# **AWS Assignment 2**

1.Creation of EC2 instance : (2 machines - 1st machine-name, 2nd machine-surname)

machine -1 : Shagani

machine -2 : Pavan

## Machine-1 creation [Shagani]

Click on EC2 service by browsing the Services

$\leftarrow \rightarrow$	← → C ■ ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#Home:									
aws	Services Q Search	[Alt+S]								
Ner Tell	Recently visited Favorites	Recently visited	×							
EC2 G Event	All services	EC2								

### Click on Launch Instance

$\leftrightarrow$ $\rightarrow$ C $\cong$ ap-south-1.console.aws	s.amazon.com/ec2/home?region=ap-south-1#Hom	ne:						G 🖻 ☆	🗊 🖬 🕑 i			
aws Services Q Search			[Alt+S]		Σ.	¢	0	Mumbai 🔻	Pavan Shagani 🔻			
New EC2 Experience	Instances (running)	4 A	Auto Scaling Groups	0	Default							
Tell us what you think	Dedicated Hosts CC		Elastic IPs	0	vpc-09317cf0e99b50044							
EC2 Dashboard			Key pairs	2	Setting EBS en	s cryptio	n					
EC2 Global View Events	Load balancers	0	Placement groups	ο	Zones	rial Con	sele					
Tags	Security groups		Snapshots	o	Defaul	Default credit specification						
Limits	Volumes	5			Consol	e exper	iments					
▼ Instances												
Instances		1.1		_								
Instance Types	Launch instance		Service health		Explo	re AW	S		×			
Launch Templates	To get started, launch an Amazon EC2 instance, which is a virtual report in the cloud		C AWS Health Dashboard									
Spot Requests	which is a virtual server in the cloud.			_	Amazo	n Guard	iDuty M	Ialware Prote	ction			
Savings Plans			Desian		GuardD	uty nov	v provic	les agentless r	malware			
Reserved Instances	Launch instance V		Region Asia Pacific (Mumbai)		workloa	on in Ar ads. Lea	nazon E rn more	:C2 & EC2 con e 🔽	tainer			
Dedicated Hosts	Migrate a server											
			Status		Get Un	to 40%	Retter	Price Perform	mance			

Provide the name of the instance, name if the instance is given as 'Shagani'

EC2 > Instances > Launch an instance	
Launch an instance Info	
Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cl following the simple steps below.	oud. Quickly get started by
Name and tags Info	
Name	
shagani	Add additional tags

#### Selected Linux with Free Tier

Recents	Quick Start	_				
Amazon	macOS	Ubuntu	Windows	Red Hat	S	Q
aws	Mac	ubuntu®	Microsoft	ned Hat	>	Browse more AMIs Including AMIs from AWS, Marketplace and the Community
mazon Linux ni-01a4f99c4a irtualization: h	<b>x 2 AMI (HVM) - H</b> ac11b03c (64-bit (x ivm ENA enabled	<b>Kernel 5.10, SSI</b> 86)) / ami-0f3443 : true Root devi	<b>O Volume Type</b> Sfa43a3a92d2 (64- ice type: ebs	bit (Arm))		Free tier eligible
scription						
nazon Linux	2 Kernel 5.10 AM	II 2.0.20230119	9.1 x86_64 HVM	gp2		
azon Linux :	2 Kernel 5.10 AM	II 2.0.20230119 AMI ID	9.1 x86_64 HVM	gp2		

## t2.micro which is a free tier is selected as Instance Type

Instance type Info		
Instance type		
t2.micro Family: t2 1 vCPU 1 GiB Memory On-Demand Linux pricing: 0.0124 USD per Hour On-Demand Windows pricing: 0.017 USD per Hour On-Demand RHEL pricing: 0.0724 USD per Hour On-Demand SUSE pricing: 0.0124 USD per Hour	Free tier eligible	Compare instance types

Create or reuse the existing key pair, here I have created a new key pair with name 'Shagani'

