Pract 1-Infrastructure as a service

Writeup:

1.Cloud Computing architecture

Cloud Computing architecture Cloud architecture consists of a front end and back end. The front end is the client-side interface. The back end consists of the cloud service provider's data centers, servers, storage and applications. A central server administers the system, monitoring traffic and client demands to ensure quality of service. The underlying hardware infrastructure is distributed across various servers and locations

2.IAAS

Infrastructure as a Service (IaaS) provides access to fundamental computing resources such as servers, storage, networks and operating systems over the internet. The cloud provider owns and maintains the physical infrastructure and delivers these resources to customers on-demand.

Why IAAS??

• Flexibility - IaaS provides highly scalable and flexible computing resources that can be provisioned and decommissioned on-demand based on workload needs. This is useful for spiky or unpredictable workloads.

• Lower costs - With IaaS, organizations pay only for the infrastructure resources they use without having to purchase and maintain their own hardware. This eliminates capital expenditures and reduces costs.

3.AWS

Amazon Web Services offers a broad set of global cloud-based products including compute, storage, databases, analytics, networking, mobile, developer tools, management tools, IoT, security, and enterprise applications: on-demand, available in seconds, with pay-as-you-go pricing. From data warehousing to deployment tools, directories to content delivery, over 200 AWS services are available.

4.EC2

Amazon Elastic Compute Cloud (EC2) provides scalable virtual servers that can be launched and terminated on-demand. Key features include:

1. Multiple instance types for varying compute, memory and storage needs

2. Auto scaling and load balancing

3. High availability within and across data centers

4. Secure network connectivity options and access controls

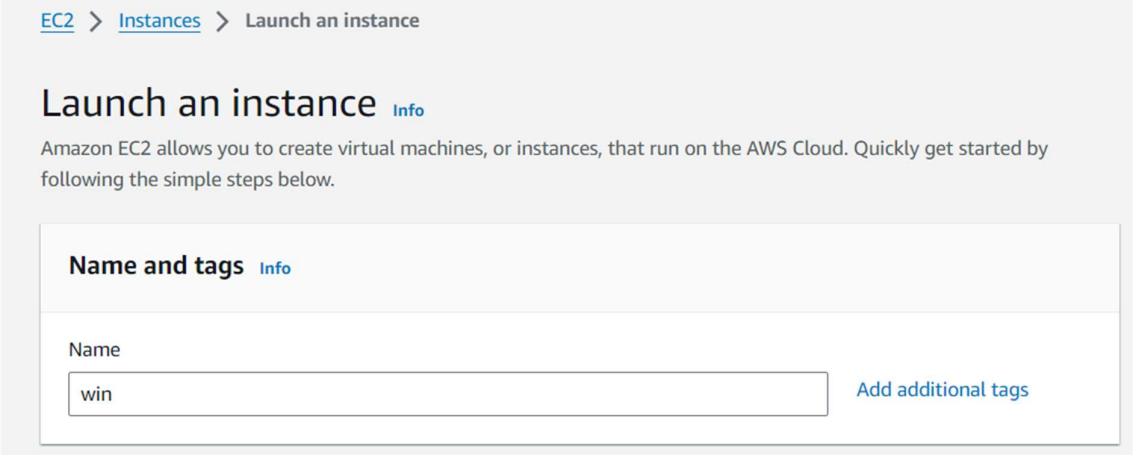
5. Integrated with other AWS services

6. Pay as you go pricing based on instance hours used

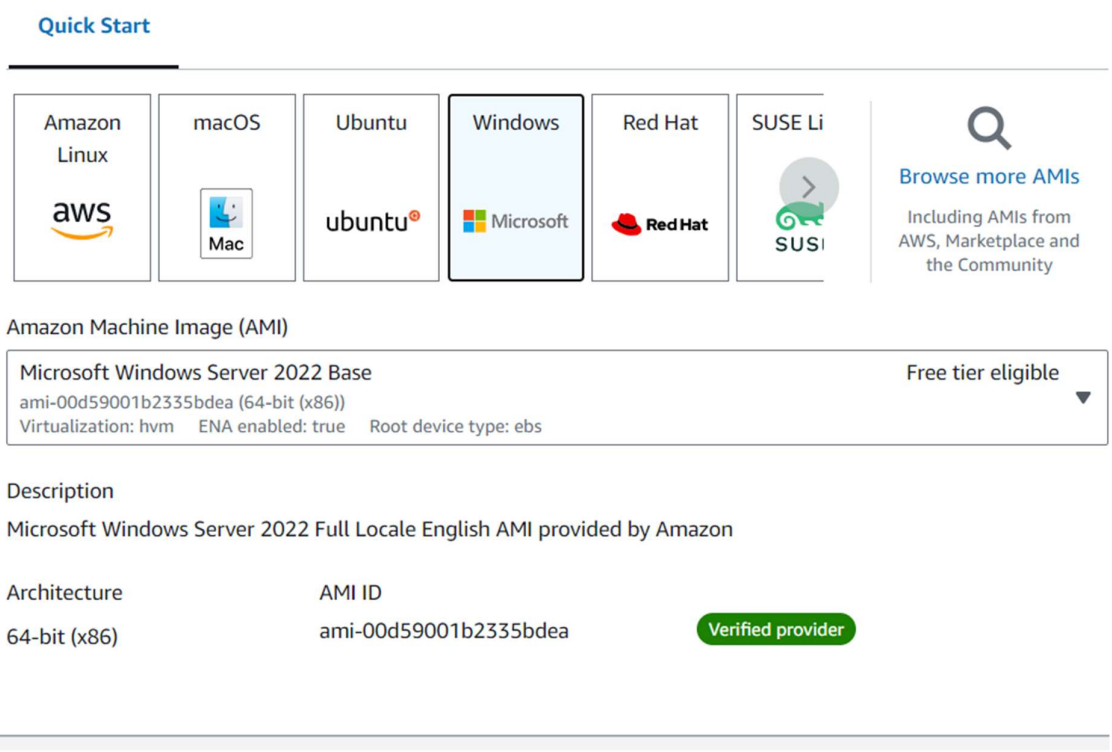
Implementing the windows machine using AWS EC2

Go to the AWS console home, select All Services and select EC2 and select launch instance

