Getting accounts and access to clusters

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1 Register for Computing Accounts and Access to the Computing Resources

1.1 CERN lxplus and lxtunnel

- CERN User Account Registration:
  https://twiki.cern.ch/twiki/bin/view/CMSPublic/WorkBookGetAccount

  Basically, if you are working on CMS experiments, just email Cms.Secretariat@cern.ch to request an external registration link (unless you plan to travel to Geneva), then they will ask you to upload the required documents via CERNBOX. Rename your identification documents with your name.

- Connection to the CERN front-end server via ssh
  https://security.web.cern.ch/recommendations/en/ssh.shtml

- Connection to internal documentations via web browser
  https://security.web.cern.ch/recommendations/en/ssh_browsing.shtml

1.2 Fermilab CMS-LPC

- Fermilab CMS-LPC Registration:
  https://uscms.org/uscms_at_work/physics/computing/getstarted/uaf.shtml
  - Submit the remote Access Request Form, provide the information of your supervisor (Prof. Mia Liu or Dr. Dickinson)
  - Wait for the email response to set up Zoom appointment, then show your valid ID
  - Receive the initial password, provide your basic personal informations and compelete the security training on Fermilab Workday website

- Connect to the Fermilab CMS-LPC Computing Cluster
  - Follow the instruction how to establish connections with either Linux or Windows system:

https://uscms.org/uscms_at_work/physics/computing/getstarted/uaf.shtml

- Note that the authorization key from Kerberos expires in 24 hours

- CBC Module Test with FC7 Data Acquisition System
https://indico.cern.ch/event/986962/sessions/388476/attachments/2200337/3731157/CMS_Tk_uDAQ_School2021_OT_2S_CalGuide.pdf

1. Users should create their own folder below the "Programming" directory
   (a) in the format of "Programming/Ph2_ACF_username"
2. Clone the Github repository under your folder:
   (a) git clone https://gitlab.cern.ch/cms_tk_ph2/Ph2_ACF
   (b) cd Ph2_ACF
3. Check settings
   (a) source setup.sh
4. Build the test requirements in a folder called "build" (-jN, N is the # of cores on the processor)
   (a) mkdir build
   (b) cd build
   (c) cmake ..
   (d) make -C build/ -j4

   (a) cd Programming/power_supply
   (b) ./bin/TurnOn -c config/PSModuleConfig.xml
   (c) ./bin/TurnOff -c config/PSModuleConfig.xml
5. Run the Front-End Hybrid (FEH) test (Meanings:
   -t : tune offset
   -m: measure noise
   -a: all channels at once
   -b: batch mode)
   (a) feh_2s_test -f settings/D19CDescription_OpticalReadout.xml -withCIC -t -m -a
   (b) You will notice that you need to control the power supply to the service hybrid during the power-cycling . At the moment it is done manually (Ph2_ACF pauses to let you do that)
   (c) Switch on/off the PSModule as the feedback says

1.3 Purdue Tier-2 Computing Cluster

- Registration
http://www.physics.purdue.edu/Tier2/user-info/accounts/index.php

- SLURM jobs - either interactive or batch - are well documented in https://www.rcac.purdue.edu/knowledge/hammer/run/examples/slurm
- General CMS tutorial materials are in https://www.physics.purdue.edu/Tier2/user-info/tutorials/cmssw_job_tutorial.php
- More resources are available at https://www.physics.purdue.edu/Tier2/user-info/index.php
- the Hammer Cluster documentation here:
  https://www.rcac.purdue.edu/compute/hammer/
  https://www.rcac.purdue.edu/knowledge/hammer/
  https://www.rcac.purdue.edu/knowledge/hammer/run/slurm
  https://www.rcac.purdue.edu/knowledge/hammer/run

2 Lab Safety

Each member will be responsible for the following safety items before working in the lab:

- They must be forwarded the Building Emergency Plan and be asked to get familiar with it. https://www.purdue.edu/ehps/emergency_preparedness/bep/phys-bep.html
- Each student must login with their Purdue ID and complete the HazCom training. This includes a quiz. https://www.purdue.edu/ehps/rem/training/hazcom/hazcomcompnew/hazcomcompnewpage.html This has to be completed annually for each student. So, if they have worked at the PSDL before and it's been a year, they'll have to re-take this.
- The student should then report to me for their PPE training. I prefer to train them in bunches for efficiency. At this point, they will sign a form that says they understand the risks in the lab spaces and how to use PPE
- For COVID: Their names need to be included in the COVID SOPs for each of the rooms they will be working in, i.e. PHYS 355 or 360. If you forward me their names, I can do that. And they should be notified that if they experience any COVID-like symptoms, they should avoid coming to the lab and get tested at Purdue immediately and notify me if there is a positive result.