50.039 – Theory and Practice of Deep Learning

Alex

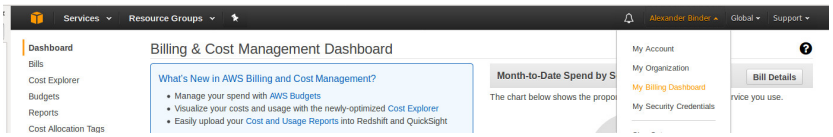
Week 05: amazon and copying files from Windows to a unix machine

[The following notes are compiled from various sources such as textbooks, lecture materials, Web resources and are shared for academic purposes only, intended for use by students registered for a specific course. In the interest of brevity, every source is not cited. The compiler of these notes gratefully acknowledges all such sources.]

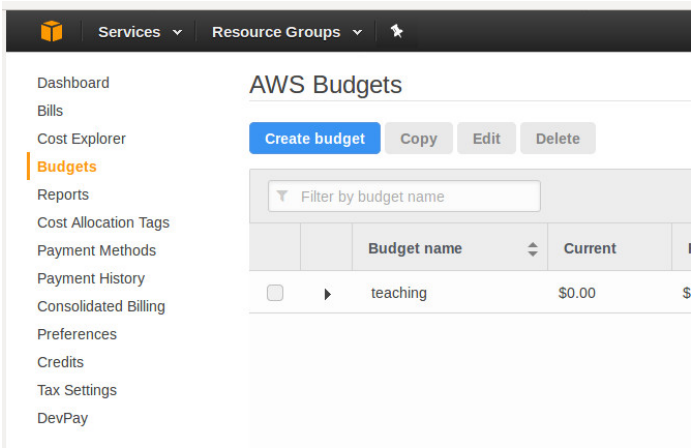
1 A quick ride to amazon EC2 webservices

1.1 costs

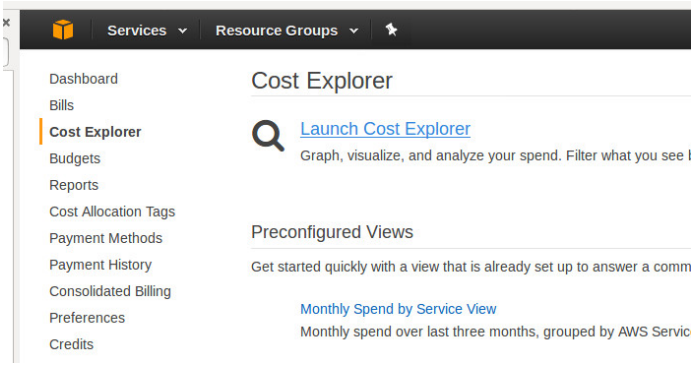
After log in, see the billing dashboard



click on dashboard on the left shows your usage relative to free tier limits. Budgets allow to set a warning. create one for your free credits

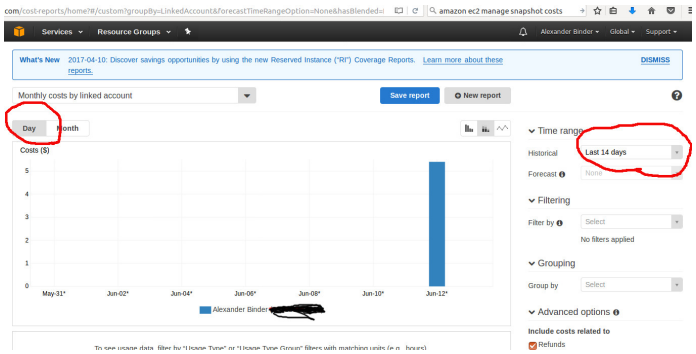


A practical tool is the cost explorer. Click on it and launch it.



In order to see something meaningful you have to:

- **EVERY time you switch** an item like *Monthly costs by linked account*
- set reporting granularity to DAY
- set time range to last 14 days

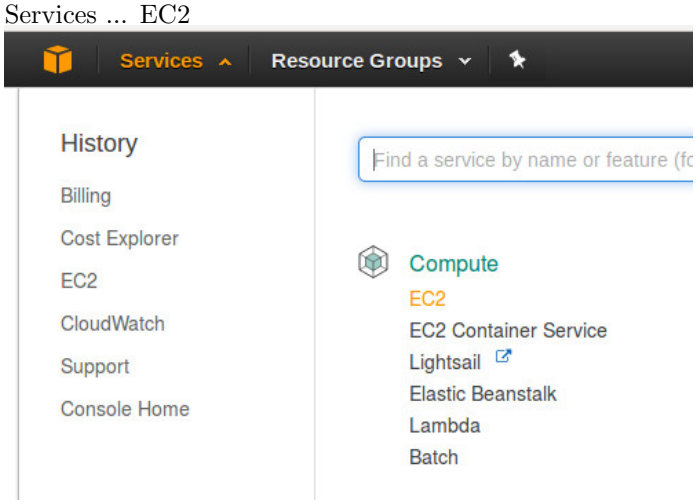


- otherwise you might see not costs well!!!

