50.039 – Theory and Practice of Deep Learning

Alex

Week 05: quick overview over amazon stuff

1 what you need to do for using GPUs

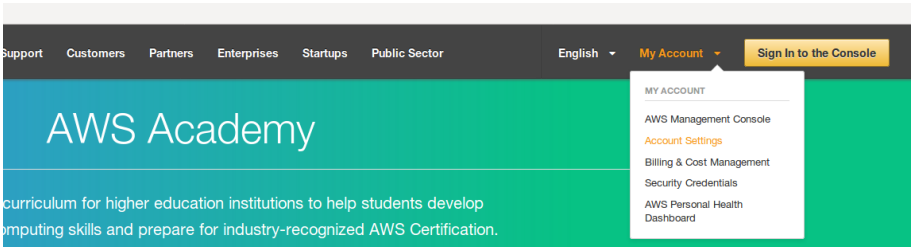
you can choose between three modes: amazon, Singapores National Supercomputing Centre or use your own GPU, of course.

1.1 option X: amazon

ALWAYS TERMINATE YOUR RUNNING instance. it costs MONEY.
BEFORE TERMINATION: SAVE YOUR RESULTS / CODE changes. scp off all your results and code changes, all changes are lost upon termination.
You have 70 / 100 **USD** free credits, after that it is your debit card. p2.xlarge GPU in Oregon zone costs 0.9 usd per hour, g3s.xlarge GPU in Oregon zone costs 0.75.

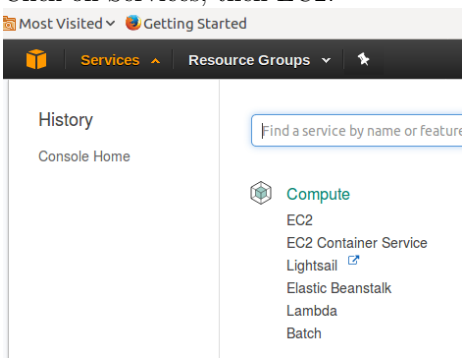
TODOS for the course if option X

- register an AWS account – preferably with your university mail. For proper usage you may need to add a debit or credit card in the billing section - go for NSCC below if you reject to do this.
- after having an account: register for AWS educate as student - for getting the 40 usd free credits. `https://aws.amazon.com/education/awseducate/apply/`
  You will need your amazon ID. For this click on My account − > account settings.

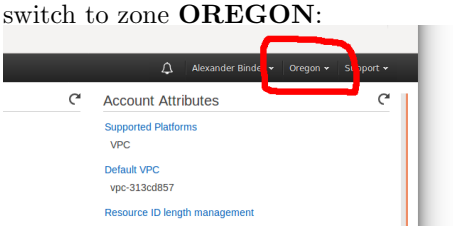


- request a limit increase in Zone **OREGON**. how to do this?

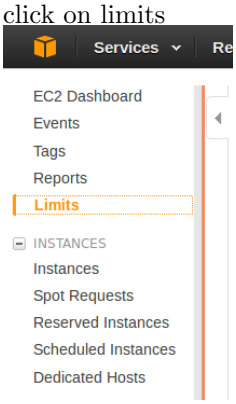
  Click on Services, then EC2.



- switch to zone **OREGON**:

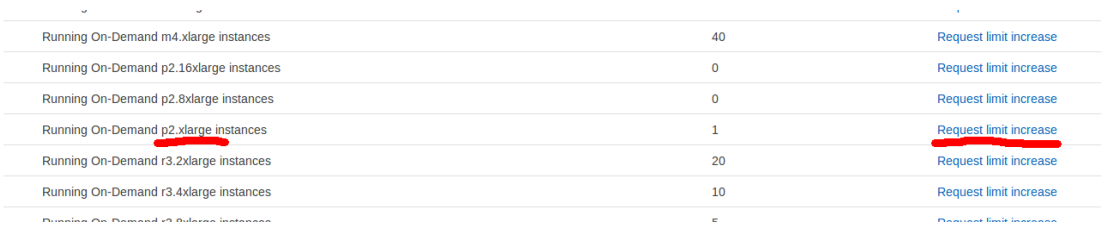


- click on limits



- request a limit increase for **g3s.xlarge** or for **p2.xlarge** - and exactly this

thingy



Running On-Demand m4.xlarge instances	40	Request limit increase
Running On-Demand p2.16xlarge instances	0	Request limit increase
Running On-Demand p2.8xlarge instances	0	Request limit increase
Running On-Demand p2.xlarge instances	1	Request limit increase
Running On-Demand r3.2xlarge instances	20	Request limit increase
Running On-Demand r3.4xlarge instances	10	Request limit increase

- INBOX ME your case ID from the request - this MONDAY

1.2 option Y: nscc

Pro: No need to give anybody debit/credit card data. Costs no money, is not branded, no cost risks. But: it is a queue system.

You will need to use the PBS Pro Scheduler, you will need to use gpu queue. I dont have experience with PBS, but with Sun Grid tools, so I can try help you, and I will once you ask - they are similar.

TODOS for the course if option Y

- register while in the school network
- check if there is cuda already installed – it should be
- install tensorflow from sources in a virtual environment
- check how to start a script with the scheduler ...

`https://help.nscc.sg/wp-content/uploads/2016/08/NSCC-PBSPro-QuickstartGuide.pdf`

- you cannot testrun GPU stuff on a login node, but you can testrun your code on your machine.

1.3 option Z: BYO GPU

well, some of you might be already deep in neural nets, or ... gamers. You have invested 1000+ SGD? well, why not use it, no billing risks, no queues. Well, you might need to set up python+Tensorflow under windows, or go for dualboot. simple vms do not allow GPU passthrough.