

How to connect AWS EC2 Instances

What is Amazon Web Services (AWS) ?

Amazon Web Services(AWS) is a cloud service from Amazon, which provides services in the form of building blocks, these building blocks can be used to create and deploy any type of application in the cloud.



Image Source: medium.com

Logging into AWS EC2

1. Download `course_EC2_01.pem` (linux/Mac users) or `course_EC2_01.ppk` (Windows users) - key file from your email and store it in our local machine.
2. Receive your aws public IPs DNS - before each Lab session starts, ie
`ec2-3-86-225-192.compute-1.amazonaws.com`



Image Source: aws.com

Logging into AWS (Linux and Mac users)

3. Open Terminal

4. change permission to pem key

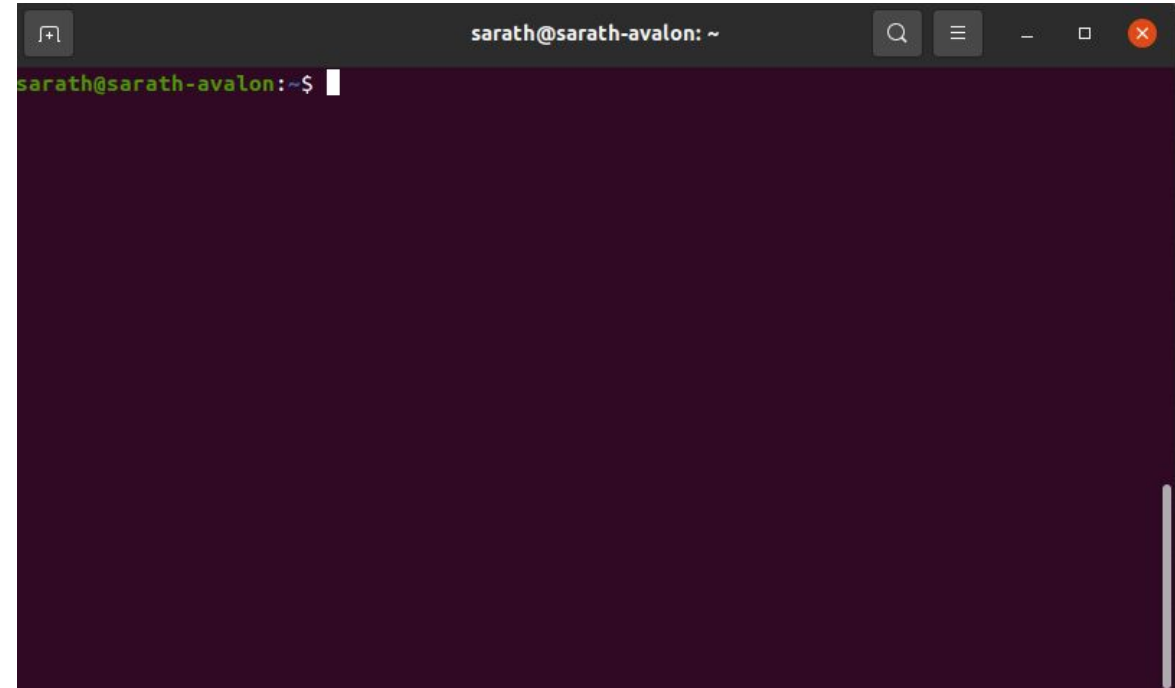
```
chmod 400 Downloads/course_EC2_01.pem
```

5. SSH (Secure Shell) connect to aws

```
EC2 instances i.e ssh -i  
Downloads/course_EC2_01.pem  
ubuntu@ec2-3-86-225-192.compute-1.amazo  
naws.com
```

