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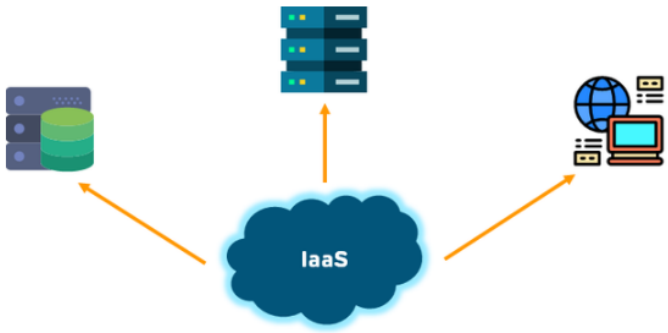
Lab – 1, AWS EC2

1. **Describe IaaS**

   IaaS is one of the main cloud computing models. IaaS – Infrastructure as a service. It offers pay-as-you-go infrastructure for a company. That is the most basic form of cloud computing.

   With IaaS, a client rents a variety of infrastructure components such as data centres, servers, cloud storage, and networking solutions from a provider. Basically, IaaS offers access versus ownership. An IaaS provider takes responsibility for the infrastructure, whereas users are in charge of installing, managing, maintaining, and supporting their apps and operating systems.



Few of the key features of IaaS are as follows:

Resources are highly scalable
Cost depends on the consumption
A single piece of hardware serves many users
The client has complete control over the architecture
The Pros of using IaaS are:

The most flexible and dynamic model
Cost-effective, pay for what you use
Easy to use since it deploys hardware automatically

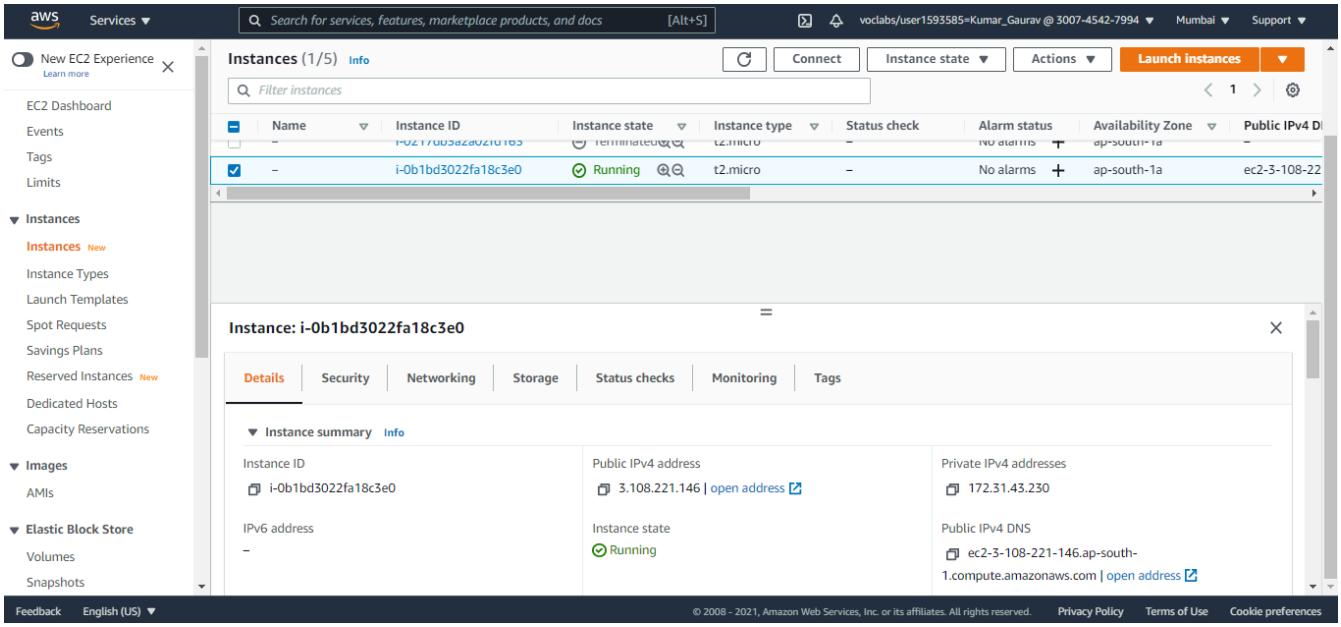
The Cons of Using IaaS are:

