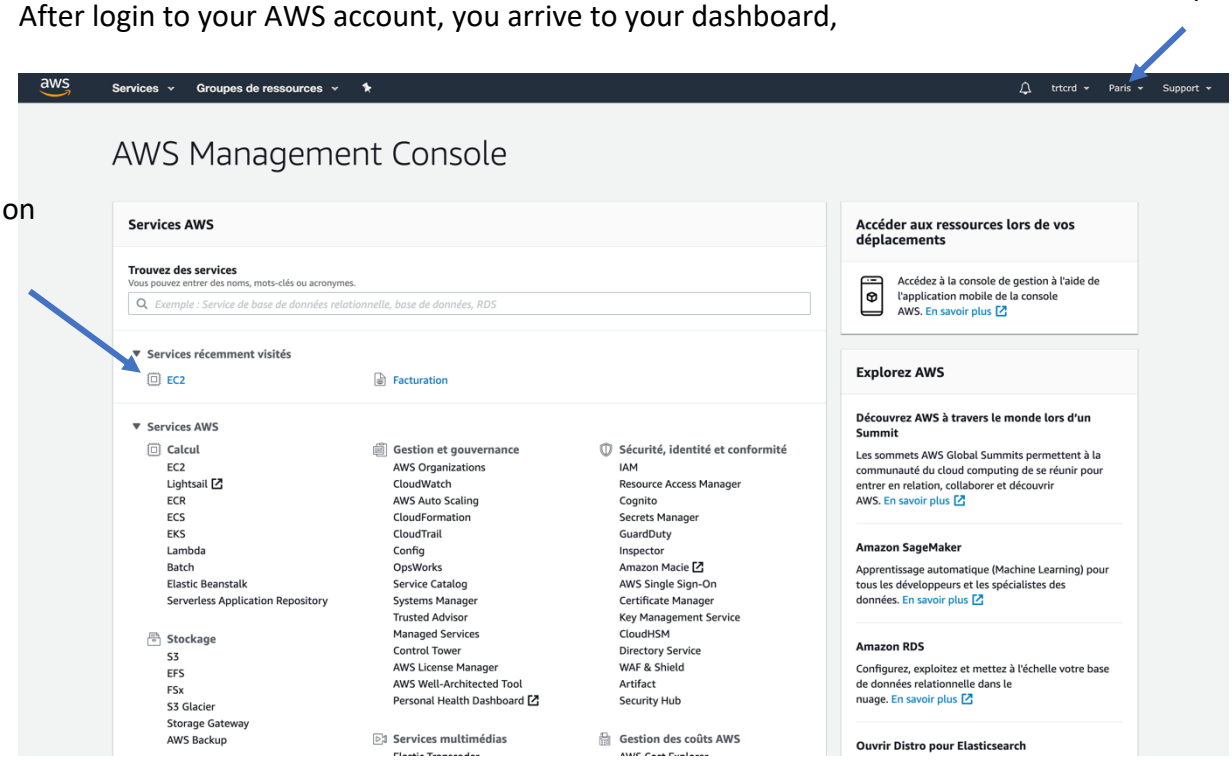
POGO workshop ML/AI – genomics tutorial

Launching the POGO AMI instance from AWS

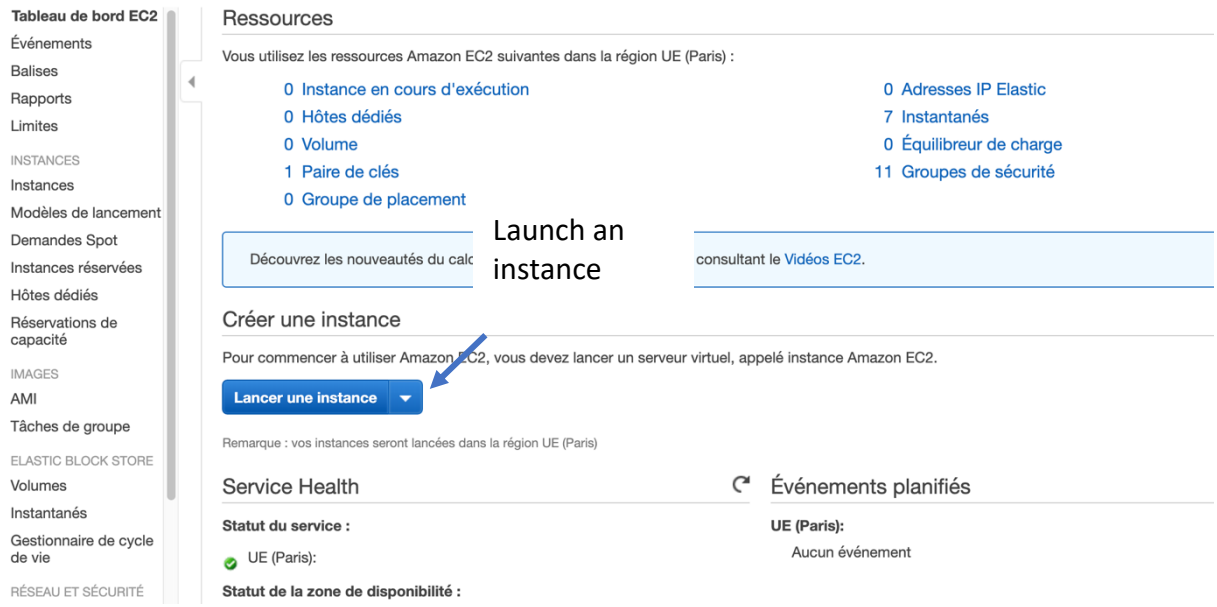
Need to be set to paris

After login to your AWS account, you arrive to your dashboard,



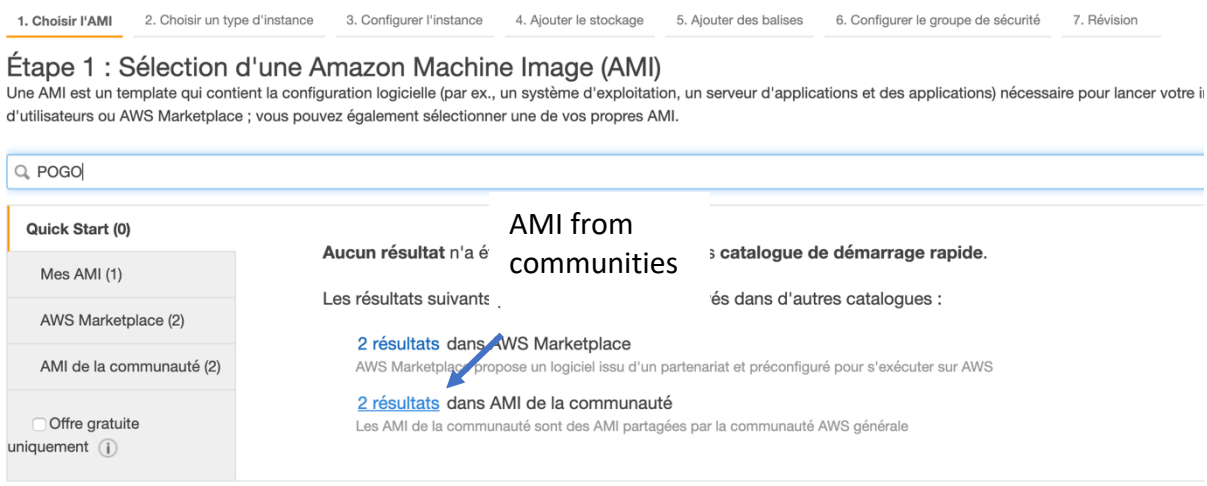
Click on EC2

Then launch an instance

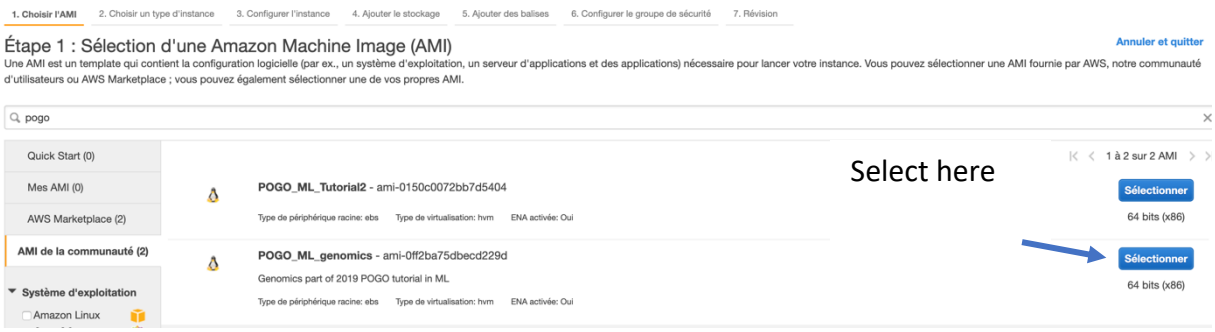


Launch an instance

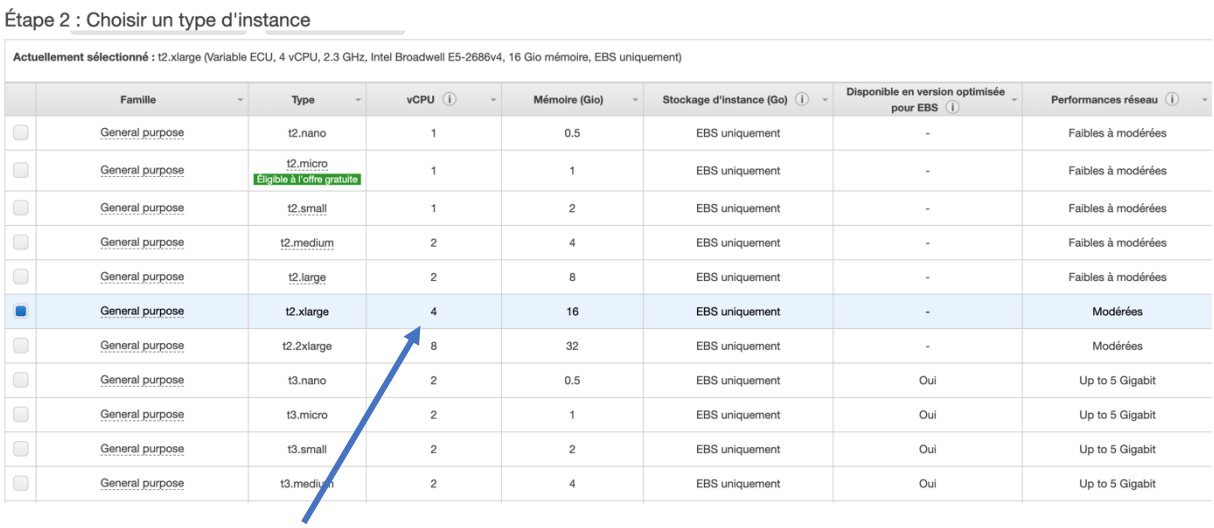
In the search field, type “POGO”, and click on the “AMI from the community”



