

```
#!/bin/bash
#PBS -N test_mnist_on_batch ==> Give a name of you batch job
#PBS -q debug ==>in debug mode
#PBS -A PAA0023 ==> the project ID
#PBS -l walltime=1:00:00
#PBS -l nodes=1:ppn=28:gpus=1
#PBS -m abe ==> Send me a email when abort(a), begin(b), and end(e)
#PBS -j oe ==> Merge the output(o) and error(e) file into single file
```

=====> The following code were only tested on Owen

### # Write a batch file script

```
[dong760@owens-login01 ~]$ vim batch_script_on_mnist.pbs
```

```
#!/bin/bash
#PBS -N test_mnist_on_batch
#PBS -q debug
#PBS -A PAA0023
#PBS -l walltime=1:00:00
#PBS -l nodes=1:ppn=28:gpus=1
#PBS -m abe
#PBS -j oe
echo 'environemnt set up'
source ./miniconda3/bin/activate
module load cuda/10.0.130
export PYTHONNOUSERSITE=true
conda activate tf_latest
echo 'Running the mnist script on TF2'
python lab0/lab0.py
echo
echo 'The date when running current script is :'
```

### # Submit job to PBS scheduler

```
(tf_latest) [dong760@owens-login04 ~]$ qsub batch_script_on_mnist.pbs
11705630.owens-batch.ten.osc.edu
```

```
[dong760@owens-login01 ~]$ qstat -u dong.760
```

```
[dong760@owens-login01 ~]$ qstat -a 11705630
```

```
[dong760@owens-login01 ~]$ cat test_mnist_on_batch.o11705630
```

```
Running the mnist script on TF2
```

```
Running with CPU
```

```
Epoch 1/10
```

```
1875/1875 [=====] - 2s 1ms/step - loss: 0.5038 - accuracy:
0.8218
```

```
Epoch 2/10
```

1875/1875 [=====] - 2s 947us/step - loss: 0.3769 - accuracy:  
0.8637  
Epoch 3/10  
1875/1875 [=====] - 2s 949us/step - loss: 0.3339 - accuracy:  
0.8786  
Epoch 4/10  
1875/1875 [=====] - 2s 975us/step - loss: 0.3103 - accuracy:  
0.8860  
Epoch 5/10  
1875/1875 [=====] - 2s 940us/step - loss: 0.2936 - accuracy:  
0.8908  
Epoch 6/10  
1875/1875 [=====] - 2s 981us/step - loss: 0.2805 - accuracy:  
0.8961  
Epoch 7/10  
1875/1875 [=====] - 2s 982us/step - loss: 0.2667 - accuracy:  
0.9008  
Epoch 8/10  
1875/1875 [=====] - 2s 974us/step - loss: 0.2556 - accuracy:  
0.9051  
Epoch 9/10  
1875/1875 [=====] - 2s 984us/step - loss: 0.2468 - accuracy:  
0.9077  
Epoch 10/10  
1875/1875 [=====] - 2s 993us/step - loss: 0.2388 - accuracy:  
0.9104  
313/313 - 0s - loss: 0.3421 - accuracy: 0.8779

Test accuracy: 0.8779000043869019 Test accuracy: 0.34205329418182373  
{'loss': [0.5038214921951294, 0.37688103318214417, 0.3339040279388428,  
0.3103387951850891, 0.2935653328895569, 0.2805091142654419, 0.26670217514038086,  
0.25564563274383545, 0.2467520833015442, 0.23883485794067383], 'accuracy':  
[0.8218333125114441, 0.8636500239372253, 0.8786166906356812, 0.8859500288963318,  
0.8907833099365234, 0.8961166739463806, 0.9008166790008545, 0.9050666689872742,  
0.907716691493988, 0.9104499816894531]}

The date when running current script is :  
Sat Nov 14 02:25:41 EST 2020

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Resources requested:  
nodes=1:ppn=28:gpus=1  
mem=120820mb  
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Resources used:  
cput=00:01:26  
walltime=00:00:59  
mem=0.784GB  
vmem=12.810GB  
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