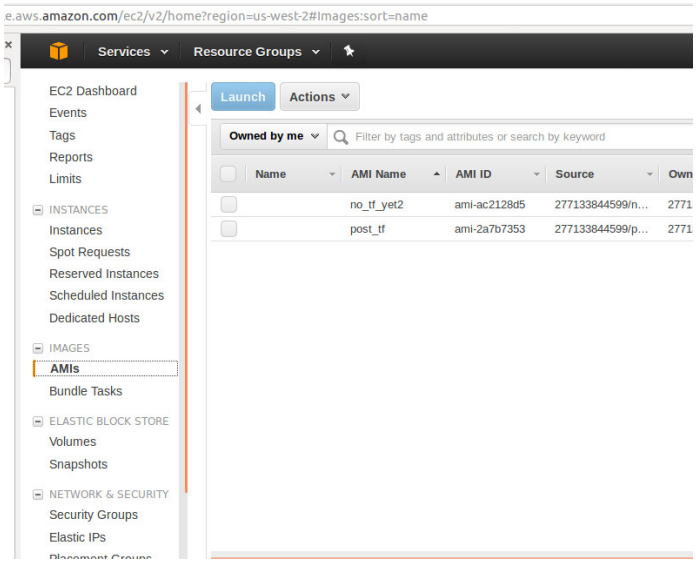
Disk snapshots cause permanent running costs like $0.1USD * \#Gbytes$ ...
For costs of disk snapshots I suggest to read `https://forums.aws.amazon.com/thread.jspa?threadID=169566`, and `https://aws.amazon.com/premiumsupport/knowledge-center/ebs-snapshot-billing/`. However there should be not much need for you to do snapshots, I can provide you necessary snapshots for you.

1.2 run stuff

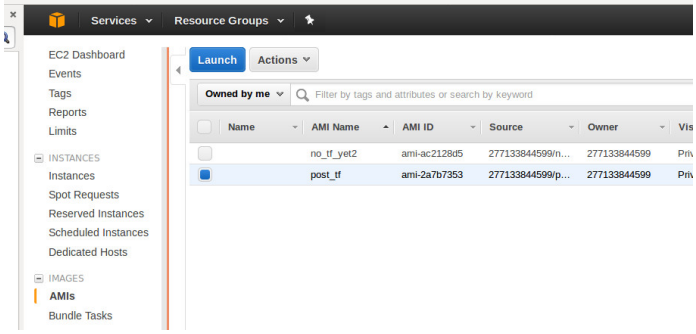
Services ... EC2



click on AMI (amazon machine image)



click on the box of the right AMI **post_tf** until it is blue, click on launch



You need to know before you launch:

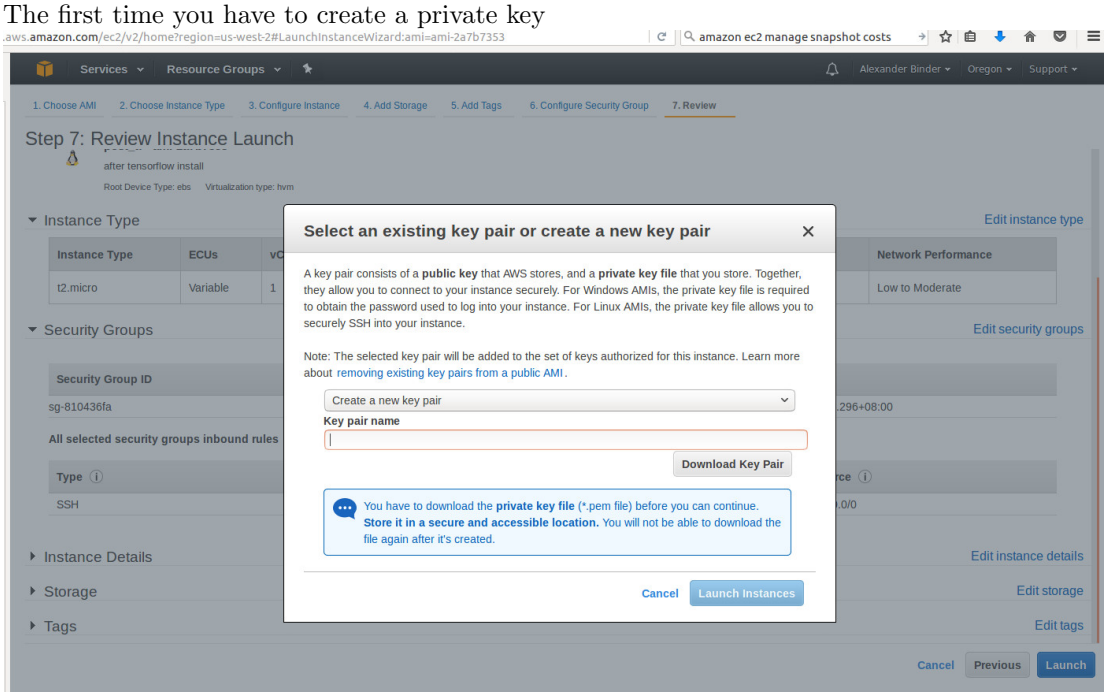
- an instance causes costs while running
- terminating an instance will cause all your changes (written files, your code, your results) **to get lost!!**
- before terminating it: copy off all your code changes and result files (neural network snapshots?)!!
- putty (windows) and scp (mac,linux) allows that – you will **need the private key** for that, which you created when first time launching an instance.

Launching:

- first choose your instance type ... for the first start use the free tier t2.micro , later you will need p2.xlarge