Select the AMI called “POGO_ML_genomics“



Then you need to choose the compute power to deploy the AMI



	Famille	Type	vCPU	Mémoire (Gio)	Stockage d'instance (Go)	Disponible en version optimisée pour EBS	Performances réseau
☐	General purpose	t2.nano	1	0.5	EBS uniquement	-	Faibles à modérées
☐	General purpose	t2.micro Eligible à l'offre gratuite	1	1	EBS uniquement	-	Faibles à modérées
☐	General purpose	t2.small	1	2	EBS uniquement	-	Faibles à modérées
☐	General purpose	t2.medium	2	4	EBS uniquement	-	Faibles à modérées
☐	General purpose	t2.large	2	8	EBS uniquement	-	Faibles à modérées
☑	General purpose	t2.xlarge	4	16	EBS uniquement	-	Modérées
☐	General purpose	t2.2xlarge	8	32	EBS uniquement	-	Modérées
☐	General purpose	t3.nano	2	0.5	EBS uniquement	Oui	Up to 5 Gigabit
☐	General purpose	t3.micro	2	1	EBS uniquement	Oui	Up to 5 Gigabit
☐	General purpose	t3.small	2	2	EBS uniquement	Oui	Up to 5 Gigabit
☐	General purpose	t3.medium	2	4	EBS uniquement	Oui	Up to 5 Gigabit