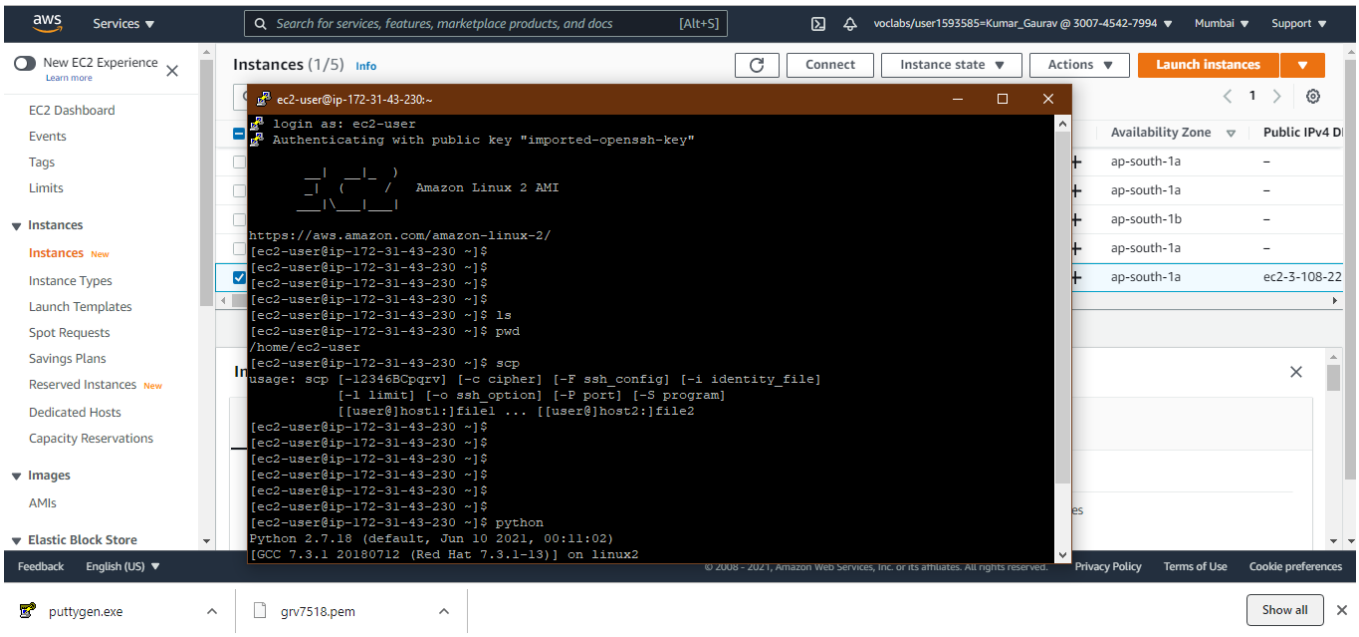
Data security is an issue due to multitenant architecture
Team training is required to learn about the new infrastructure
When server crashers at the vendor side, customers cannot access their data for a while

2. List of computer services in AWS

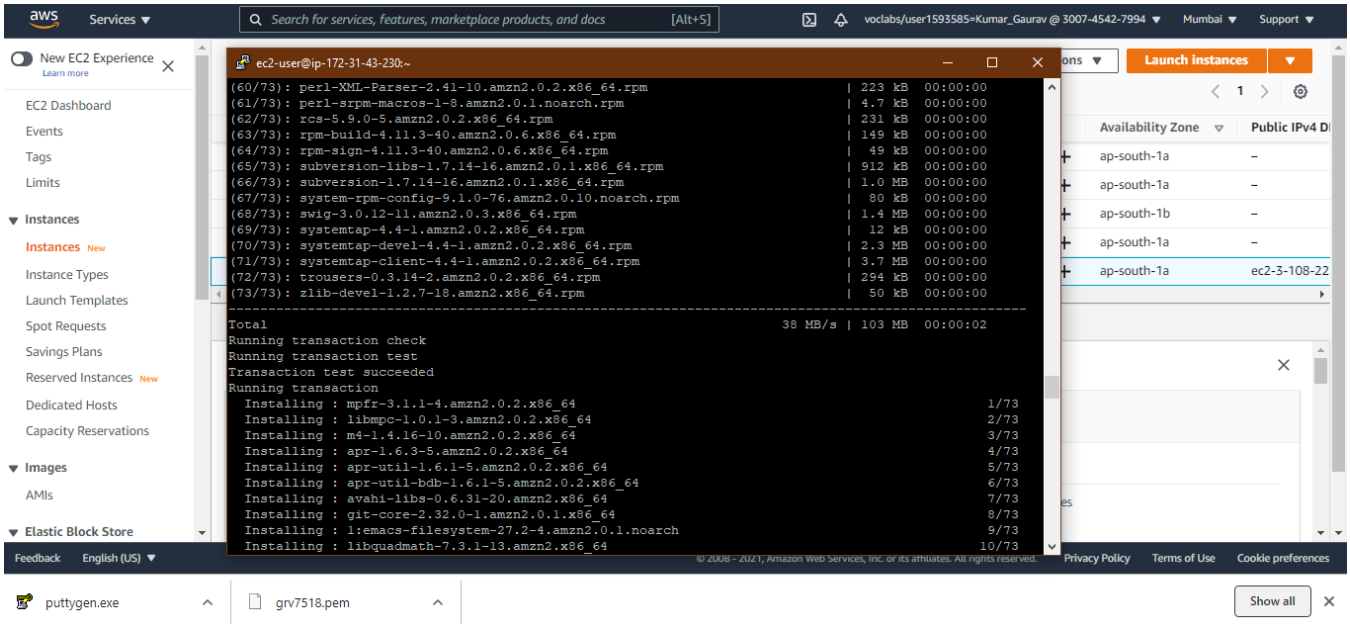
- Amazon EC2
- Amazon EC2 Auto Scaling
- Amazon EC2 Image Builder
- Amazon Lightsail
- AWS App Runner
- AWS Batch
- AWS Elastic Beanstalk
- AWS Fargate
- AWS Lambda
- AWS Serverless Application Repository
- AWS Outposts
- AWS Wavelength
- VMware Cloud on AWS