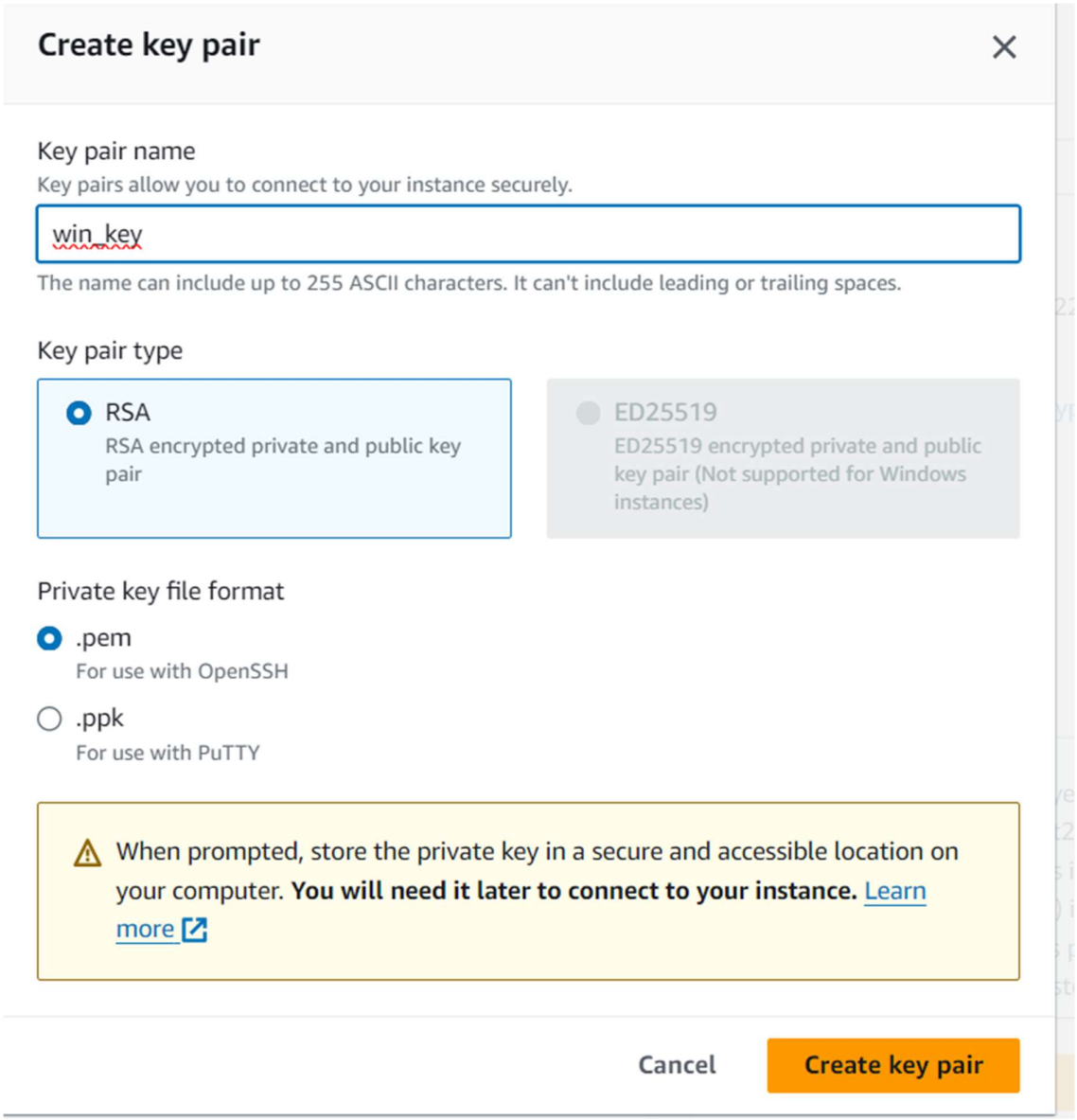
Windows



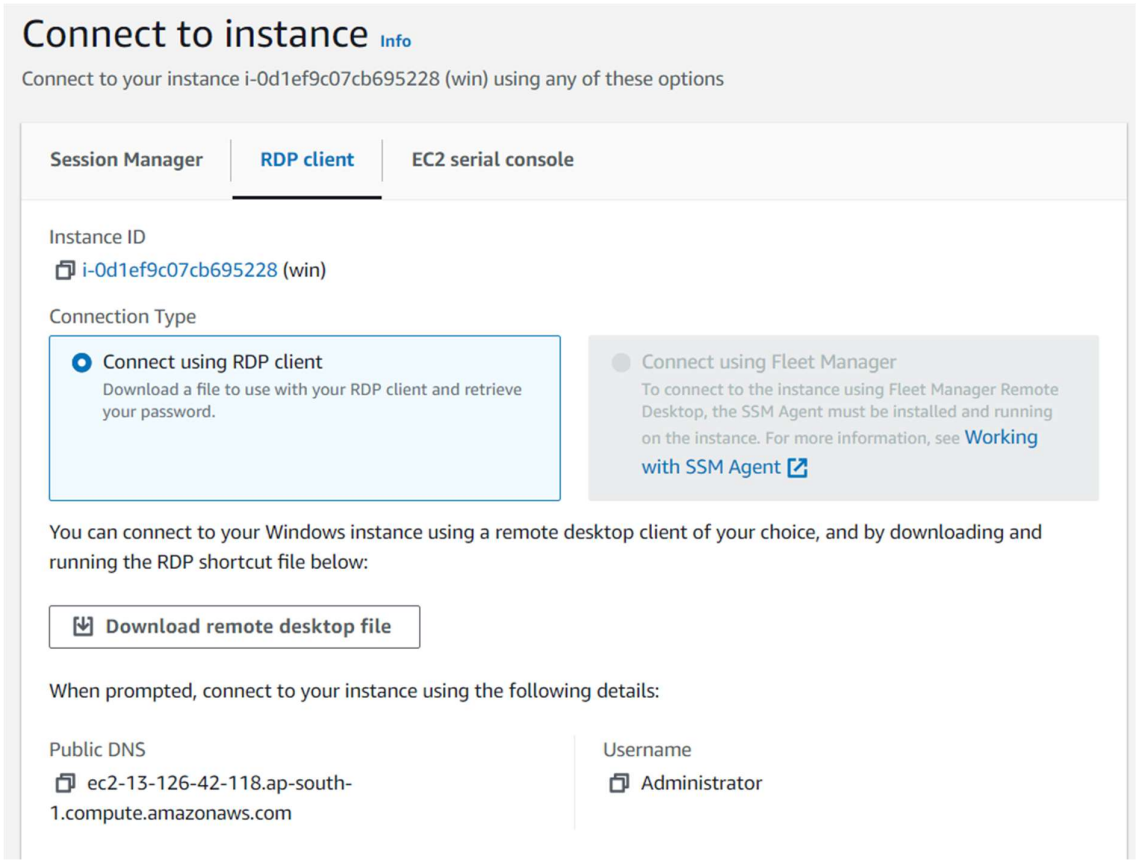
Select windows as application after naming the application