You can use a key pair to securely connect to your instance. Ensure that you have access to the se the instance.	
Key pair name - required	
Select	C <u>Create new key pair</u>
Create key pair	×
Key pairs allow you to connect to your instance securely.	
Enter the name of the key pair below. When prompted, store the private key	y in a secure
instance. Learn more [2]	to your
instance. Learn more 🔽	to your
Key pair name	AN.
instance. Learn more.     2       Key pair name     shagani	to your
instance. Learn more       Image: Image	AN Lyn 25.
instance. Learn more.       Image: Imag	to your
instance. Learn more       2         Key pair name       shagani         The name can include upto 255 ASCII characters. It can't include leading or trailing space         Key pair type         RSA	to your ه۲. ۲۷۱ ۲۶.
<ul> <li>instance. Learn more 2</li> <li>Key pair name</li> <li>shagani</li> <li>The name can include upto 255 ASCII characters. It can't include leading or trailing space</li> <li>Key pair type</li> <li>RSA RSA encrypted private and public key pair</li> </ul>	to your
<ul> <li>instance. Learn more </li> <li>Key pair name</li> <li>shagani</li> <li>The name can include upto 255 ASCII characters. It can't include leading or trailing space</li> <li>Key pair type</li> <li>RSA RSA encrypted private and public key pair</li> <li>ED25519 ED25519 encrypted private and public key pair (Not supported for Windows instance)</li> </ul>	es)
<ul> <li>instance. Learn more [2]</li> <li>Key pair name</li> <li>shagani</li> <li>The name can include upto 255 ASCII characters. It can't include leading or trailing space</li> <li>Key pair type</li> <li>RSA RSA encrypted private and public key pair</li> <li>ED25519 ED25519 encrypted private and public key pair (Not supported for Windows instance)</li> <li>Private key file format</li> </ul>	es)
<ul> <li>key pair name</li> <li>shagani</li> <li>The name can include upto 255 ASCII characters. It can't include leading or trailing space</li> <li>Key pair type</li> <li>RSA RSA encrypted private and public key pair</li> <li>ED25519 ED25519 encrypted private and public key pair (Not supported for Windows instance)</li> <li>Private key file format</li> <li>.pem</li> </ul>	es)
Key pair name          shagani         The name can include upto 255 ASCII characters. It can't include leading or trailing space         Key pair type         RSA         RSA encrypted private and public key pair         ED25519         ED25519 encrypted private and public key pair (Not supported for Windows instance)         Private key file format         .pem         For use with OpenSSH	es)
Key pair name          shagani         The name can include upto 255 ASCII characters. It can't include leading or trailing space         Key pair type         RSA         RSA encrypted private and public key pair         ED25519         ED25519 encrypted private and public key pair (Not supported for Windows instance)         Private key file format         .pem         For use with OpenSSH	es)

Here I created the key pair to use for the connection through Putty.

A PPK file is created in the local machine, which can be used to connect to machine from putty.

### Selected default network settings

Network settings Info	Edit
Network Info	
vpc-09317cf0e99b50044	
Subnet Info	
No preference (Default subnet in any	availability zone)
Auto-assign public IP Info	
Enable	
Firewall (security groups) Info A security group is a set of firewall rules that instance.	t control the traffic for your instance. Add rules to allow specific traffic to reach your
Create security group	<ul> <li>Select existing security group</li> </ul>
<ul> <li>We'll create a new security group calle</li> <li>Allow SSH traffic from Helps you connect to your instance</li> </ul>	Anywhere
Allow HTTPS traffic from the inter To set up an endpoint, for example when	net n creating a web server
Allow HTTP traffic from the intern To set up an endpoint, for example when	et n creating a web server

### selected Default Storage settings

▼ Configure storage Info	Advanced
1x 8 GiB gp2 ▼ Root volume (Not encrypted)	
③ Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage	×
Add new volume	
0 x File systems	Edit

**Click on Launch Instance** 

▼ Summary
Number of instances Info
1
Software Image (AMI)
Amazon Linux 2 Kernel 5.10 AMIread more ami-01a4f99c4ac11b03c
Virtual server type (instance type)
t2.micro
Firewall (security group)
New security group
Storage (volumes)
1 volume(s) - 8 GiB
③ Free tier: In your first year includes 750 ×
Cancel Launch instance

0	Success Successfully initiated launch of instance (i-0de03cd0a5f33b646)								
	▼ Launch log								
	Initializing requests	Succeeded							
	Creating security groups	Succeeded							
	Creating security group rules	Succeeded							
	Launch initiation	Succeeded							

#### EC2 instance created with below details

Instance ID i-0de03cd0a5f33b646

Instance Name Shagani

	shagani	i-0de03cd0a5f33b646	🕢 Running	€Q	t2.micro	<ul> <li>Initializi</li> </ul>	ng No alarr	ns	+	ap-south-1b		ec2-3-
4												
Ins	Instance: i-0de03cd0a5f33b646 (shagani)										×	
Det	Details         Security         Networking         Storage         Status checks         Monitoring         Tags											
•	Instance summary	Info										
Inst	tance ID		Public IPv4 add	ress			Private IPv4 addres	ses				
Ø	i-0de03cd0a5f33b	546 (shagani)	3.109.154.1	157   ope	n address 🔼		172.31.7.14					
IPv	6 address		Instance state				Public IPv4 DNS					
-			⊘ Running				🗇 ec2-3-109-154	1-15	57.ap-s	south-		
							1.compute.amazon	aws	s.com	open address 🗹		

