

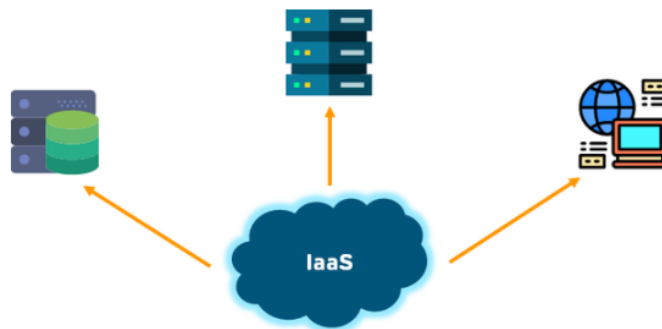
Kumar Gaurav 20122065

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 crashes 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

aws Services Search for services, features, marketplace products, and docs [Alt+S] voclabs/user1593585=Kumar_Gaurav @ 3007-4542-7994 Mumbai Support

New EC2 Experience

EC2 Dashboard

Events

Tags

Limits

Instances

Instances New

Instance Types

Launch Templates

Spot Requests

Savings Plans

Reserved Instances New

Dedicated Hosts

Capacity Reservations

Images

AMIs

Elastic Block Store

Feedback English (US)

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-3.1.0-76.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-client-4.4-1.amzn2.0.2.x86_64.rpm | 2.3 MB 00:00:00
(71/73): systemtap-devel-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 : 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

aws Services Search for services, features, marketplace products, and docs [Alt+S] voclabs/user1593585=Kumar_Gaurav @ 3007-4542-7994 Mumbai Support

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Dedicated Hosts

Capacity Reservations

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Elastic Block Store

Feedback English (US)

ec2-user@ip-172-31-43-230:~

```
libcurl.x86_64 0:7.3.1-13.amzn2 libgfortran.x86_64 0:7.3.1-13.amzn2
libitm.x86_64 0:7.3.1-13.amzn2 libmodman.x86_64 0:2.0.1-8.amzn2.0.2
libmpc.x86_64 0:1.0.1-3.amzn2.0.2 libmpx.x86_64 0:7.3.1-13.amzn2
libproxy.x86_64 0:0.4.11-10.amzn2.0.3 libquadmath.x86_64 0:7.3.1-13.amzn2
libsanitizer.x86_64 0:7.3.1-13.amzn2 m4.x86_64 0:1.4.16-10.amzn2.0.2
mokutil.x86_64 1:0.3.0-10.amzn2.0.1 mpfr.x86_64 0:3.1.1-4.amzn2.0.2
neon.x86_64 0:0.30.0-3.amzn2.0.2 pakchois.x86_64 0:0.4-10.amzn2.0.2
perl-Data-Dumper.x86_64 0:2.145-3.amzn2.0.2 perl-Error.noarch 1:0.17020-2.amzn2
perl-Git.noarch 0:2.32.0-1.amzn2.0.1 perl-TermReadKey.x86_64 0:2.30-20.amzn2.0.2
perl-Test-Harness.noarch 0:3.28-3.amzn2 perl-Thread-Queue.noarch 0:3.02-2.amzn2
perl-XML-Parser.x86_64 0:2.41-10.amzn2.0.2 perl-srpm-macros.noarch 0:1-8.amzn2.0.1
subversion-libs.x86_64 0:1.7.14-16.amzn2.0.1 systemtap-client.x86_64 0:4.4-1.amzn2.0.2
systemtap-devel.x86_64 0:4.4-1.amzn2.0.2 trousers.x86_64 0:0.3.14-2.amzn2.0.2
zlib-devel.x86_64 0:1.2.7-18.amzn2

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 ~]$ cat 1.py
-rat: command not found
[ec2-user@ip-172-31-43-230 ~]$ cat 1.py
print(" K_gaurav 20122065")
a = 2000
b = 4000
print(a+b)
print(a+b)
```