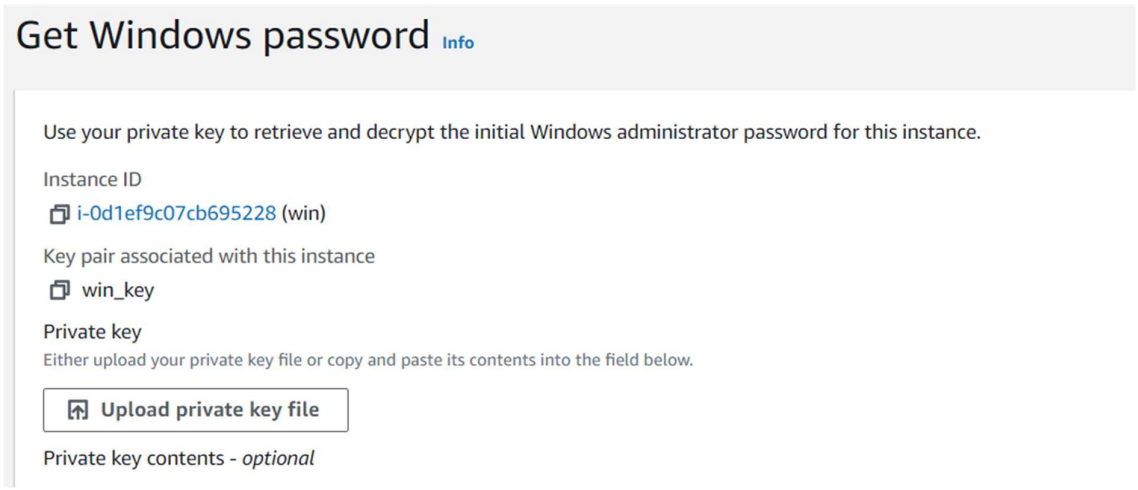
Create a new key pair and download the .pem file



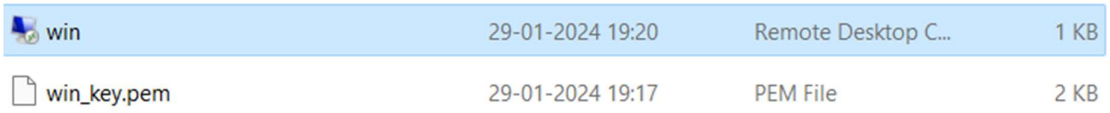
Save the remote desktop file and launch the instance