## Machine-2 creation [Pavan ]

Click on EC2 service by browsing the Services



Click on Launch Instance

$\leftrightarrow$ $\rightarrow$ C $$ ap-south-1.console.aw	rs.amazon.com/ec2/home?region=ap-south-1#Hom	e:	G 🖻 🛧 🗐 🔲 🕑 🗄
aws Services Q Search		[Alt+S]	א לא 🖓 Mumbai ד Pavan Shagani ד
New EC2 Experience	Instances (running)	4 Auto Scaling Groups	0 Default VPC
Tell us what you think	Dedicated Hosts	0 Elastic IPs	0 vpc-09317cf0e99b50044
EC2 Dashboard	Instances	4 Key pairs	2 EBS encryption
EC2 Global View Events	Load balancers	0 Placement groups	0 Zones
Tags	Security groups	6 Snapshots	0 Default credit specification
Limits	Volumes	5	Console experiments
▼ Instances			
Instances			
Instance Types	Launch instance	Service health	Explore AWS ×
Launch Templates	To get started, launch an Amazon EC2 instance,		
Spot Requests	which is a virtual server in the cloud.	Aws Health Dashboard	Amazon GuardDuty Malware Protection
Savings Plans		During	GuardDuty now provides agentless malware
Reserved Instances	Launch instance	Asia Pacific (Mumbai)	workloads, Learn more 12
Dedicated Hosts	Migrate a server 🖸	Status	Cot line to 400/ Potter Drice Derformance

Provide the name of the instance, name if the instance is given as 'pavan'

C2 > Instances > Launch an instance	
Launch an instance Info	
mazon EC2 allows you to create virtual machines, or instances, that run on the AWS Clou ollowing the simple steps below.	d. Quickly get started by
Name and tags Info	
Name	
pavan	Add additional tags

### Selected Linux with Free Tier

Recents	Quick Start	_					
Amazon	macOS	Ubuntu	Windows	Red Hat	S	Q	
aws	Mac	ubuntu®	Microsoft	🐣 Red Hat	>	Browse more AMI Including AMIs from AWS, Marketplace and the Community	
mazon Linux mi-01a4f99c4a irtualization: hv	2 AMI (HVM) - I c11b03c (64-bit (x /m ENA enabled	Kernel 5.10, SS 86)) / ami-Of344 : true Root dev	D Volume Type 3fa43a3a92d2 (64 rice type: ebs	-bit (Arm))		Free tier eligible	
scription							
nazon Linux 2	Kernel 5.10 AM	11 2.0.2023011	9.1 x86_64 HVM	1 gp2			
chitecture		AMI ID					
		ami 01a4f00c	4ac11b07c	Vorifie	d provider		

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## Create or reuse the existing key pair, here I have created a new key pair with name 'pavan'

You can use a key pair to securely connect to your instance. E the instance.	nsure that you have access	to the sele	cted k	ey pair be	fore you laun
Key pair name - required					
Select		•	C	Create r	iew key pai
Create key pair		×			
Key pairs allow you to connect to your instance securely.					
Enter the name of the key pair below. When prompted, st	ore the private key in a	secure			
and accessible location on your computer Vey will need	+ later to connect to ve	ur			
and accessible location on your computer. You will need i	t tater to connect to yo				
instance. Learn more 🔽	t later to connect to yo	a.			
instance. Learn more 🖸	t later to connect to yo				
instance. Learn more 🖸	t later to connect to yo				
Instance. Learn more 🖸 Key pair name pavan The name can include upto 255 ASCII characters. It can't include lea	ading or trailing spaces.				
Instance. Learn more       Image: Computer. You with need to instance. Learn more         Key pair name       Image: Computer. You with need to instance. Learn more         Image: pavan       Image: Computer. You with need to instance. Learn more         The name can include upto 255 ASCII characters. It can't include learn         Key pair to instance.	ading or trailing spaces.				
Instance. Learn more       Image: Computer. You with need to instance. Learn more         Key pair name       Image: Computer. You with need to instance. Learn more         Image: pavan       Image: Computer. You with need to instance. Learn more         The name can include upto 255 ASCII characters. It can't include learners         Key pair type         Image: PSA	ading or trailing spaces.				
instance. Learn more       Image: Computer. You with need to instance. Learn more         Key pair name       Image: Computer. You with need to instance. Learn more         pavan       Image: Computer. You with need to instance. Learn more         The name can include upto 255 ASCII characters. It can't include learnet to instance. L	ading or trailing spaces.				
Instance. Learn more       Image: Computer. You with need to instance. Learn more         Key pair name       Image: Computer. The name can include upto 255 ASCII characters. It can't include learners         Key pair type       RSA         RSA       RSA encrypted private and public key pair         ED25519       ED25519 encrypted private and public key pair (Not supported private and public key pair	nding or trailing spaces.				
Instance. Learn more [2]         Key pair name         pavan         The name can include upto 255 ASCII characters. It can't include lea         Key pair type         RSA         RSA encrypted private and public key pair         ED25519         ED25519 encrypted private and public key pair (Not supported         Private key file format	ading or trailing spaces.				
Instance. Learn more [2]         Key pair name         pavan         The name can include upto 255 ASCII characters. It can't include lea         Key pair type         RSA         RSA encrypted private and public key pair         ED25519         ED25519 encrypted private and public key pair (Not supported         Private key file format         .pem         For use with OpenSSH	iding or trailing spaces.				