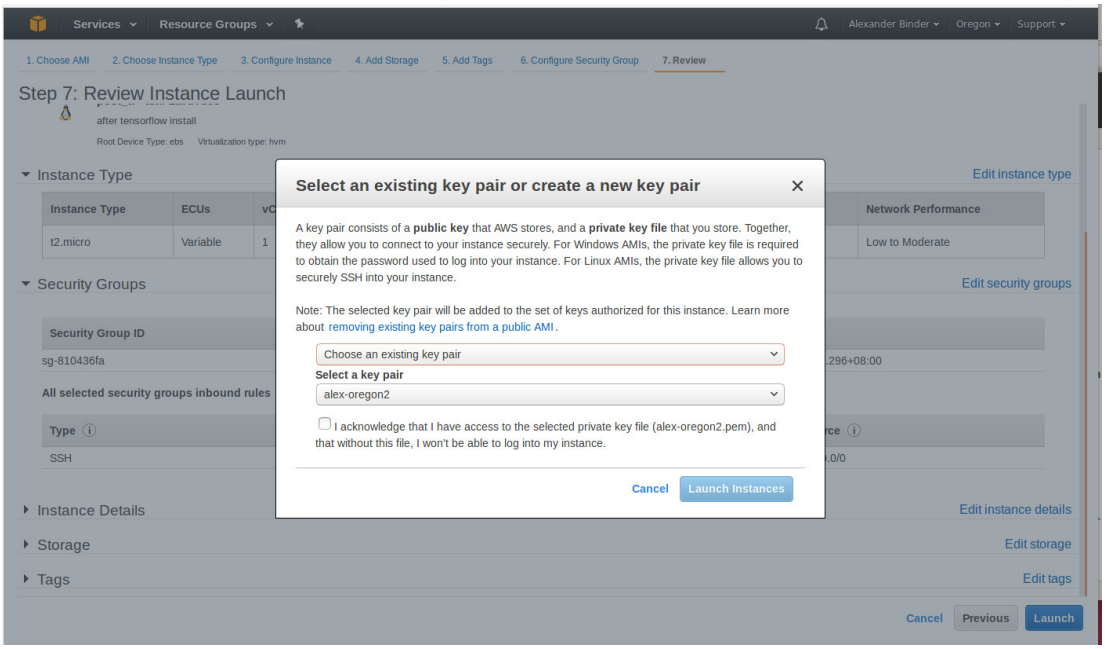
- next is step 3: configure instance details, you can keep all as is, 1 instance
- next is step 4: Add storage, you can keep it as it is.
- step5: add tags ... good to know what you are running actually when you would launch more than one instance.
- step6: add security group – you can limit the ip range from where it can be reached. Practical if you will access it only from a certain place. Note: your internet provider may assign you ips from some pool - you need to inquire that.
- step7: review daetails
- step8: launch and **important: get the keys!!!**

The first time you have to create a private key

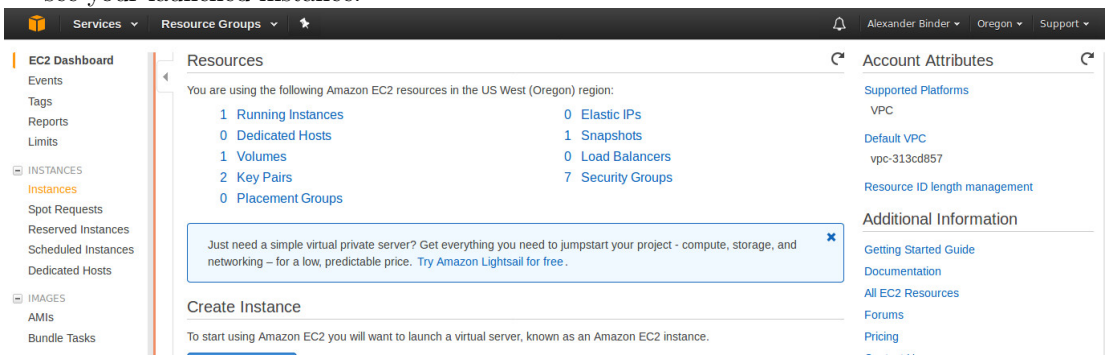


- store it safely somewhere, you will need it later again and again!!!

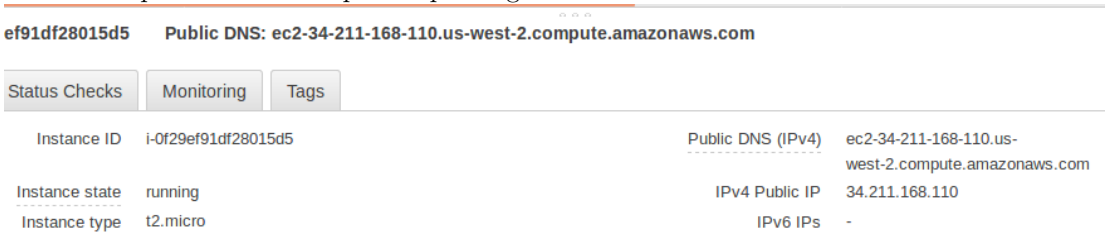
  the next time you need only to select a key (that you hopefully have stored, haha)



see your launched instance:



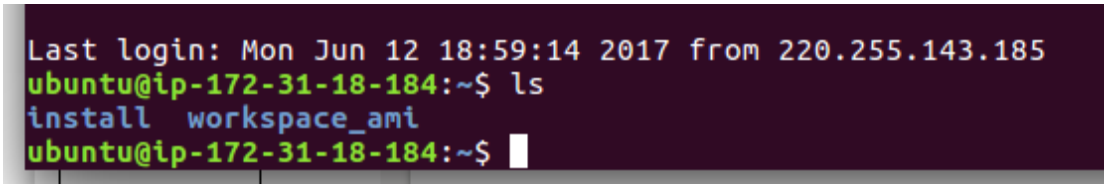
it has a public dns and a public ip to log in



Mac/Linux:

`ssh -i <pathtoyour private key> ubuntu@34.211.168.110` will log you onto the machine

Windows: PuTTY and WinSCP will help you
`http://ged.msu.edu/angus/tutorials/using-putty-on-windows.html`



take a look with `ls, ls -l, cd <dir>, cd ..` would bring you a directory back
Unixes have three nice properties – you never need to type too much:

- tab-key autocompletes paths and commands. if a single tab does nothing, then you have multiple choices, and a double tab shows them.
- pwd shows you the current path
- marking any text with right mouse button, then left-clicking soemwhere to place a cursor and then pressing middle mouse button allows to copy all marked text at the position of the current cursor, including long paths or commands. I never type long commands.
- key up, key down brings up a history of all commands. history -c deletes them (useful in case of a delete all like: rm -rf*)