Launch Instances

Availability Zone Public IPv4 D

ap-south-1a -

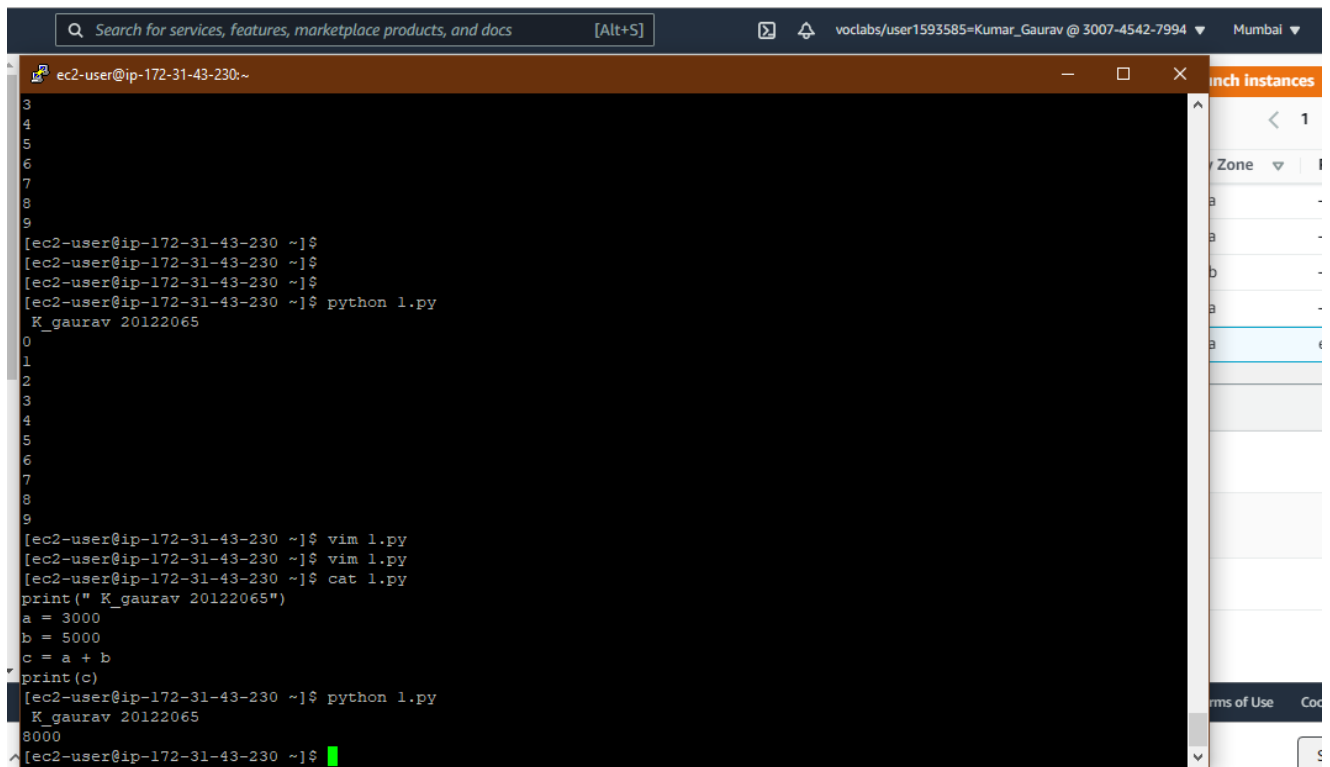
ap-south-1a -

ap-south-1b -

ap-south-1a -

ap-south-1a ec2-3-108-22

puttygen.exe grv7518.pem Show all



The screenshot shows a terminal window within a cloud management console. The terminal title is 'ec2-user@ip-172-31-43-230:~'. The user has executed several commands: 'python 1.py' (output: 'K_gaurav 20122065'), 'vim 1.py' (twice), and 'cat 1.py' (displaying a Python script that prints a name and calculates the sum of two variables). Finally, the user ran 'python 1.py' again, which successfully executed the script and printed the output 'K_gaurav 20122065' and '8000'. The console interface includes a search bar at the top, a user profile 'voclabs/user1593585=Kumar_Gaurav @ 3007-4542-7994', and a location dropdown set to 'Mumbai'. On the right, a sidebar shows 'Launch Instances' and a table of instances.

```
3
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[ec2-user@ip-172-31-43-230 ~]$
[ec2-user@ip-172-31-43-230 ~]$
[ec2-user@ip-172-31-43-230 ~]$
[ec2-user@ip-172-31-43-230 ~]$ python 1.py
K_gaurav 20122065
0
1
2
3
4
5
6
7
8
9
[ec2-user@ip-172-31-43-230 ~]$ vim 1.py
[ec2-user@ip-172-31-43-230 ~]$ vim 1.py
[ec2-user@ip-172-31-43-230 ~]$ cat 1.py
print(" K_gaurav 20122065")
a = 3000
b = 5000
c = a + b
print(c)
[ec2-user@ip-172-31-43-230 ~]$ python 1.py
K_gaurav 20122065
8000
[ec2-user@ip-172-31-43-230 ~]$
```

Python is working successfully! Done