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Network Info	
vpc-09317cf0e99b50044	
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No preference (Default subnet in any	availability zone)
Auto-assign public IP Info	
Enable	
Firewall (security groups) Info A security group is a set of firewall rules tha instance.	t control the traffic for your instance. Add rules to allow specific traffic to reach your
• Create security group	<ul> <li>Select existing security group</li> </ul>
We'll create a new security group calle	ed 'launch-wizard-6' with the following rules:
Allow SSH traffic from Helps you connect to your instance	Anywhere 0.0.0.0/0
Allow HTTPS traffic from the inter To set up an endpoint, for example whe	net n creating a web server
Allow HTTP traffic from the intern To set up an endpoint, for example whe	et n creating a web server

#### selected Default Storage settings

▼ Configure storage Info	Advanced
1x 8 GiB gp2  Root volume (Not encrypted)	
③ Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage	×
Add new volume	
0 x File systems	Edit

#### **Click on Launch Instance**

▼ Summary
Number of instances Info
1
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Amazon Linux 2 Kernel 5.10 AMIread more ami-01a4f99c4ac11b03c
Virtual server type (instance type)
t2.micro
Firewall (security group)
New security group
Storage (volumes)
1 volume(s) - 8 GiB
③ Free tier: In your first year includes 750 × -
Cancel Launch instance

# EC2 > Instances > Launch an instance

Success Successfully initiated launce	Success Successfully initiated launch of instance (i-0e9c949a9f45aff48)									
▼ Launch log										
Initializing requests	Succeeded									
Creating security groups	Succeeded									
Creating security group rules	Succeeded									
Launch initiation	Succeeded									

#### EC2 instance created with below details

Instance ID i-0e9c949a9f45aff48

Instance Name pavan

Instance: i-0e9c949a9f45aff48 (pavan)										
		นเวลมเซน								
Platform details D Linux/UNIX	AMI name     amzn2-ami-kernel-5.10-hvm-2.0.20230119.1- x86_64-gp2	Termination protection Disabled								
Stop protection Disabled	Launch time Mon Feb 06 2023 00:37:41 GMT+0530 (India Standard Time) (1 minute)	AMI location  amazon/amzn2-ami-kernel-5.10-hvm 2.0.20230119.1-x86_64-gp2								
Instance auto-recovery Default	Lifecycle normal	Stop-hibernate behavior disabled								
Instance: i-0e9c949a9f45aff48 (pavan) =										
Volume ID Device name Vo	lume size (GiB) Attachment status Attachment tin	e Encrypted KMS key ID								

⊘ Attached

Mon Feb 06 2023 00:37:42 G...

No

\_

## 2. Elastic Block Storage :

vol-0b404e8bd1e050a98

click on create volume under Elastick block store -> Volumes

8

/dev/xvda

aws	Services	Q Searc	'n			[Alt+S]		G	9   4	0	Mumbai 🔻	Pavan Shagani	•
Insta Insta	inces ince Types	*	<ul> <li>You can now create A then choose Actions,</li> </ul>	mazon Data <b>Create snap</b>	Lifecycle Manager shot lifecycle poli	policies to automa <b>cy</b> . For more infor	ite snapshot managemen nation, see the Knowledg	t directly from this ge Center article.	screen. S	elect the v	olumes to back	up, and 💙	<
Laun Spot Savir	ich Templates Requests 1995 Plans		Volumes (6)						C	Actio		Create volume	>
Rese	rved Instances		Volume ID 🔻	/   Туре	⊽   Size	▼   IOPS	▼   Throughput	▼   Snapshot	▼	Created		▼ Availa	bilit
Dedi	cated Hosts		vol-08a287c5c4ff6aeb9	gp2	8 GiB	100	-	snap-0fdd5l		2023/02/	05 19:22 GMT	+5: ap-sou	uth-1
Capa	city Reservations		vol-06e6a4633fb3e8806	gp2	8 GiB	100	-	snap-0fdd5l		2023/02/	05 19:44 GMT	+5: ap-sou	uth-1
▶ Imag	jes		vol-076b7f862a3629f0d	gp2	8 GiB	100	-	snap-0fdd5l		2023/02/	05 19:45 GMT	+5: ap-sou	uth-1
			vol-0b404e8bd1e050a98	gp2	8 GiB	100	-	snap-0fdd5l	8	2023/02/	06 00:37 GMT	+5: ap-sou	ath-1
Elast	ic Block Store 🧲	<u> </u>	vol-07356e33ace1d3ee6	gp2	8 GiB	100	-	snap-0dee0	59	2022/09/	24 19:16 GMT	+5: ap-sou	uth-1
Volu	mes <u></u>		vol-04250e2320ef9e55b	gp2	1 GiB	100	-	-		2023/02/	06 00:12 GMT	+5: ap-sou	uth-1
Lifeo	ycle Manager		4										+