For the tutorial, we will use 4 CPUs and 16 Go of RAM

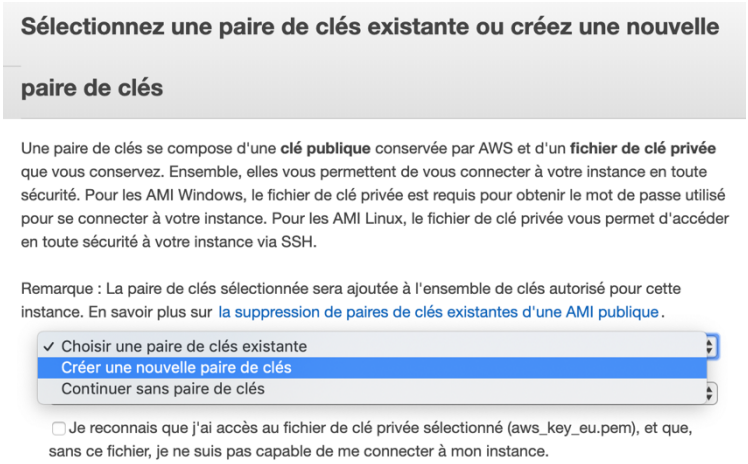
You will be brought to an overview of your instance, make sure to click on “modify security group”

For the tutorial, we will use 4 CPUs and 16 Go of RAM

Click on “add a rule” and select HTTP in the dropdown list

HTTP is to open RStudio server from internet browser

Now you will be prompted to create and download a key to connect to your instance



Create a key and keep it stored on your computer.

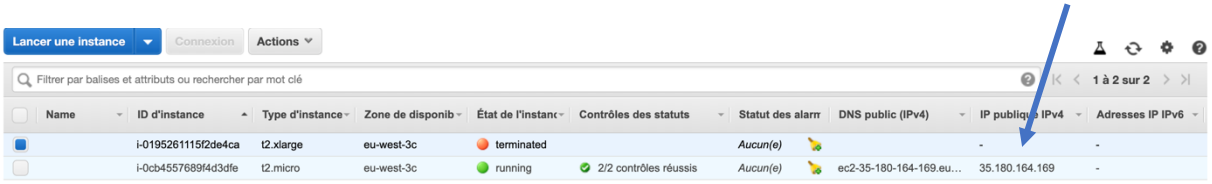
Hit launch and the instance will be spawned

Tutorial part 1: Predicting the ecological quality status from metabarcoding data.

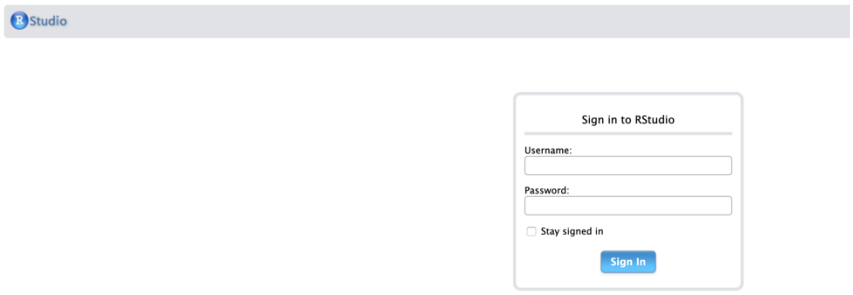
This part of the tutorial is done under the RStudio environment, accessible through an internet browser. The spawn instance runs RStudio in the background, and includes all the code and data to run.

To access it, locate the IP address of your instance, copy it and paste it in an internet browser tab.

