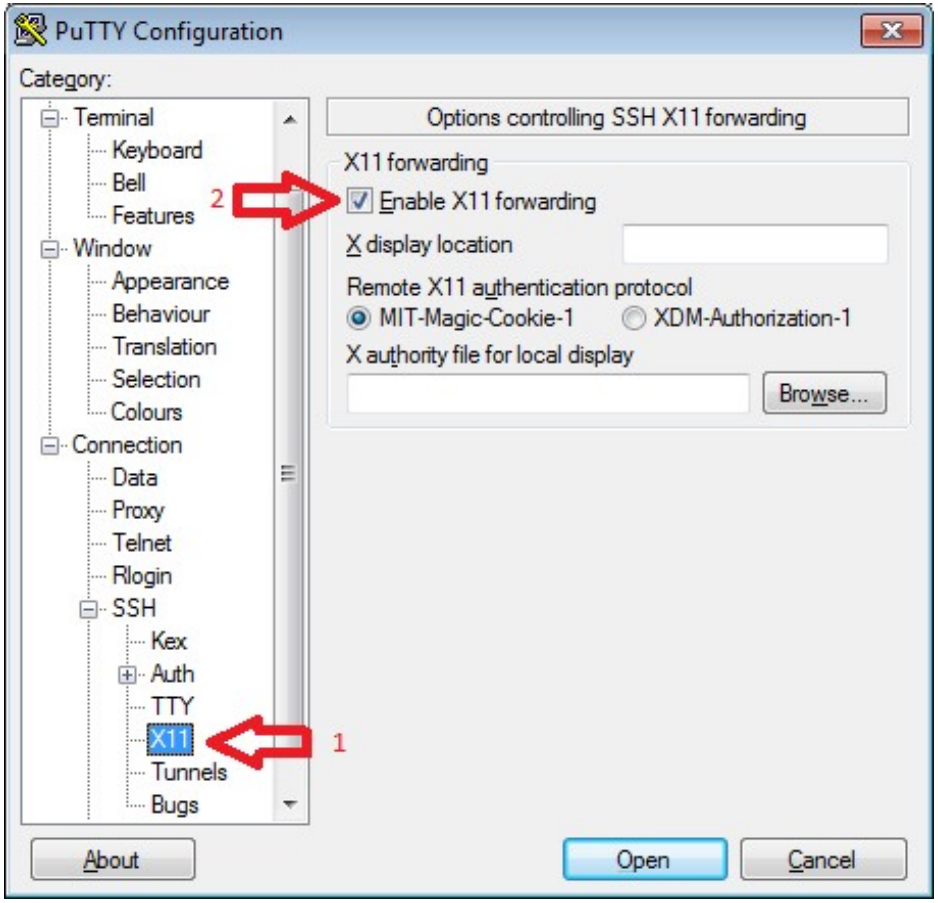
X server

The *X server* allow you to forward the graphical application of the server to your workstation. The *X server* must be installed on your workstation and need to run when you access the server with the ssh client.

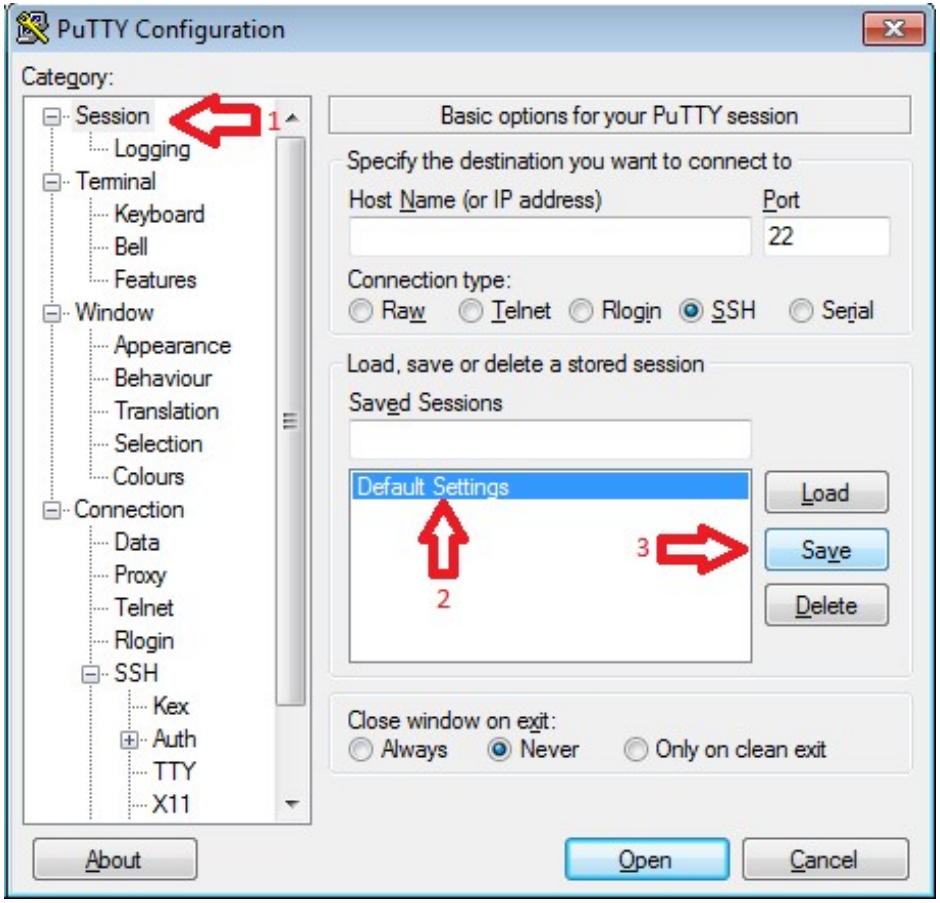
There are free server you can use, like *X Ming* and *X Cygwin*. In this tutorial we use *X Ming*, because it is easier to install.