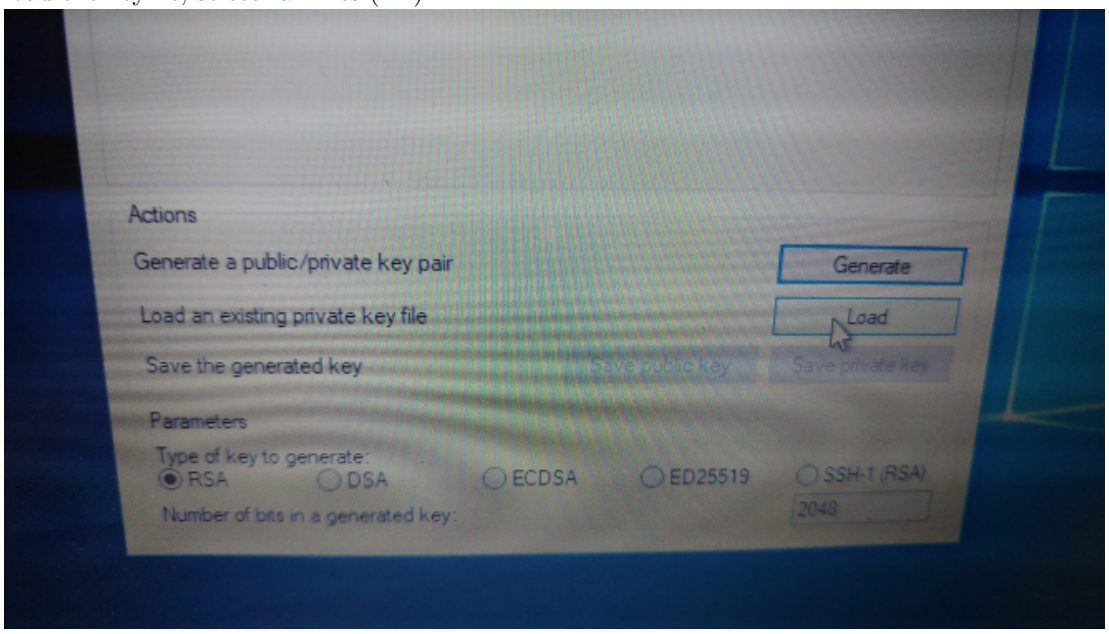
`workspace_ami/tensorflow.env/` contains a virtual environment `workspace_ami/codes` contains the code that loads the model weights and does finetuning. Proceed with your tasks. Crunch on a Tesla K80. Certainly not the slowest GPU in town.

