HPCC
How to run grid jobs on TechGrid

High Performance Computing Center
Texas Tech University
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1. Installing the grid middleware on Windows: CondorInstall.zip
   a. Go to the following link: http://omnius.hpcc.ttu.edu/talks/CD/Condor Install.zip
   b. Download to local C:
   c. Unzip CondorInstall.zip
   d. hen double click CondorInstall.bat
   e. Follow install directions & restart computer

2. Set local environment variable path for Condor
   a. Go to “Start” Button
   b. Select “Control Panel”
   c. Select “System”
d. Select “Environment Variable” tab.
e. Select “Path” variable and press “Edit” button:

f. At the end of the path string type `;C:\condor\bin`.

g. Hit “OK”.

Note: Don’t forget the semicolon “;” !!!
3. Logging in
   a. Go to the “start button”
   b. Go to “run” button
   c. Type “cmd” and press Enter key on keyboard.
d. At DOS prompt, type: C:\> condor_store_cred add

*Use your eRaider password when it asks for your password*

4. A. Preparing a single run job
   a. Copy all input files in one work directory
   b. Ex: 1.inp, GENBAS, messages, comdyn.f
   c. Copy all executables in one work directory
   d. Ex: endyne.exe
   e. Create a submission script so that Condor knows where to find the files for the grid job.
   f. Submission script called “endyne.sub” for a single run job
      universe = vanilla
      environment = path=c:\winnt\system32
      executable = endyne.exe
      ShouldTransferFiles = ALWAYS
transfer_input_files = 1.inp, GENBAS, messages, comdyn.f
WhenToTransferOutput = ON_EXIT
arguments = 1.inp
output= 1.out
error = 1.err
log = 1.log
queue

4. B. Running a single run job

   At the DOS prompt type: C:\> Condor_submit endyne.sub

   Then Condor will proceed with the job execution.
   Check your work directory for output files.

5. A. Preparing a multirun job

   a. Create as many work directories equal to the amount of times you wish to process jobs, I:E: If you wish to process 10 unique input files, then create 10 separate work directories.
   b. This schema is used to protect each grid job from each other due to unforeseen memory or I/O errors.
   c. This can be scripted or done by hand.
   d. Copy all input files and other necessary files into each directory.
   e. Create a submit file to tell Condor how to run a multirun job.
   f. Submit file called “endyne.submit” for a multirun job
      universe = vanilla
      environment = path=c:\winnt\system32
      executable = endyne.exe ← name of the executable in same dir as submit file.
      ShouldTransferFiles = ALWAYS ← Makes sure no files are left behind.
      transfer_input_files = 1.inp, GENBAS, messages, comdyn.f
      WhenToTransferOutput = ON_EXIT ← When to transfer output files.
      arguments = 1.inp ← What the executable should expect to see in work directory
      output= 1.out ← What the executable should send to the work directory.
      error = 1.err ← What the executable should send to the work directory.
      log = 1.log ← What the executable should send to the work directory.
      InitialDir = C:\endyne-multirun\run_$(Process) ← Where Condor can find files.
      Queue 10 ← We are asking Condor to process 10 input files to be processed on 10 different nodes.

5. B. Running a multi run job

   At the DOS prompt type: C:\> Condor_submit endyne.sub
Then Condor will proceed with the job execution.

Check your work directories for output files.
User Guide

http://www.hpcc.ttu.edu