3. AWS EC2 Instance and install the necessary packages

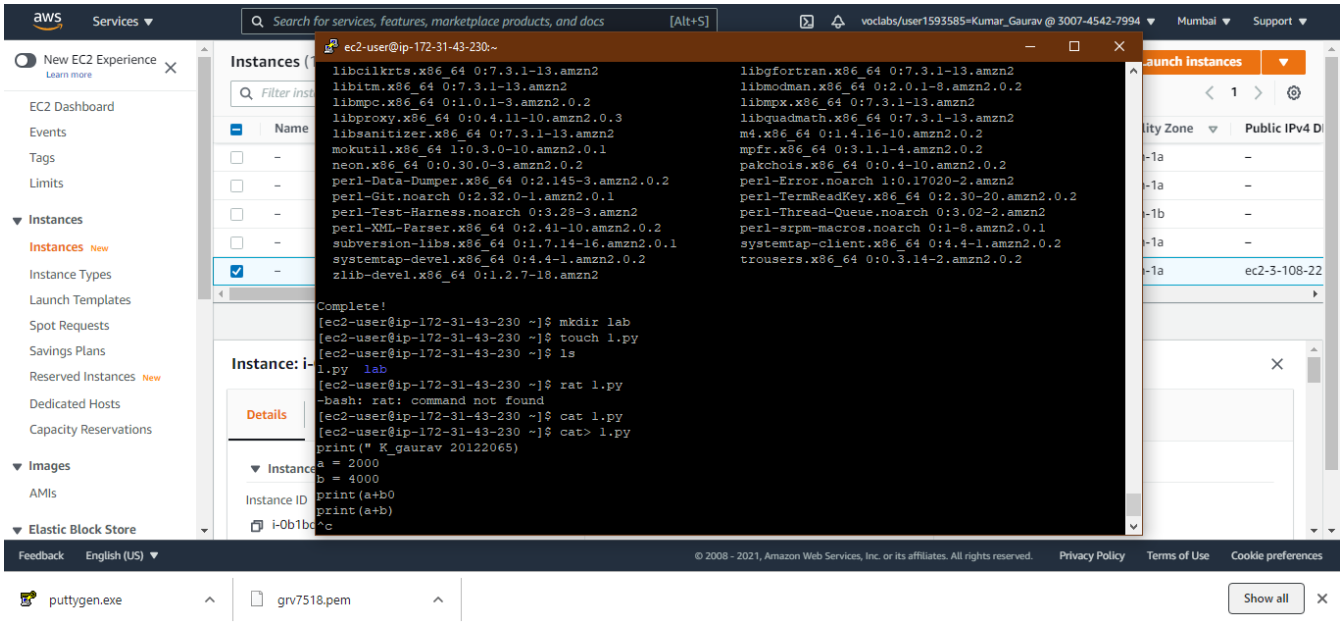