6. After logged into aws, then activate the working environment

```
source ~/.bashrc
```



SSH connection & Activate the env

```
sarath@sarath-avalon:~$ ssh -i Downloads/course_EC2_01.pem ubuntu@ec2-3-86-225-192.compute-1.amazonaws.com
The authenticity of host 'ec2-3-86-225-192.compute-1.amazonaws.com (3.86.225.192)' can't be established.
ECDSA key fingerprint is SHA256:b1XLpEQF6ogoEVt2txZNH1mR3kVQIYXPS17p244dqDU.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-3-86-225-192.compute-1.amazonaws.com,3.86.225.192' to the list of known hosts.
Welcome to Ubuntu 20.04.3 LTS (GNU/Linux 5.15.0-46-generic x86_64)

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

System information as of Wed Jan 19 11:05:44 UTC 2022

System load:  0.0               Processes:            219
Usage of /:   80.2% of 193.82GB  Users logged in:     0
Memory usage: 0%               IPv4 address for ens5: 172.31.84.105
Swap usage:   0%

23 updates can be applied immediately.
To see these additional updates run: apt list --upgradable

Last login: Tue Jan 18 14:31:47 2022 from 130.229.54.36
ubuntu@ip-172-31-84-105:~$ source .bashrc
(base) ubuntu@ip-172-31-84-105:~$
```

PATH to pem key file

username: ubuntu
EC2 DNS name

Logging into AWS (Windows users only)