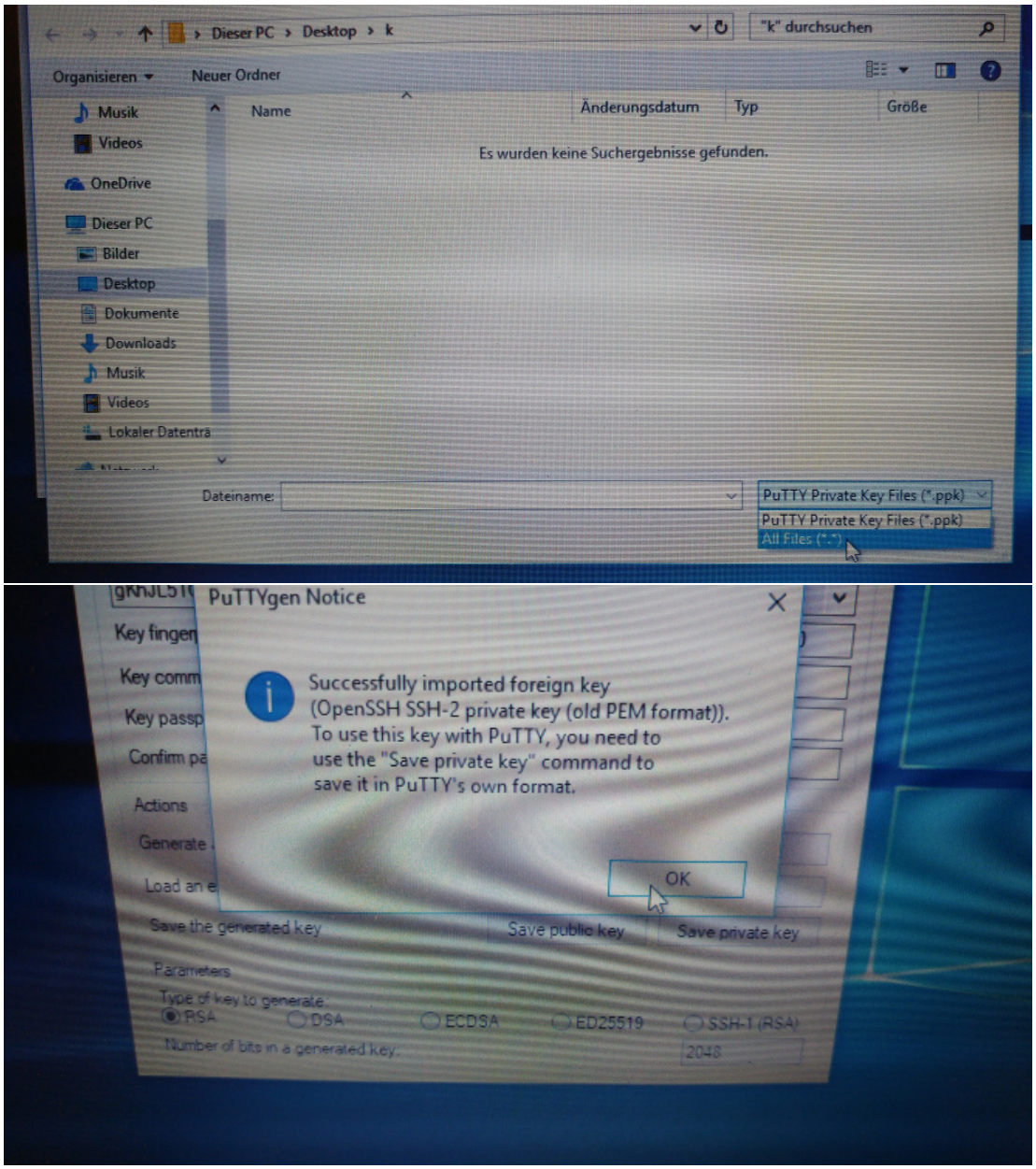
1.3 Access from Win 10

This is same for digital ocean and other providers of compute instances.

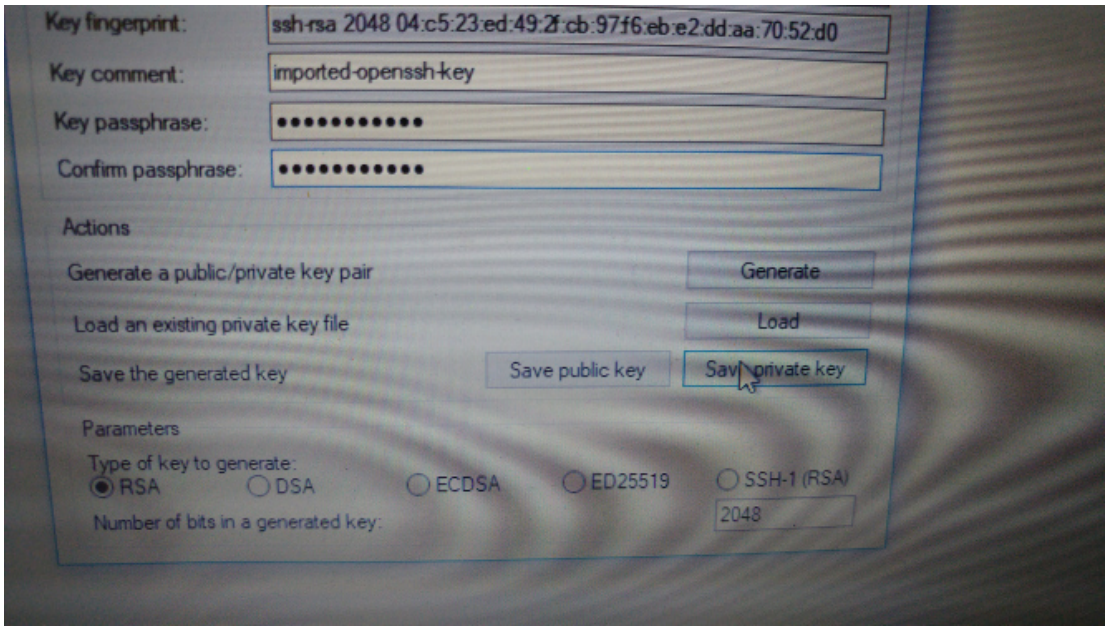
1. you need the private key in .pem format
2. install puTTY, this also installs aa key manager called pageant. you will need putty for ssh logins to the running instance
3. install winscp . you will need this for copying files here and there.
4. you need to convert the .pem key in putty format, so open puTTYgen

5. load the keyfile, select: all files (*.*)