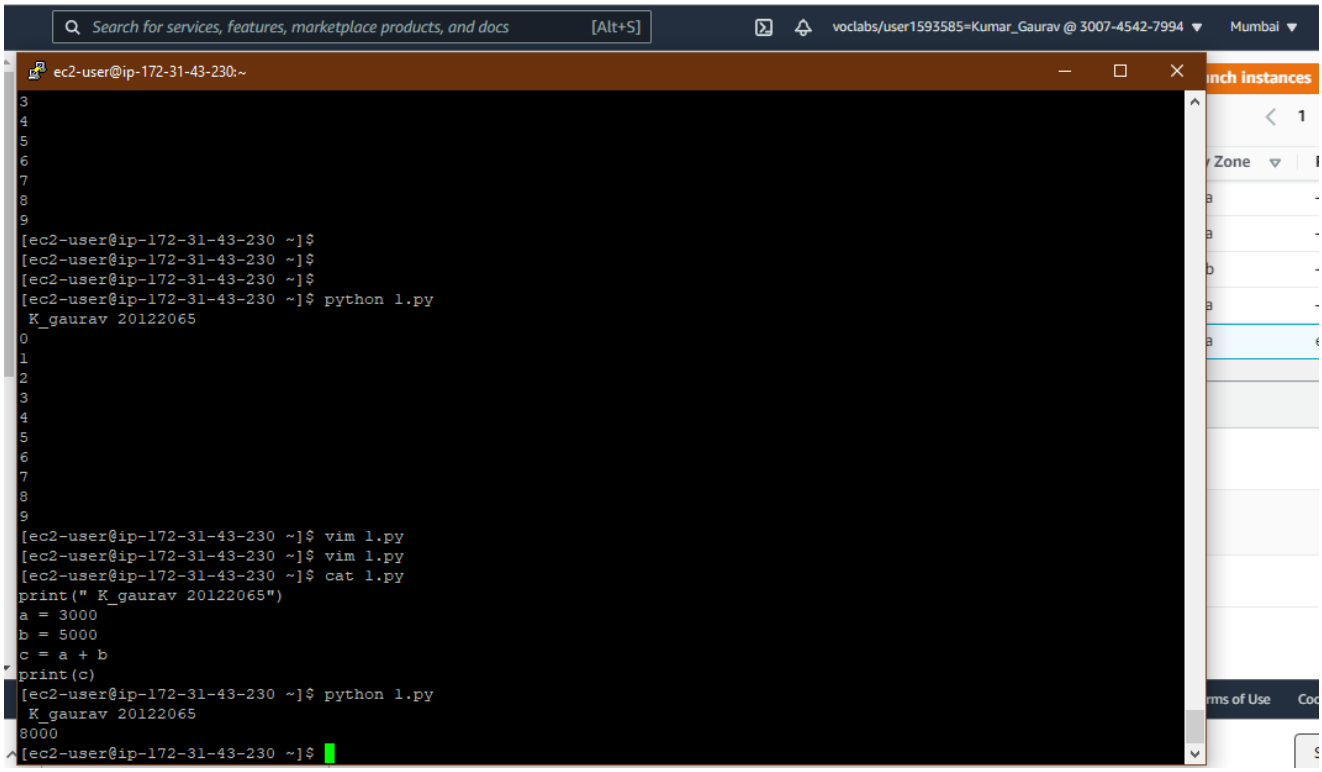


sudo yum groupinstall "Development Tools"