Give the size and select the Availability Zone, here I selected ap-south-1b, as instance is in same zone. Click on create Volume

	_		
General Purpose SSD (gp2)	•		
ize (CiP) Infe			
1 \$			
in: 1 GiB, Max: 16384 GiB. The value must be an integer.			
OPS Info			
00 / 3000			
aseline of 3 IOPS per GiB with a minimum of 100 IOPS, burstable	to 3000 IOI	°S.	
Throughout (MiB/s) Info			
NOT APPLICADLE			
vailability Zone Info			
ap-south-1b	•		
Snapshot ID - optional Info			
Devila events velocers from a consult at	_		
Don't create volume from a snapshot	•		
Encryption Info			
Use Amazon EBS encryption as an encryption solution for your EBS resources associate	ed with your EC	2 instances.	
Encrypt this volume			
Tags - optional Info			
A tag is a label that you assign to an AWS resource. Each tag consists of a key and an o	ptional value. Y	'ou can use tags	to search and filt
your resources or track your AWS costs.			
No tags associated with the resource.			
You can add 50 more tags.			
			_
		Cancel	Create vol

### New volume is created and Available now

ne ID	▼	Туре	▽	Size	$\nabla$	IOPS	$\nabla$	Throughp	ut 🔻	7	Snapshot	$\nabla$	Created	$\nabla$	Availability Zone	$\nabla$	Volume state
3a287c5c4ff6aeb9		gp2		8 GiB		100		-			snap-0fdd5b	в	2023/02/05 19:22 GMT+5	i	ap-south-1b		⊘ In-use
je6a4633fb3e880	6	gp2		8 GiB		100		-			snap-0fdd5b	3	2023/02/05 19:44 GMT+5	i	ap-south-1b		⊘ In-use
'6b7f862a3629f0	d i	gp2		8 GiB		100		-			snap-0fdd5b	В	2023/02/05 19:45 GMT+5	i	ap-south-1b		⊘ In-use
)404e8bd1e050a9	8	gp2		8 GiB		100		-			snap-0fdd5b	3	2023/02/06 00:37 GMT+5	i	ap-south-1b		🕗 In-use
)965210cf7e5bc7a	1	gp2 🗕		- 1 GiB		100		-			-		2023/02/06 00:49 GMT+5	i	ap-south-1b		🕢 Available
'356e33ace1d3ee	5	gp2		8 GiB		100		-			snap-0dee06	9	2022/09/24 19:16 GMT+5	i	ap-south-1a		⊘ In-use

### Attach the volume to Instance 'Pavan'

Volumes (1/	6)					C Actions 🔺	Create volume		
Q Search						Modify volume	< 1 >	۲	
- Name	▼   Volume ID	⊽   Туре	▼   Size	▼   IOPS	▼   Throughput	Create snapshot	$\nabla$	Avai	
	vol-08a287c5c4ff6ae	b9 gp2	8 GiB	100	-	Create snapshot lifecycle policy	19:22 GMT+5:	ap-s	
	vol-06e6a4633fb3e8	806 gp2	8 GiB	100	-	Attach volume	19:44 GMT+5:	ap-s	
	vol-076b7f862a3629	f0d gp2	8 GiB	100	. ~	Detach volume	19:45 GMT+5:	ap-s	
	vol-0b404e8bd1e050	a98 gp2	8 GiB	100	-	Force detach volume	00:37 GMT+5:	ap-se	
<b>-</b>	vol-00965210cf7e5b	c7a —gp2	1 GiB	100	-	Manage auto-enabled I/O	0:49 GMT+5:	ap-se	
	vol-07356e33ace1d3	ee6 gp2	8 GiB	100	-	Manage tags	19:16 GMT+5:	ap-so	
						manage tags			

Basic details								
Volume ID								
D vol-00965210cf7e5b	c7a							
Availability Zone								
ap-south-1b								
Instance Info								
i-0e9c949a9f45aff48		•	C					
Only instances in the same Ava	ailability Zone as the se	lected volume are displ	ayed.					
Device name Info								
/dev/sdf			7					
Recommended device names f	or Linux: /dev/sda1 for	root volume. /dev/sd[f	_] -p] for data volumes.					
Newer Linux kernel /dev/xvdp internal the details) is /dev,	s may rename your lly, even when the d <b>/sdf</b> through <b>/dev/s</b>	devices to <b>/dev/xvd</b> evice name entered <b>dp.</b>	lf through here (and shown in					
				Cancel	Attach volume			
Instance: i-0e9c949a9f45aff	48 (pavan)							0
Instance: i-0e9c949a9f45aff	48 (pavan)	EBS			disabled			0
Instance: i-0e9c949a9f45aff /dev/xvda Block devices	48 (pavan)	EBS			disabled			0
Instance: i-0e9c949a9f45aff /dev/xvda Block devices	48 (pavan)	EBS			disabled			0
Instance: i-0e9c949a9f45aff /dev/xvda Block devices	48 (pavan)	EBS			disabled	Formated	KMC kou 12	0
Instance: i-0e9c949a9f45aff ⑦ /dev/xvda ▼ Block devices Q Filter block devices Volume ID   D vol-0b404e8bd1e050a98 /	48 (pavan)	EBS Volume size (GiB)	Attachment status	Attachment t	disabled	Encrypted	KMS key ID	0