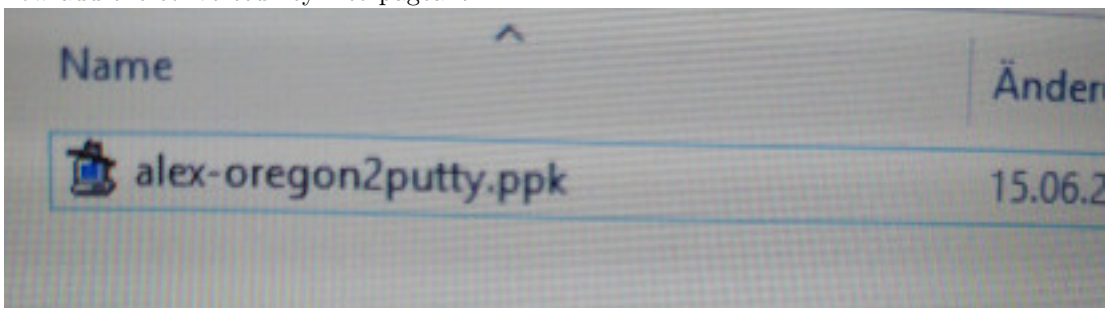


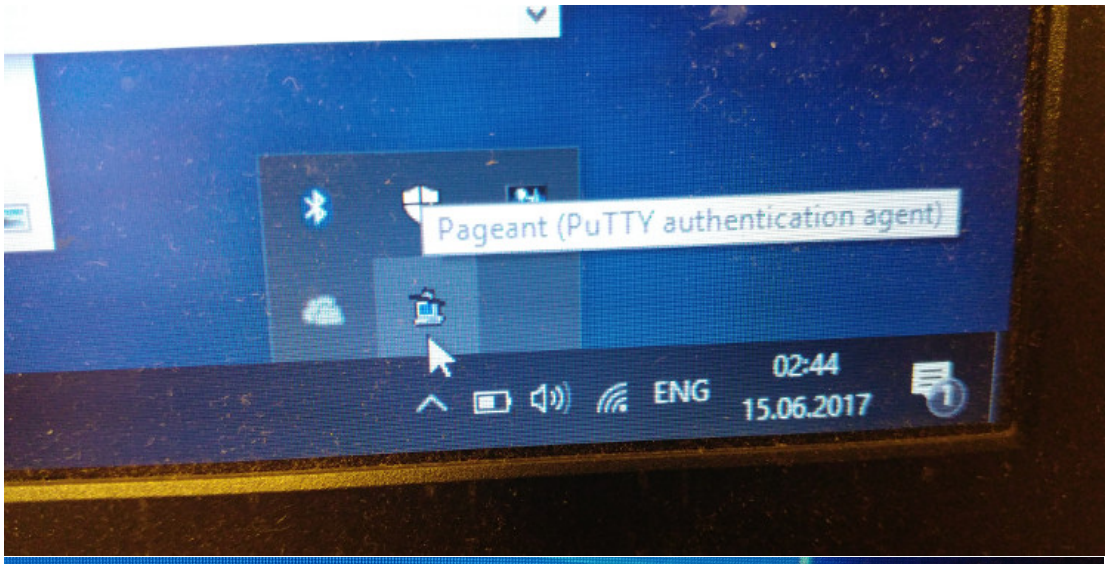


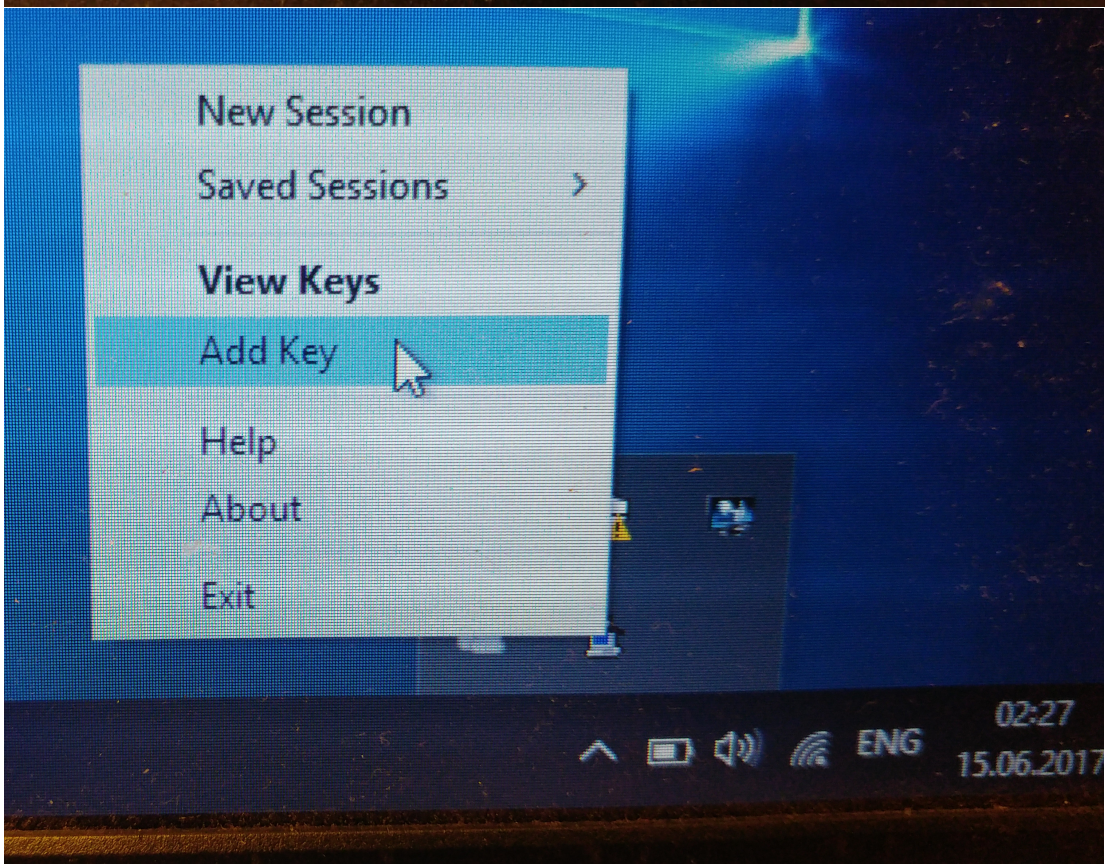
6. enter a key passphrase, and click on save imported key, you can give the key to be saved any name