3. Open Putty

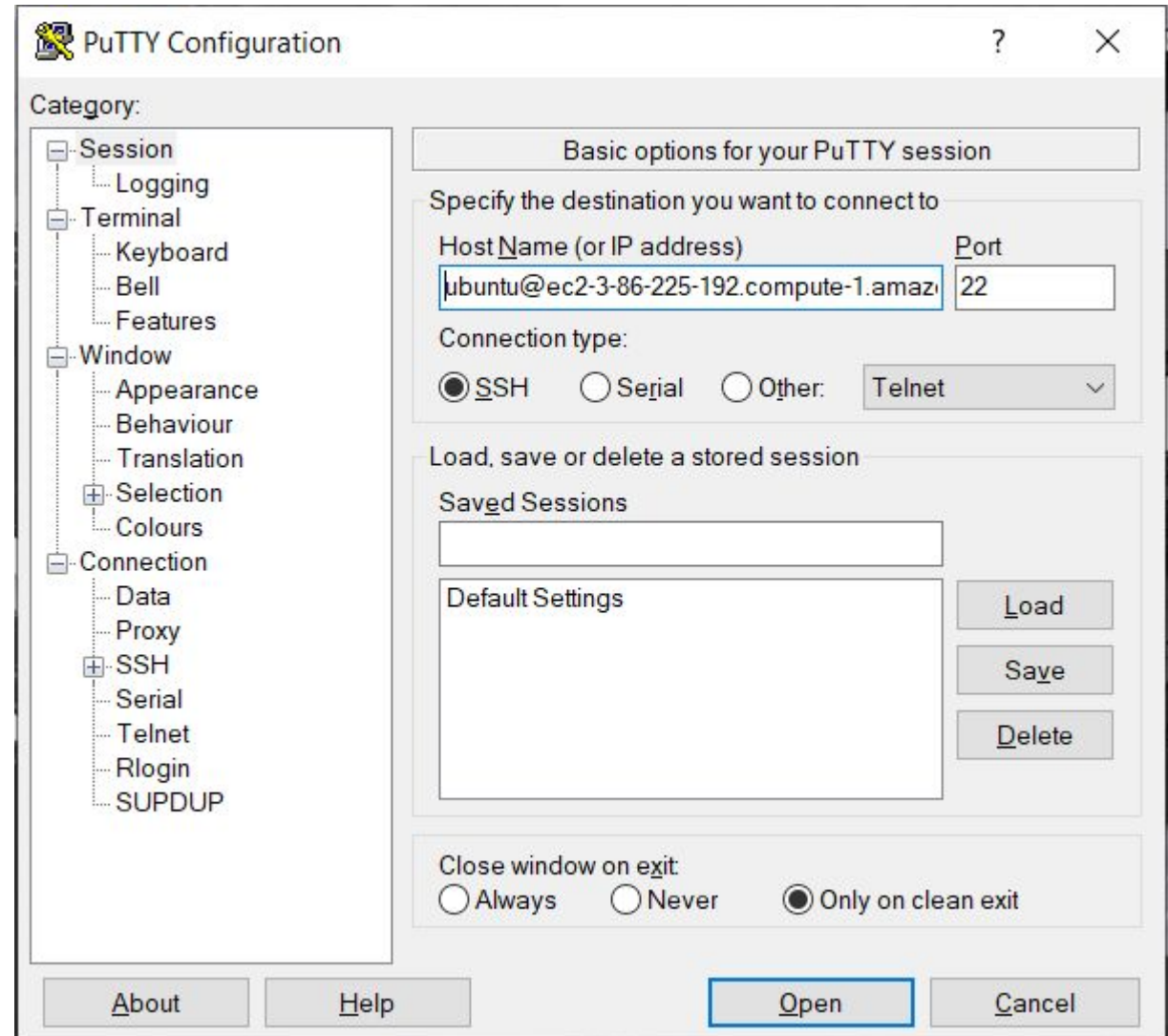
4. Configure Putty

- Choose Session, In the Host Name box, type

`my-instance-user-name@my-instance-public-dns-name`

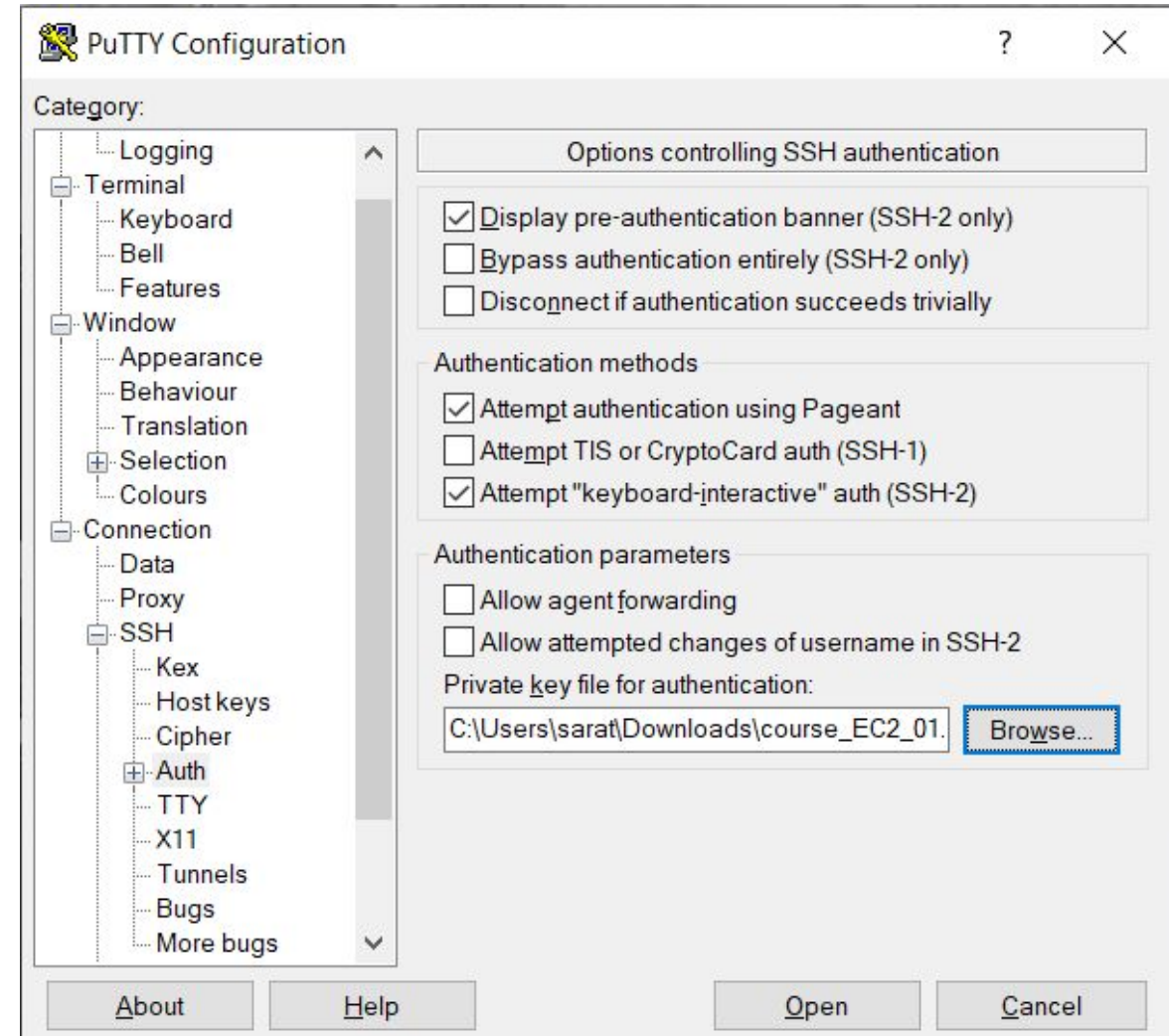
`i.e`
`ubuntu@ec2-3-86-225-192.compute-1.amazonaws.com`

- Ensure that the Port value is 22.
- Under Connection type, select SSH.



