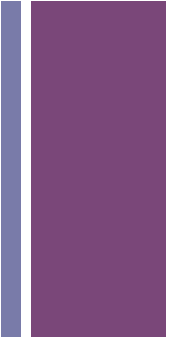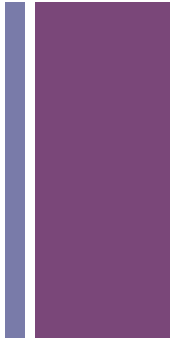# Install Grid User Certificate and Root Certificate

October 30, 2019

- Since, I feel it's very tricky to install grid certificate on my local computer, add it to my web browser, register CMS VO, setup the certificate for LCG on local and lxplus, so I make this instructions

- Actually, I use macbook for setting up all of these, but here I write instructions as general as I can. I think the difference setting is only if you use Chrome, but if you use Mozilla Firefox it will be same.

- I hope these instructions can help you

+

- Download and install you Grid User Certificate
  - Go to https://ca.cern.ch/ca/user/Request.aspx?template=ee2user for getting your grid user certification
  - Fill your certificate password and click 'get grid user certificate'
  - Download the grid user certificate

- Add your Grid User Certificate to your web browser
  - If you use Chrome
    - For MacBook you can follow this instructions
      - Go to https://cafiles.cern.ch/cafiles/certificates/Grid.aspx and follow the instructions
      - Go to https://ca.cern.ch/ca/Help/?kbid=070110 to add you grid user certificate to your web browser

    - For Windows, you can choose "Other Browser >> Chrome" on https://ca.cern.ch/ca/Help/?kbid=070100
  - If you use Mozilla Firefox, you can go to https://ca.cern.ch/ca/Help/?kbid=040110;040111&mode=print
  - If you use Safari, you can go to https://ca.cern.ch/ca/Help/?kbid=060111&mode=print

+

- Registration with VO CMS
  - Go to https://voms2.cern.ch:8443/voms/cms/register/start.action
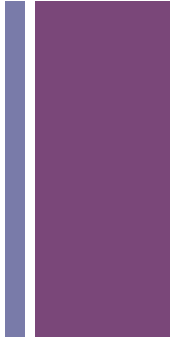 - Or go to https://twiki.cern.ch/twiki/bin/view/CMSPublic/SWGuideLcgAccess#How_to_register_in_the_CMS_VO
  - Or go to https://twiki.cern.ch/twiki/bin/view/CMSPublic/SWGuideVomsFAQ#Add_a_new_certificate_to_my_memb

- Install CERN Certification Authority
  - Go to https://cafiles.cern.ch/cafiles/certificates/Cern.aspx
  - Follow the instructions
  - Make sure the instructions are for your web browser for your laptop or computer (Windows, Mac)

+

- Follow this instructions to setup the certificate for LCG in your local computer or laptop
  https://twiki.cern.ch/twiki/bin/view/CMSPublic/
  WorkBookStartingGrid#ObtainingCert

- Follow this instruction to setup the certificate on your lxplus
  - Upload your grid user certificate to your lxplus account
  - Then do these (if you already have .globus directory in your lxplus)
  - openssl pkcs12 -in YourGridCert.p12 -clcerts -nokeys -out $HOME/.globus/usercert.pem
  - openssl pkcs12 -in YourGridCert.p12 -nocerts -out $HOME/.globus/userkey.pem
  - If there is no .globus directory, you can make it first,
    - cd –
    - mkdir .globus
    - cd ~/.globus
    - mv /path/to/YourGridCert.p12 .

- Test your Grid Certificate on lxplus
  https://twiki.cern.ch/twiki/bin/view/CMSPublic/WorkBookRunningGrid#TestCert