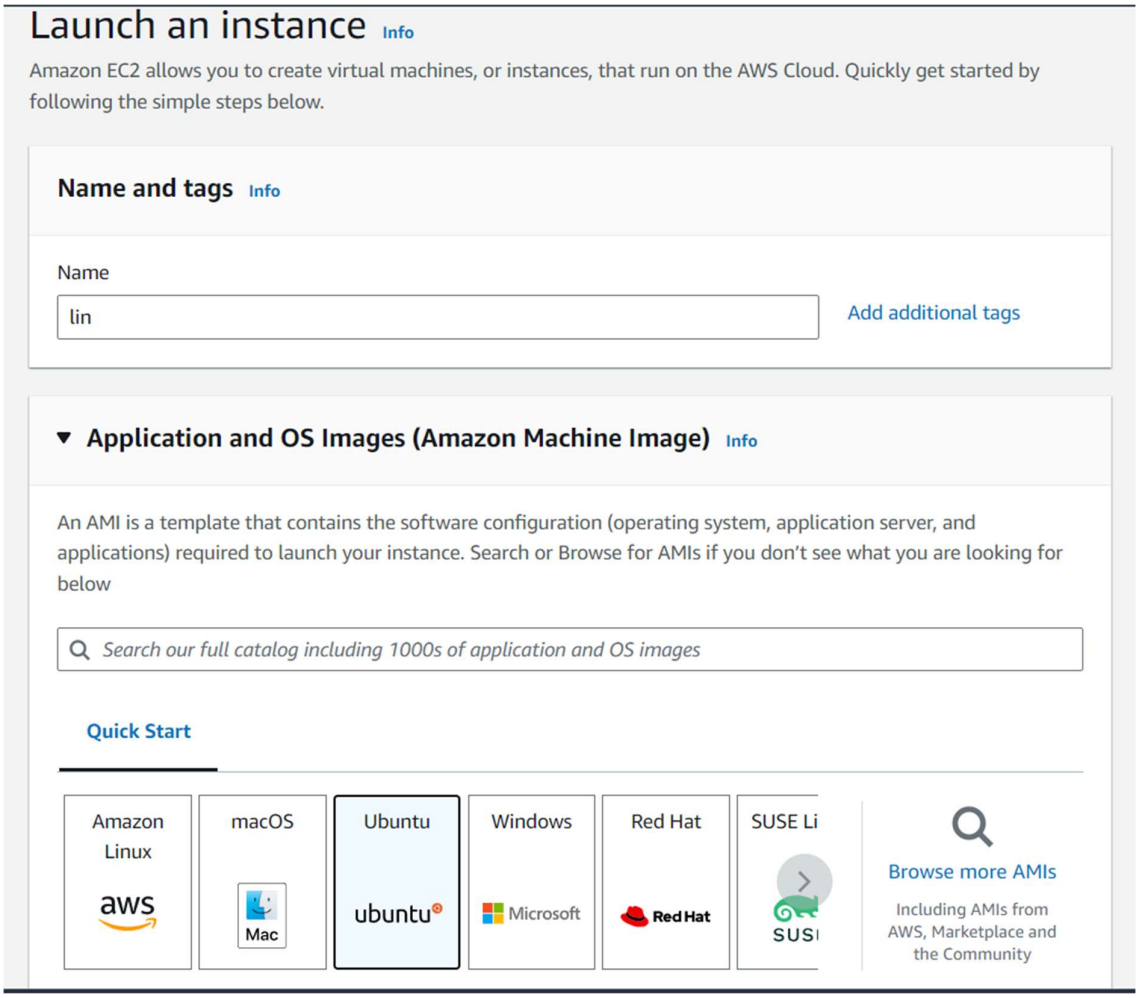
Upload the .pem file

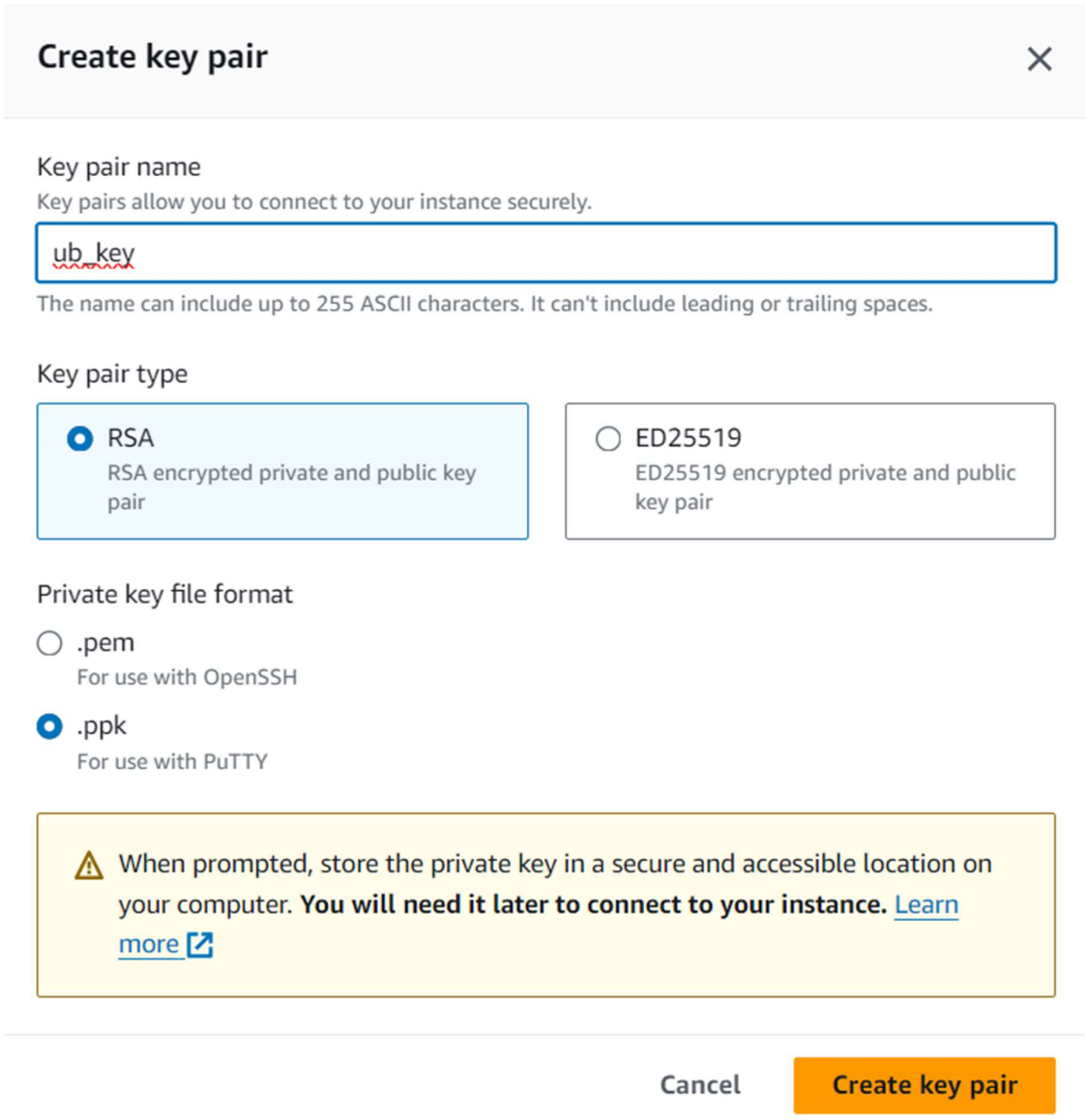