Logging into AWS (Windows users only)

- Expand SSH and Select Auth
- Browse the ppk file `course_EC2_01.ppk`
- Click open
- There will be a pop-up, click Accept

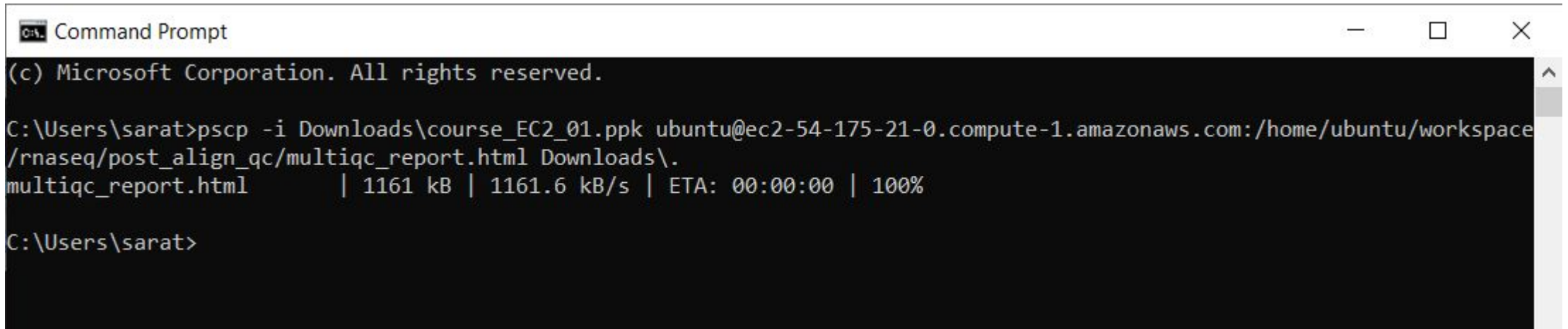


Logging into AWS (Windows users only)

```
ubuntu@ip-172-31-84-105: ~  
Using username "ubuntu".  
Authenticating with public key ""  
Welcome to Ubuntu 20.04.3 LTS (GNU/Linux 5.11.0-1025-aws x86_64)  
  
* Documentation:  https://help.ubuntu.com  
* Management:    https://landscape.canonical.com  
* Support:        https://ubuntu.com/advantage  
  
System information as of Wed Jan 19 16:31:04 UTC 2022  
  
System load:  0.44           Processes:            233  
Usage of /:   80.2% of 193.82GB Users logged in:          0  
Memory usage: 0%           IPv4 address for ens5: 172.31.84.105  
Swap usage:   0%  
  
* Ubuntu Pro delivers the most comprehensive open source security and  
  compliance features.  
  
https://ubuntu.com/aws/pro  
  
23 updates can be applied immediately.  
To see these additional updates run: apt list --upgradable  
  
Last login: Wed Jan 19 11:05:45 2022 from 213.89.166.44  
ubuntu@ip-172-31-84-105:~$ source ~/.bashrc  
(base) ubuntu@ip-172-31-84-105:~$
```


Transfer files from AWS server to your local machine

Use pscp, for windows users.



```
Command Prompt
(c) Microsoft Corporation. All rights reserved.

C:\Users\sarat>pscp -i Downloads\course_EC2_01.ppk ubuntu@ec2-54-175-21-0.compute-1.amazonaws.com:/home/ubuntu/workspace/rnaseq/post_align_qc/multiqc_report.html Downloads\multiqc_report.html | 1161 kB | 1161.6 kB/s | ETA: 00:00:00 | 100%

C:\Users\sarat>
```