

Run AnsysEDT on Campus Cluster

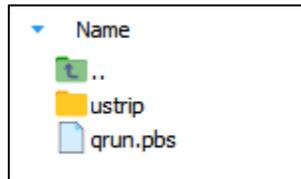
This document will walk you through the process running an HFSS design on Campus Cluster (ICC).

Log into ICC with your university credential.

The login node for ICC is `cc-login.campuscluster.illinois.edu`

Please review the [ICC training videos](#) to familiarize yourself with the cluster.

You are provided with a PBS script to submit the job. In this example, I have a project file named “ustrip.aedt”, I put in inside the directory “ustrip”. Put the .pbs file in the same location with “ustrip” folder. (Note: you should have your model set up and simulation setup correctly and **ready to be solved** before you submit the job to ICC)



This is the content of .pbs file

```

1  #!/bin/bash
2  #PBS -l walltime=00:30:00
3  #PBS -l nodes=1:ppn=12
4  #PBS -N AnsysEM546
5  #PBS -j oe
6  #PBS -q eng-instruction
7
8
9  export ansys_wk='ustrip'
10 export design_name='ustrip.aedt'
11
12 ID=$(echo $PBS_JOBID|cut -d'.' -f1)
13 wkdir=$HOME/scratch/$ansys_wk.o$ID
14 mkdir $wkdir
15 cp -r $PBS_O_WORKDIR/$ansys_wk/* $wkdir
16 cd $wkdir
17 module use /projects/eng/modulefiles
18 module load ANSYS-EM/19.5
19 ansysedt -batchsolve -ng -monitor -batchoptions "'HFSS/HPCLicenseType'='pool'" $design_name
20 cp -r $wkdir $PBS_O_WORKDIR
21

```

The following settings need your attention:

1	<pre>walltime=hh:mm:ss (line 2)</pre>	<p>Time limit for your job. Anticipate how long it would take to run your project and put in the time appropriately. Note that when submitted, your job will get into a queue. This wall time (along with other settings) will affect how long your job has to wait until it is executed. So do not request a much longer wall time than you needed or your job will be in the queue for a long time before it can run</p> <p>ICC has a 12 hours hard limit on all jobs. After 12 hours, it will terminate your job even if it's still running.</p>
2	<pre>nodes=N:ppn=M (line 3)</pre>	<p>Request number of nodes (N) – should be 1 (a node, roughly speaking, is a computer) and core per nodes (M)</p>
3	<pre>ansys_wk (line 9)</pre>	<p>Name of the folder in which your project file is</p>
4	<pre>design_name (line 10)</pre>	<p>Name of your project file, must include .aedt</p>

Once you're ready to submit your job. From the terminal, go into the directory where you have your .pbs file and run `qsub qrun.pbs`, if your job is successfully submitted into the queue, the cluster will return a string to let you know where your job was submitted to, like below. The number "10874832" is your job ID, use this to distinguish between multiple jobs.

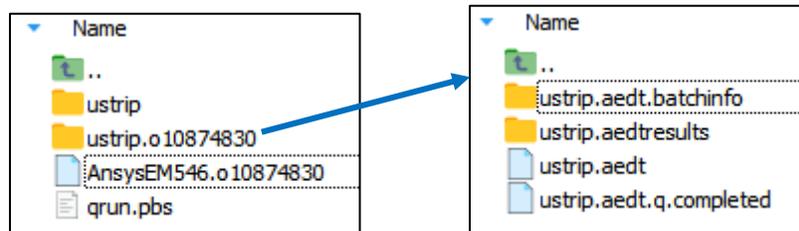
```
[tnnguye3@golubh3 ~]$ qsub qrun.pbs
10874832.cc-mgmt1.campuscluster.illinois.edu
[tnnguye3@golubh3 ~]$
```

You can request the status of your job by running `qstat -u <your_netID>`. For example, in the following, I have 2 jobs submitted: 10874830 which was completed (C) and 10874832 which is still in the queue and has not run yet (Q).

```
cc-mgmt1.campuscluster.illinois.edu:
```

Job ID	Username	Queue	Jobname	SessID	NDS	TSK	Req'd Memory	Req'd Time	S	Elap Time
10874830.cc-mgmt1.camp	tnnguye3	eng-inst	AnsysEM546	18517	1	1	--	00:30:00	C	--
10874832.cc-mgmt1.camp	tnnguye3	eng-inst	AnsysEM546	--	1	1	--	00:30:00	Q	--

Once the job is finished, you should see a log file from the cluster, it should contain anything printed to the terminal when your job was run.



Inside the "ustrip.o107174830" folder, you will see more files and folders (that's why we should put the project design file into a folder in the first place). Your original design file is still in "ustrip", each run output is now separated in a different directory with its job ID and the run log is in the "AnsysEM546", also appended with its job ID. This way you can submit multiple jobs at once. However, be mindful about your storage quota (which is only 2GB). If your data is larger than 2GB, you won't be able to copy it back to your login node directory, the last line in the .pbs file will fail to execute. You can find your data in `~/scratch` and move it directly to your local PC from there.

After downloading data from ICC to your local PC, use Ansys from Citrix to open it with a GUI and plot the result or export data as you wish.

Note: to move data in and out of ICC, MobaXterm (Windows) users can just drag and drop the files or folders into the sftp or scp sub-window to the left of MobaXterm window. Mac users will need to use other methods like `rsync`, `sshfs`. More information can be found [in ICC user guide](#).