7. now add the converted key into pageant

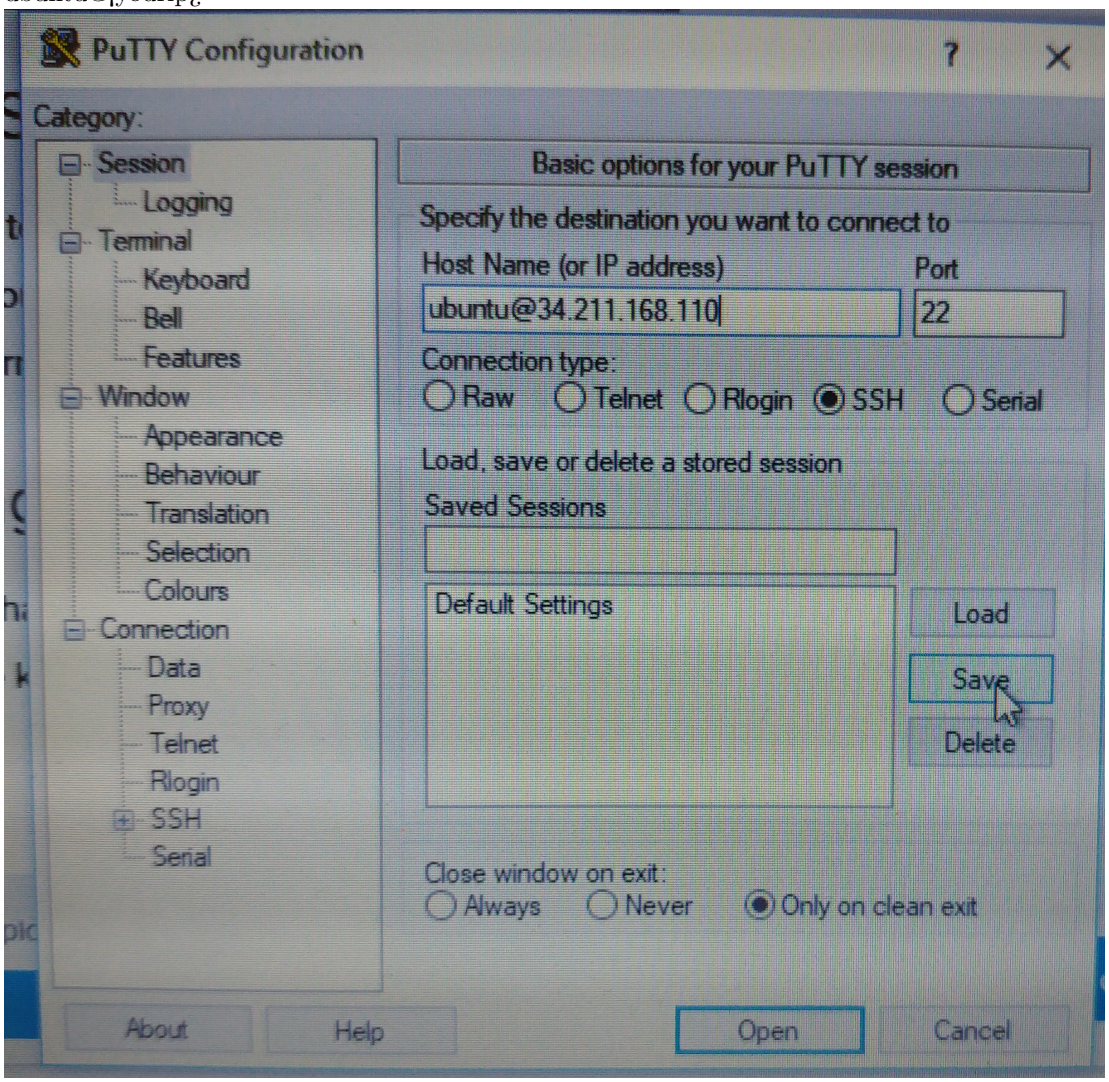



Pageant (PuTTY authentication agent)
ENG
02:44
15.06.2017

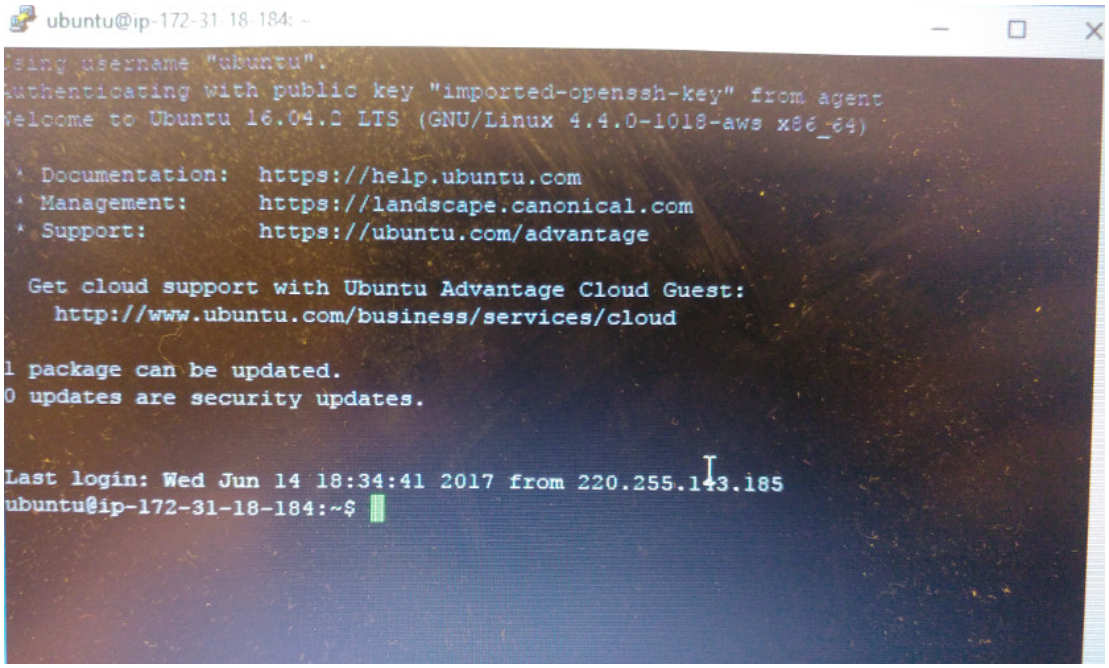

New Session
Saved Sessions
View Keys
Add Key
Help
About
Exit
ENG
02:27
15.06.2017

8. good news - when using puTTY and winscp, then these progs will automatically check pageant for added keys

9. now log in via putty: open putty, click on session (upper left), enter ubuntu@¡yourip¿