- Download and install X Ming here
- Download and install the additional fonts package here

Configuring Putty

- Start Putty
- Enable X11 Forwarding in the left menu (Connection/SSH/X11).
  - 

- Save the default session, so it will be enabled automatically when Putty is started.
  - Click on Session, then on Default Session and click save.



Using Putty with X server

- First, start the *Xming* server and this icon should appear in the windows *systray* (bottom right of the screen).
- Start Putty and connect to the server
  - Host: sunset.gel.ulaval.ca
  - Port: 22
  - Connection type: SSH
- You will receive a security alert if it's the first time you connect the server. You have to accept it by clicking *Yes*

- Logon with your credential *(Idul/password)* and test the graphical forwarding works correctly
  - To test it, just start any graphical application, like `xclock`
  - If a small clock appears, it means that everything work correctly
- You're now ready to work with any graphical applications you need to

Starting CMC tools on linux server

The basics

Each tool requires some configurations, like paths and environments variables before it can be used. Those configuration are all scripted and the user has just to call the proper script before using the tool. The basic is the same for all tools:

- "Sourcing" the script
  - First, you have to switch to a *tcsh shell* with the following command: `tcsh`
  - Then, source the script: `source /location/tool_scripts.csh`
- Now, the tools is configured and you can start it by typing the name of the tool.
  - The next section gives you some exemples

Exemples

This section gives few examples on how to start different CMC tools. A complete list available on the CMC website (https://community.cmc.ca/docs/DOC-1224)

Cadence v.5141 usr5

- Never start a tool in the root (/) of your home directory. Always create a sub folder and start the tool from it
  - `mkkdir testCadence`
  - `cd testCadence`
- `tcsh`
- `source /CMC/scripts/cadence.ic.5141.usr5.csh`
- `icfb`

Lastest Cadence version (06.15.509)

- Never start a tool in the root (/) of your home directory. Always create a sub folder and start the tool from it
  - `mkkdir testCadence6`
  - `cd testCadence6`
- `tcsh`
- `source /CMC/scripts/cadence.ic06.15.509.csh`
- `virtuoso`

Cadence v.5141 usr5 with a design kit

- Note: All designs kits are configured to work with Cadence version 5141 usr5. Use other version at your own risk (not shown in this tutorial)
- Never start a tool in the root (/) of your home directory. Always create a sub folder and start the tool from it
  - `mkkdir testCadenceKit`
  - `cd testCadenceKit`
- `startCds`
  - Select the design kit from the popup window
- Some kits require specials access, like the CMOSP18. If you need to work with it, send us an email at aide@gel.ulaval.ca and we will grant you the access

Modelsim v10.1a from Mentor

- Never start a tool in the root (/) of your home directory. Always create a sub folder and start the tool from it
  - `mkkdir testModelsim`
  - `cd testModelsim`
- `tcsh`
- `source /CMC/scripts/mentor.modelsim.10.1a.csh`
- `vsim`

Pixys with Calibre option from Mentor

- Never start a tool in the root (/) of your home directory. Always create a sub folder and start the tool from it
  - `mkkdir testPyxis`
  - `cd testPyxis`
- `tcsh`
- `source /CMC/scripts/mentor.calibre.2012.2.csh`
- `source /CMC/scripts/mentor.pyxis.10.1.csh`
- `ic`