Verified by connecting from Putty, using lsblk command

🛃 ec2-user@ip-172-31-8-87:~
<pre>login as: ec2-user     Authenticating with public key "payan"</pre>
Authenticating with public key "pavan" 
https://aws.amazon.com/amazon-linux-2/
14 package(s) needed for security, out of 14 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-8-87 ~]\$ lsblk
NAME MAJ:MIN RM SIZE RO TYPE MOUNTPOINT
xvda 202:0 0 8G 0 disk
Lxvda1 202:1 0 8G 0 part /
xvdf 202:80 0 1G 0 disk
[ec2-user@ip-172-31-8-87 ~]\$

## 3.Snapshot Creation :

we can create in two ways

### 1. From Elastic Block store -> snapshot -> create snapshot

## 2. create from existing storage volume. Here I create the snapshot from existing volume

<ul> <li>Images</li> <li>Elastic Block Store</li> </ul>	Volu	<b>umes (</b> 1/6) Search								C	Actions <b>v</b>	Create v	olume	9
Volumes		Name	$\nabla$	Volume ID	⊽   1	уре	▼ Size	▼   IOPS	▼   Throughput	▼   Snapshot ▼	Created		▼	A
Snapshots		-		vol-08a287c5c4ff6aeb9	) g	Ip2	8 GiB	100	-	snap-0fdd5b8	2023/02/05	19:22 GMT+5	5:	aţ
Lifecycle Manager		-		vol-06e6a4633fb3e880	6 9	Ip2	8 GiB	100	-	snap-0fdd5b8	2023/02/05	19:44 GMT+5	5:	aţ
▼ Network & Security		-		vol-076b7f862a3629f0	d g	Ip2	8 GiB	100	-	snap-0fdd5b8	2023/02/05	19:45 GMT+5	5:	aţ
Security Groups		-		vol-0b404e8bd1e050a9	98 g	Ip2	8 GiB	100	-	snap-0fdd5b8	2023/02/06	00:37 GMT+5	5:	aţ
Elastic IPs		storage vol	ß	vol-00965210cf7e5bc7	a g	ıp2	1 GiB	100	-	-	2023/02/06	00:49 GMT+5	5:	aţ
Placement Groups		-		vol-07356e33ace1d3ee	6 <u>ç</u>	Ip2	8 GiB	100		snap-Odee069	2022/09/24	19:16 GMT+5	5:	aţ

Images	Volu	mes (1/	6)							C	Actions 🔻	Create volum	e
<ul> <li>Elastic Block Store</li> </ul>	Q	Search										< 1 >	۲
Volumes		Name	▼   Volume ID	▽	Туре	▼   Size	▼ IOPS	▼ Throughput	⊽   Snaj	oshot 🔻	Created	$\nabla$	Ava
Snapshots		-	vol-08a287c5c4ff6ae	eb9	gp2	8 GiB	100	-	snap	-0fdd5b8	2023/02/05	19:22 GMT+5:	ap-s
Lifecycle Manager		-	vol-06e6a4633fb3e8	806	gp2	8 GiB	100	-	snap	-0fdd5b8	2023/02/05	19:44 GMT+5:	ap-s
Network & Security		-	vol-076b7f862a3629	fOd	gp2	8 GiB	100	-	snap	-0fdd5b8	2023/02/05	19:45 GMT+5:	ap-s
Security Groups		-	vol-0b404e8bd1e05	Da98	gp2	8 GiB	100	-	snap	-0fdd5b8	2023/02/06	00:37 GMT+5:	ap-s
Elastic IPs		storage	Create volume	c7a	gp2	1 GiB	100	-	-		2023/02/06	00:49 GMT+5:	ap-s
Placement Groups		-	Modify volume	ee6	gp2	8 GiB	100	-	snap	-0dee069	2022/09/24	19:16 GMT+5:	ap-s
Key Pairs	4		Create snapshot										•
Network Interfaces			Create snapshot lifecycle policy										
T Load Palancing			Delete volume										
			Attach volume										