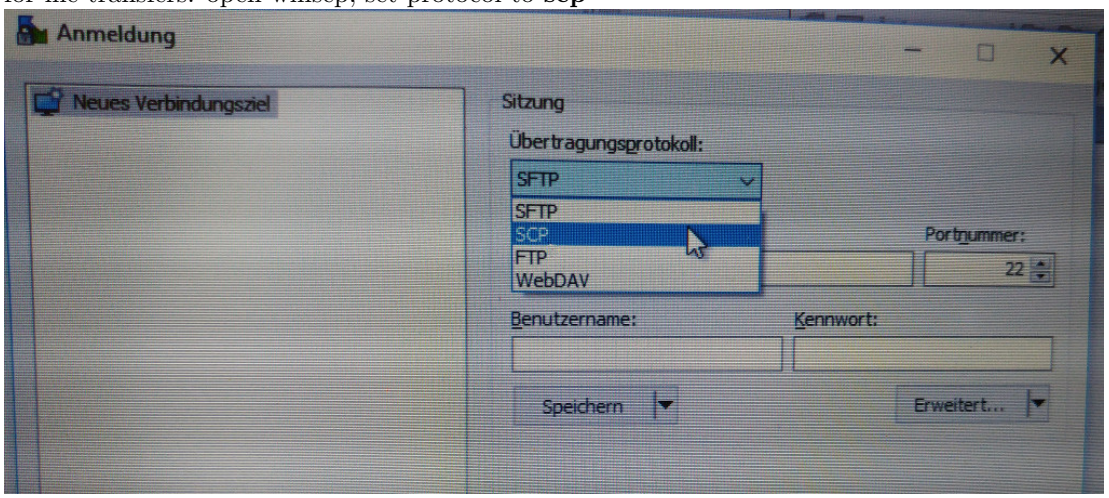


10. you can give it a name in saved sessions, but when you terminate, and relaunch it will be a new ip, so not really needed here. Now click on open, and you will log in

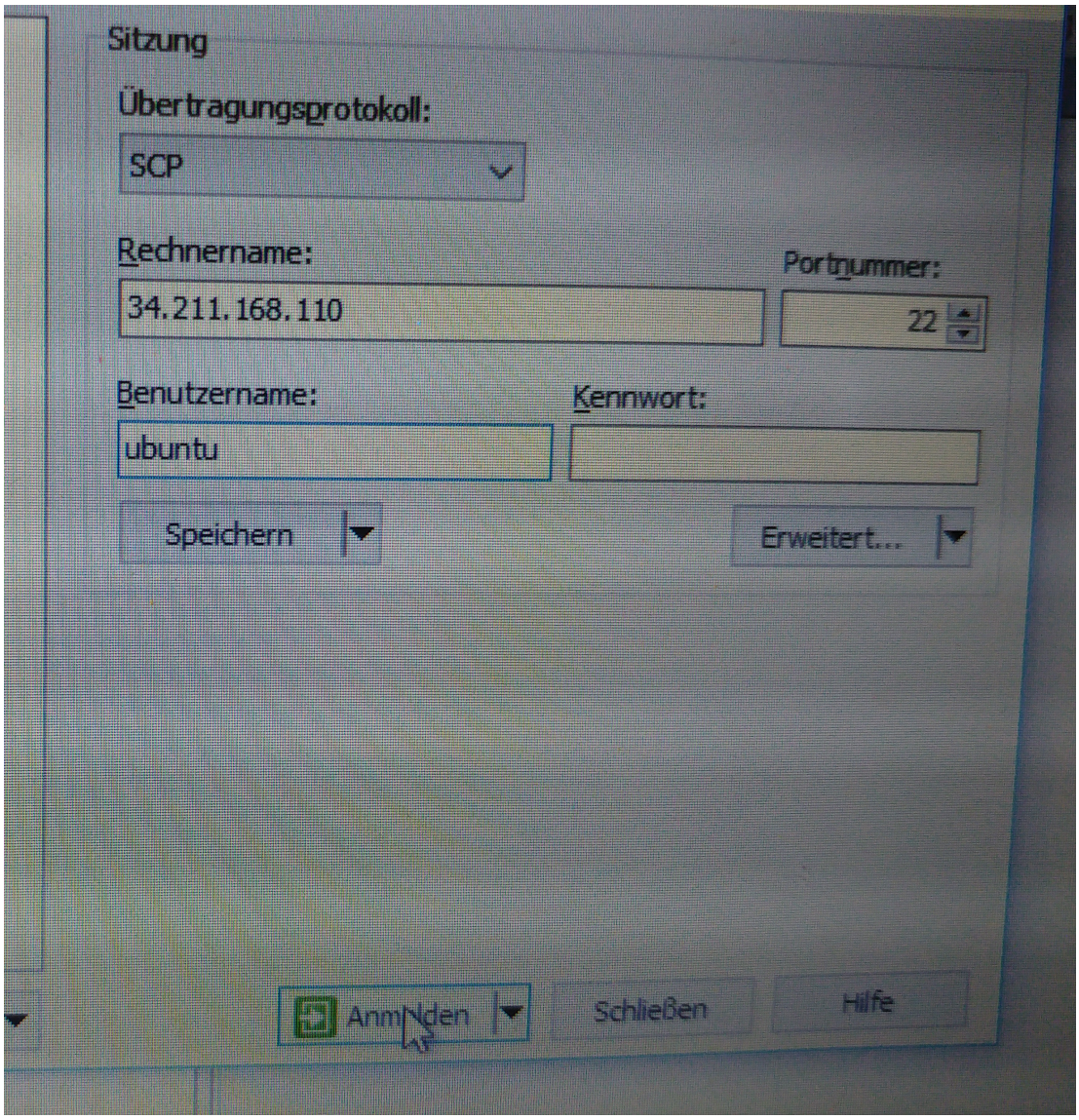


I should wipe the screen of my old notebook, no?

11. for file transfers: open winscp, set protocol to **scp**



12. enter ip and username in the respective fields, click on login ("anmelden") at the lower end of the window. DONE


Sitzung
Übertragungsprotokoll:
SCP
Rechnername:
34.211.168.110
Portnummer:
22
Benutzername:
ubuntu
Kennwort:
Speichern
Erweitert...
Anmelden
Schließen
Hilfe