

Run a Brunel Job on Grid

Details presented here are directly related to user from german instituts. In theory, an analogical procedure should be applied for any other user, except only the site were the request for the grid certificate should be send.

Any other experience is wellcome to be shared.

Here are the steps to get a grid certificate:

0. before anything check if there is someone in your institute that already has the grid certificate, this is the best help.
1. first one needs to go at the <http://www.gridka.de/>
2. in the section *How to produce a certificate request file?* one can choose the option two and download the Perl Script
3. once the script is downloaded run it following the instructions
4. send an e-mail with the output of the script and your telephon number to your system administrator or the grid responsible person
5. then the user will have to make a copy of the pass and the grid responsible person will forward the user request back to the grid site
6. after something like a week, the user will get a phone call from the grid site for confirmation
7. afterwards an e-mail will be send from the grid site to the user with the grid certificate

Here are the steps how to use grid certificate:

0. before anything check if Globus is installed, on lxplus.cern.ch should already be intsalled, if not check the <http://www.globus.org/toolkit/downloads>.

1. copy the .pem file from the e-mail attachment to `$HOME/.globus/usercert.pem`
2. go to directory `$HOME/.globus` and run the commands:

```
>chmod 0600 userkey.pem  
>openssl pkcs12 -export -in usercert.pem -inkey userkey.pem -out usercert.p12
```

3. than one can get a *proxi* with:

```
>grid-proxi-init
```

or check the informations about the *proxi* with:

```
>grid-proxi-info
```

more about proxies can be seen at <https://edms.cern.ch/file/722398/1.1/gLite-3-UserGuide.html>.

Before sending a Brunel job to grid one needs to be registered in a Virtual Organisation (VO). To register one needs to load the sertificate in the web browser, e.g. for mozilla:

```
->Edit
  ->Preferences
    ->Privacy & Security
      ->Certificates
        ->Manage Certificates ...
          ->Import
```

the usercert.p12 file should be imported and a series of passwords will be ask and need ro be set. The registration can be done at <http://lcg.web.cern.ch/lcg/users/registration/registration.html>.

Finally, the steps to run a Brunel job over grid:

1. set the ganga environment:

```
>GangaEnv 4.4.2
```

2. set the grid environment:

```
>GridEnv
```

3. set the Dirac environment:

```
>DIRACEnv v2r17
```

4a. get a grid proxy for 12 hours:

```
>grid-proxy-init
```

4b. for longer jobs user proxy with longer validity, e.g. 160 hours:

```
>voms-proxy-init -voms lhcb -valid 160:00
```

and the job should be submitted to grid.

Once the job is submitted, it can be monitored at <http://lhcb.pic.es/DIRAC/Monitoring/Analysis/>.

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