Volume ID	
🗇 vol-00965210cf7e5bc7a (sto	orage volume)
Description	
Add a description for your snapshot	
snapshot from existing storage	volume
255 characters maximum.	
Encryption Info	
Not encrypted	
Tags Info A tag is a label that you assign to an A your resources or track your AWS costs	WS resource. Each tag consists of a key and an optional value. You can use tags to search and filter s.
Tags Info A tag is a label that you assign to an A your resources or track your AWS costs No tags associated with the resou	WS resource. Each tag consists of a key and an optional value. You can use tags to search and filter s. urce.
Tags Info         A tag is a label that you assign to an A your resources or track your AWS costs         No tags associated with the resound         Add tag	WS resource. Each tag consists of a key and an optional value. You can use tags to search and filter 5. urce.
Tags Info A tag is a label that you assign to an A your resources or track your AWS costs No tags associated with the resou Add tag You can add 50 more tags.	WS resource. Each tag consists of a key and an optional value. You can use tags to search and filter s. s. urce.
Tags Info         A tag is a label that you assign to an Alyour resources or track your AWS costs         No tags associated with the resound         Add tag         You can add 50 more tags.	WS resource. Each tag consists of a key and an optional value. You can use tags to search and filter s. urce.

## Snapshot created

Capacity Reservations	*	Snapshots (1	1)		_	C	🛛 Recycle Bin	Actions <b>v</b>	Create snapshot	
Images		Owned by me	▼ Q Search						< 1 > ©	
	)	Name		▼ Size	▼ Description	▼ Storage ▼	Snapshot status	▼ Started	▽	Pr
<ul> <li>Elastic Block Store</li> <li>Volumes</li> </ul>	)	-	snap-06de19043e0	e2333e 1 GiB	snapshot from exist	ing stor Standard	⊘ Completed	2023/02/0	6 01:11 GMT+5:	0
Snapshots										-

## **AMI Creation :**

### go to Images -> AMIs

Spot Requests Savings Plans Reserved Instances	Amazon Machine Images (AMIs) Info	C	Recycle Bin Z EC2 Image Builder	Actions <b>v</b> Laun	ch instance from AMI $\langle 1 \rangle$
Dedicated Hosts	Name 🔻 AMI ID	v AMI name	▼ Source	▼   Owner	▼ Visibility
Capacity Reservations		You do	not have any images in this Region.		
▼ Images	4				۱.
AMIs					
AMI Catalog					
Elastic Block Store					
Volumes					

select public Images from the drop down to choose the available Images for AMI creation

Check the checkbox for the required Image from market place

Click on Launch Instance from AMI

Dedicated Hosts Capacity Reservations	Amazon Machine Images (AMIs) (1/58219)				ges (AMIs) (1/58219) Info	[	C 🛛 Recycle Bin	Z	EC2 Image Builder Actions 🔻	L	aunch instance from AMI
		Pub	lic images 🔻	Q	Search				< 1 2 3 4	5	6 7 1165 > 🙆
▼ Images			Name		AMI ID	- 1	AMI name	$\nabla$	Source		Owner
AMIs		<b>~</b>	-		ami-Of2e14a2494a72db9		ztna_ubuntu2004		704109570831/ztna_ubuntu2004		704109570831
AMI Catalog			-		ami-0336132b66921b724		ztna-connector-ami-2.13.0.10	2	aws-marketplace/ztna-connector-ami-2		679593333241
<ul> <li>Elastic Block Store</li> </ul>			-		ami-08b47dd63919ac145		ztna-connector-ami-2.12.0.10	3	aws-marketplace/ztna-connector-ami-2		679593333241
Volumes			-		ami-0409ab54a261fdc25		zstdadi_482-f04c514f-c37f-4	2	aws-marketplace/zstdadi_482-f04c514.		679593333241
Snapshots	1		-		ami-099c60f970f11276c		zrm3.9-source-image-tmp-for	-r	aws-marketplace/zrm3.9-source-image.		679593333241
Lifecycle Manager			-		ami-Oee6de46258b7638e		zpa-service-edge-2022.11-8b	a4	aws-marketplace/zpa-service-edge-202.		679593333241

## 5.Load Balancer

### create a security group: (name - pavansecuritygroup)

click on create security group (Network & security --> security Groups)

Dedicated Hosts Capacity Reservations	•	Secu	r <b>ity Group</b> s Filter security g	5 (8) Info			C Action	s 🔻 Export secu	rity grou	os to CSV 🔻	Create s	ecurity group	*	٩
▼ Images														
AMIs			Name	$\nabla$	Security group ID	$\nabla$	Security group name 🛛	VPC ID	$\nabla$	Description	$\nabla$	Owner		
AMI Catalog			-		sg-0480f4069304eee2	.7	launch-wizard-7	vpc-09317cf0e99b500	44 🛃	launch-wizard-7 cre	ate	407689349899	1	
<ul> <li>Elastic Block Store</li> </ul>			-		sg-03a4a114599d846	5f	launch-wizard-6	vpc-09317cf0e99b500	44 🔼	launch-wizard-6 cre	ate	407689349899		
Volumes			-		sg-05230edde8bd706	a9	launch-wizard-2	vpc-09317cf0e99b500	44 🔼	launch-wizard-2 cre	ate	407689349899		
Snapshots			-		sg-05ad84e02647452	De	launch-wizard-5	vpc-09317cf0e99b500	44 🔼	launch-wizard-5 cre	ate	407689349899		
Lifecycle Manager			-		sg-0a933f584270e1d7	3	default	vpc-09317cf0e99b500	44 🔼	default VPC security	gr	407689349899		
▼ Network & Security		•			** Of4473660-405661	и	Lacovals colonied 7		** 58	Tarrach rollward 7 ere	***	407690740900	÷ •	
Security Groups							_							