Open the file from downloads folder and you are ready to go



Ubuntu





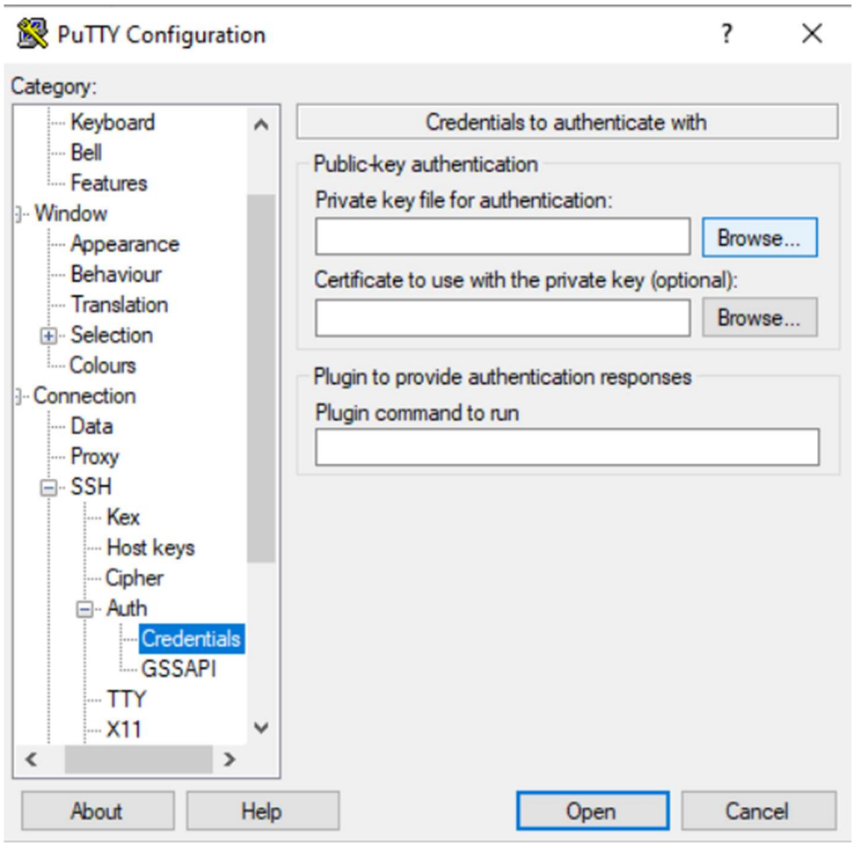