ec2-user@ip-172-31-43-230:~
(60/73): perl-XML-Parser-2.41-10.amzn2.0.2.x86_64.rpm | 223 kB 00:00:00
(61/73): perl-srpm-macros-1-8.amzn2.0.1.noarch.rpm | 4.7 kB 00:00:00
(62/73): rcs-5.9.0-5.amzn2.0.2.x86_64.rpm | 231 kB 00:00:00
(63/73): rpm-build-4.11.3-40.amzn2.0.6.x86_64.rpm | 149 kB 00:00:00
(64/73): rpm-sign-4.11.3-40.amzn2.0.6.x86_64.rpm | 49 kB 00:00:00
(65/73): subversion-libs-1.7.14-16.amzn2.0.1.x86_64.rpm | 912 kB 00:00:00
(66/73): subversion-1.7.14-16.amzn2.0.1.x86_64.rpm | 1.0 MB 00:00:00
(67/73): system-rpm-config-9.1.0-76.amzn2.0.10.noarch.rpm | 80 kB 00:00:00
(68/73): swig-3.0.12-11.amzn2.0.3.x86_64.rpm | 1.4 MB 00:00:00
(69/73): systemtap-4.4-1.amzn2.0.2.x86_64.rpm | 12 kB 00:00:00
(70/73): systemtap-devel-4.4-1.amzn2.0.2.x86_64.rpm | 2.3 MB 00:00:00
(71/73): systemtap-client-4.4-1.amzn2.0.2.x86_64.rpm | 3.7 MB 00:00:00
(72/73): trousers-0.3.14-2.amzn2.0.2.x86_64.rpm | 294 kB 00:00:00
(73/73): zlib-devel-1.2.7-18.amzn2.x86_64.rpm | 50 kB 00:00:00
Total 38 MB/s | 103 MB 00:00:02
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
Installing : mpfr-3.1.1-4.amzn2.0.2.x86_64 1/73
Installing : libmpc-1.0.1-3.amzn2.0.2.x86_64 2/73
Installing : m4-1.4.16-10.amzn2.0.2.x86_64 3/73
Installing : apr-1.6.3-5.amzn2.0.2.x86_64 4/73
Installing : apr-util-1.6.1-5.amzn2.0.2.x86_64 5/73
Installing : apr-util-bdb-1.6.1-5.amzn2.0.2.x86_64 6/73
Installing : avahi-libs-0.6.31-20.amzn2.x86_64 7/73
Installing : git-core-2.32.0-1.amzn2.0.1.x86_64 8/73
Installing : 1:emacs-filesystem-27.2-4.amzn2.0.1.noarch 9/73
Installing : libquadmath-7.3.1-13.amzn2.x86_64 10/73
Launch instances
Availability Zone
Public IPv4 D
ap-south-1a
ap-south-1a
ap-south-1b
ap-south-1a
ap-south-1a
ec2-3-108-22
puttygen.exe
grv7518.pem
Show all

Python run


ec2-user@ip-172-31-43-230:~
libcilkrts.x86_64 0:7.3.1-13.amzn2
libitm.x86_64 0:7.3.1-13.amzn2
libmpc.x86_64 0:1.0.1-3.amzn2.0.2
libproxy.x86_64 0:0.4.11-10.amzn2.0.3
libsanitizer.x86_64 0:7.3.1-13.amzn2
mokutil.x86_64 1:0.3.0-10.amzn2.0.1
neon.x86_64 0:0.30.0-3.amzn2.0.2
perl-Data-Dumper.x86_64 0:2.145-3.amzn2.0.2
perl-Git.noarch 0:2.32.0-1.amzn2.0.1
perl-Test-Harness.noarch 0:3.28-3.amzn2
perl-XML-Parser.x86_64 0:2.41-10.amzn2.0.2
subversion-libs.x86_64 0:1.7.14-16.amzn2.0.1
systemtap-devel.x86_64 0:4.4-1.amzn2.0.2
zlib-devel.x86_64 0:1.2.7-18.amzn2
libgfortran.x86_64 0:7.3.1-13.amzn2
libmodman.x86_64 0:2.0.1-8.amzn2.0.2
libmpx.x86_64 0:7.3.1-13.amzn2
libquadmath.x86_64 0:7.3.1-13.amzn2
m4.x86_64 0:1.4.16-10.amzn2.0.2
mpfr.x86_64 0:3.1.1-4.amzn2.0.2
pakchois.x86_64 0:0.4-10.amzn2.0.2
perl-Error.noarch 1:0.17020-2.amzn2
perl-TermReadKey.x86_64 0:2.30-20.amzn2.0.2
perl-Thread-Queue.noarch 0:3.02-2.amzn2
perl-srpm-macros.noarch 0:1-8.amzn2.0.1
systemtap-client.x86_64 0:4.4-1.amzn2.0.2
trousers.x86_64 0:0.3.14-2.amzn2.0.2
Complete!
[ec2-user@ip-172-31-43-230 ~]$ mkdir lab
[ec2-user@ip-172-31-43-230 ~]$ touch 1.py
[ec2-user@ip-172-31-43-230 ~]$ ls
1.py lab
[ec2-user@ip-172-31-43-230 ~]$ rat 1.py
-bash: rat: command not found
[ec2-user@ip-172-31-43-230 ~]$ cat 1.py
[ec2-user@ip-172-31-43-230 ~]$ cat> 1.py
print(" K_gaurav 20122065)
a = 2000
b = 4000
print(a+b0
print(a+b)
^c
Launch instances
Public IPv4 D
ec2-3-108-22
puttygen.exe
grv7518.pem
Show all



Python is working successfully! Done