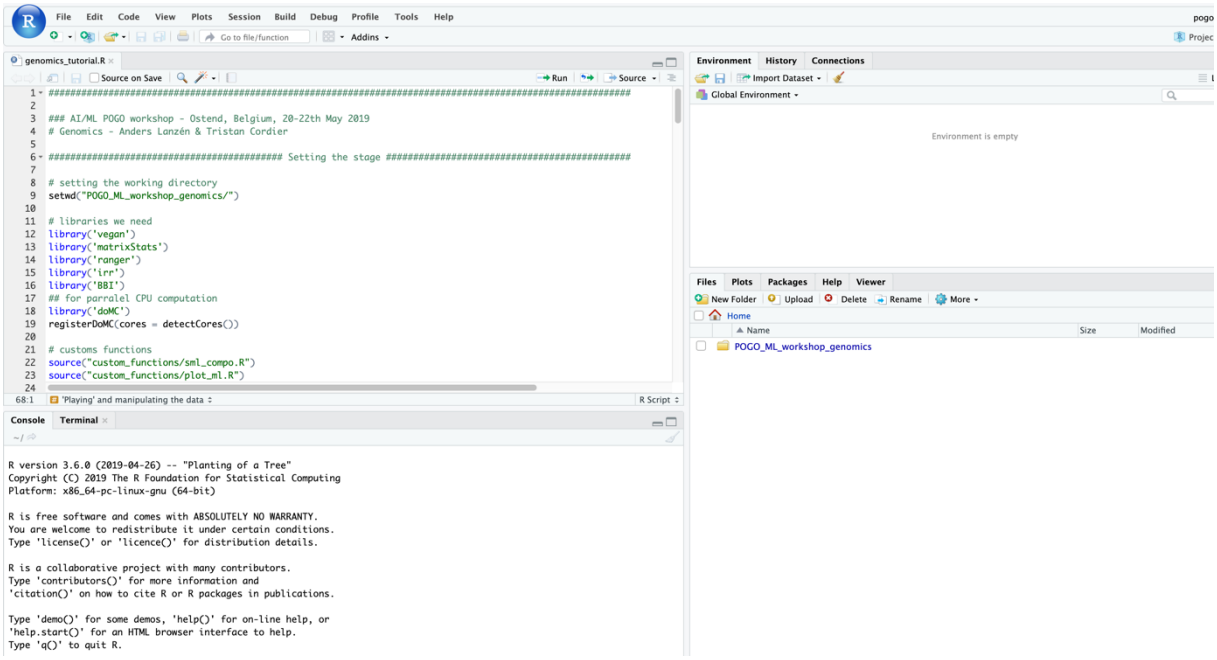
IP address to copy



You should be brought to the RStudio login page



Login: pogo
Password: pogo



Tutorial part 2: Trait prediction of MAGs.

This part of the tutorial is done under unix-like bash terminal. For windows users, you can use a windows ssh client, such as PuTTY. Follow this tutorial to sets things up: https://docs.aws.amazon.com/en_en/AWSEC2/latest/UserGuide/putty.html

For unix users, open a terminal from the same folder where the key is located.
You can connect to the remote instance by typing :

ssh -i <your_key.pem> ubuntu@<IP_OF_YOUR_INSTANCE>

Your will asked to confirm that this is a trustful host:

```
The authenticity of host '35.180.120.160 (35.180.120.160)' can't be established.
ECDSA key fingerprint is SHA256:xWbRQS1dJW6i71y/uavSwEc0uyG3ioCop1pAkwqDc34.
Are you sure you want to continue connecting (yes/no)?
```

Confirm by typing 'yes' and you will be logged to your remote instance.

```
The authenticity of host '35.180.120.160 (35.180.120.160)' can't be established.
ECDSA key fingerprint is SHA256:xWbRQS1dJW6i71y/uavSwEc0uyG3ioCop1pAkwqDc34.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '35.180.120.160' (ECDSA) to the list of known hosts.
Welcome to Ubuntu 18.04.2 LTS (GNU/Linux 4.15.0-1039-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage

  System information as of Tue May 21 12:15:16 UTC 2019

  System load:  0.02              Processes:              122
  Usage of /:   67.4% of 9.63GB   Users logged in:        0
  Memory usage: 1%                IP address for eth0:    172.31.32.102
  Swap usage:   0%                IP address for docker0: 172.17.0.1

 * Ubuntu's Kubernetes 1.14 distributions can bypass Docker and use containerd
   directly, see https://bit.ly/ubuntu-containerd or try it now with

     snap install microk8s --classic

  Get cloud support with Ubuntu Advantage Cloud Guest:
    http://www.ubuntu.com/business/services/cloud

6 packages can be updated.
0 updates are security updates.


Last login: Fri May 17 13:23:55 2019 from 150.241.251.14
ubuntu@ip-172-31-32-102:~$
```