Download putty

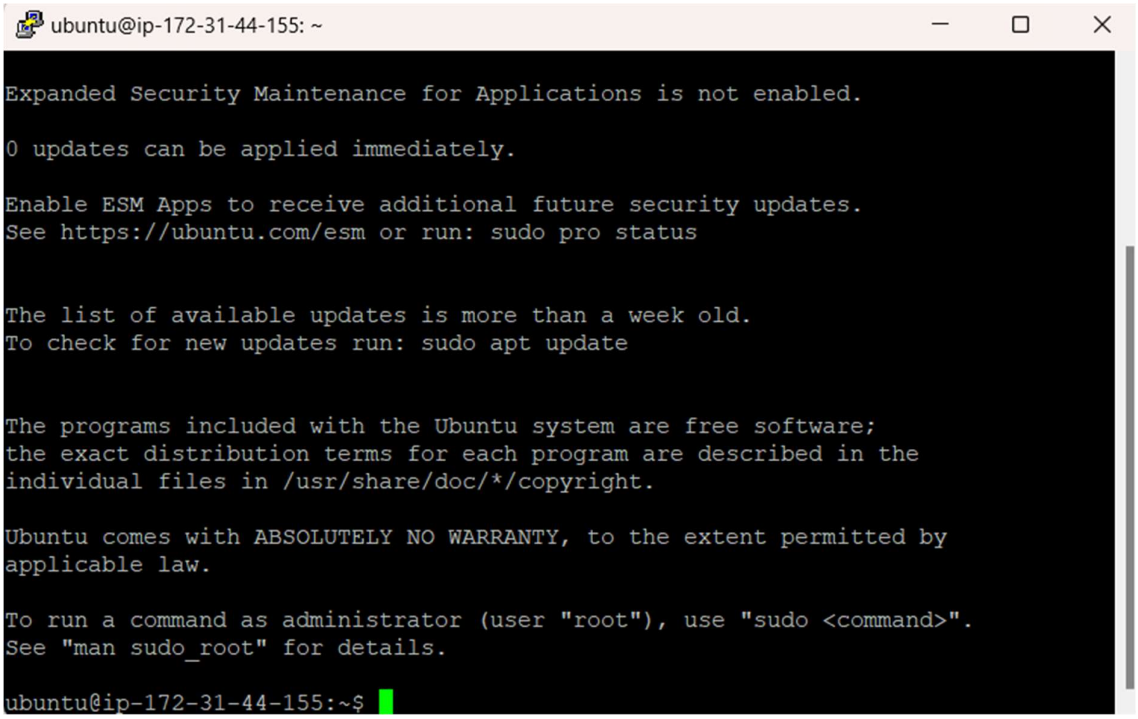
`putty.exe` (the SSH and Telnet client itself)

64-bit x86:	`putty.exe`	(signature)
64-bit Arm:	`putty.exe`	(signature)
32-bit x86:	`putty.exe`	(signature)

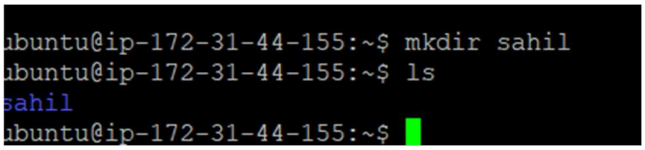
Open putty and paste the IP address of instance

Select auth then upload the key in credentials

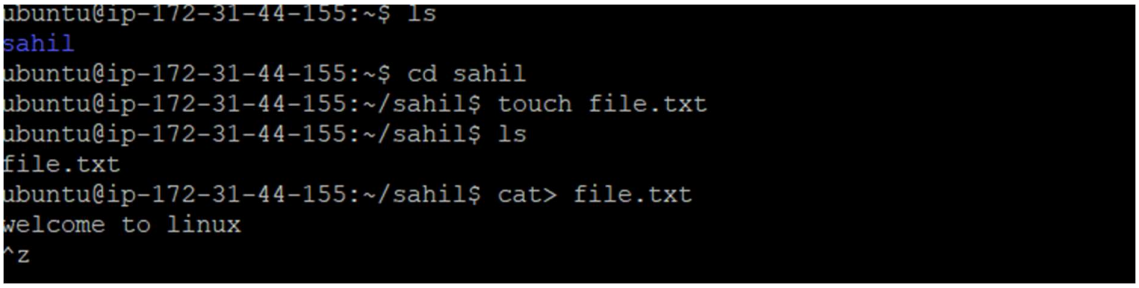




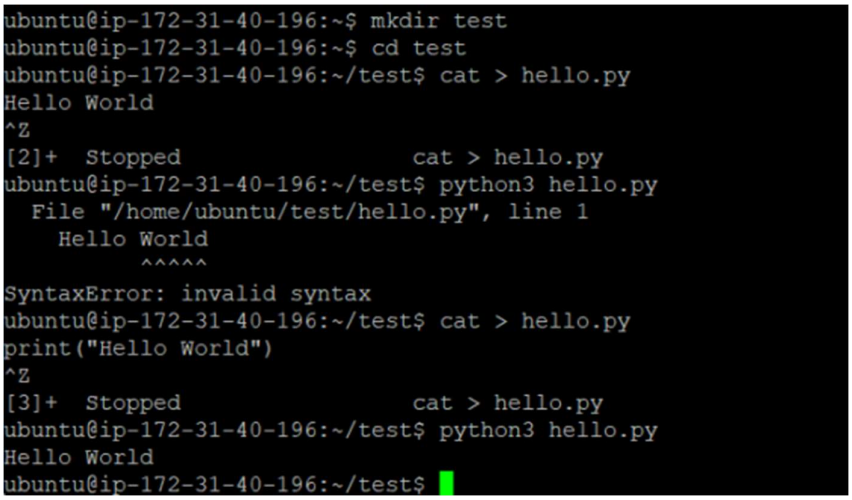
Make a directory



Run basic linux commands



Run a python code


ubuntu@ip-172-31-40-196:~$ mkdir test
ubuntu@ip-172-31-40-196:~$ cd test
ubuntu@ip-172-31-40-196:~/test$ cat > hello.py
Hello World
^Z
[2]+ Stopped   cat > hello.py
ubuntu@ip-172-31-40-196:~/test$ python3 hello.py
  File "/home/ubuntu/test/hello.py", line 1
    Hello World
          ^^^^^
SyntaxError: invalid syntax
ubuntu@ip-172-31-40-196:~/test$ cat > hello.py
print("Hello World")
^Z
[3]+ Stopped   cat > hello.py
ubuntu@ip-172-31-40-196:~/test$ python3 hello.py
Hello World
ubuntu@ip-172-31-40-196:~/test$