### create inbound rules for SSH and HTTP

ype Info	Protocol Info	Port range Info	Source Info	Description - optional Info	
SSH	TCP	22	Anywh ▼		Delete
			0.0.0/0 ×		
нттр	▼ ТСР	80	Anywh 🔻 🔍		Delete
			0.0.0.0/0 ×		
Add rule					
Add rule	0				
Add rule utbound rules Info	o Protocol Info	Portrange Info	Destination Info	Description - optional Info	

### Security group created

0	Security group ( <u>sg-0b2491921275b837c  </u> Details	<u>pavansecuritygroup</u> ) was created successf	ulty	×
	EC2 > Security Groups > sg-0b24919	21275b837c - pavansecuritygroup		
	sg-0b2491921275b8	37c - pavansecuritygro	oup	Actions 🔻
	Details			
	Security group name	Security group ID	Description	VPC ID
	pavansecuritygroup	<b>D</b> sg-0b2491921275b837c	pavansecuritygroup	🗇 vpc-09317cf0e99b50044 🗹
	Owner	Inbound rules count	Outbound rules count	
	<b>D</b> 407689349899	2 Permission entries	1 Permission entry	
	Inbound rules Outbound rules	Tags		

Now create an Application Load balancer by associating the security group created above

Load Balancing - Load Balancers -> create Load balancer

AMI Catalog	► EC2 > Load balancers		
▼ Elastic Block Store			
Volumes	Load balancers	C Actions 🔻	Create load balancer
Snapshots	Elastic Load Balancing scales your load balancer capacity automatically in response to changes in incoming traffic.		
Lifecycle Manager	Q Filter by property or value		< 1 > 💿
Network & Security			
Security Groups	Name	Availability Zones	
Elastic IPs	No load balancers		
Placement Groups	You don't have any load balancers i	n ap-south-1	
Key Pairs	Create load balancer		
Network Interfaces			
▼ Load Balancing	4		Þ
Load Balancers			

Choose Application Load balancer and click on create (name - pavanloadbalancer)



you need a flexible feature set for your applications with HTTP and HTTPS traffic. Operating at the request level, Application Load Balancers provide advanced routing and visibility features targeted at application architectures, including microservices and containers.

Create

select the Scheme (Internet-facing) and IP address type as IPv4

pavanloadbalancer	
A maximum of 32 alphanu	neric characters including hyphens are allowed, but the name must not begin or end with a hyphen.
Scheme Info	
Scheme cannot be changed	after the load balancer is created.
Internet-facing	
An internet-facing load	balancer routes requests from clients over the internet to targets. Requires a public subnet. Learn more 🗹
<ul> <li>Internal</li> </ul>	
An internal load balance	er routes requests from clients to targets using private IP addresses.
Deddaration	
IP address type Into	
Select the type of IP addres	ses that your subnets use.
O IPv4	
Recommended for inte	rnal load balancers.
<ul> <li>Dualstack</li> </ul>	
Includes IPv4 and IPv6	addresses.

# select default VPC, and select check boxes for ap-south-1a, ap-south-1b, ap-south-1c

PC Info elect the virtual private cloud (VPC) for your target onfirm the VPC for your targets, view your target of	ts. Only VPCs with an internet gateway are enabl roups 🔀.	ed for selection. The selected V	PC cannot be changed af	ter the load balancer is cre
- vpc-09317cf0e99b50044 IPv4: 172.31.0.0/16			• C	
appings Info elect at least two Availability Zones and one subm alancer or the VPC are not available for selection.	t per zone. The load balancer routes traffic to ta	gets in these Availability Zones	only. Availability Zones t	hat are not supported by t
✔ ap-south-1a (aps1-az1)				
Subnet				
subnet-06272fea215826763		•		
IPv4 settings				
Assigned by AWS ap-south-1b (aps1-az3)				
Assigned by AWS ap-south-1b (aps1-az3) Subnet				
Assigned by AWS ap-south-1b (aps1-az3) Subnet subnet-0039a2eafbb243eec IPv4 settings		•		
Assigned by AWS  ap-south-1b (aps1-az3)  Subnet  subnet-0039a2eafbb243eec  IPv4 settings  Assigned by AWS		•		
Assigned by AWS  ap-south-1b (aps1-az3)  Subnet  subnet-0039a2eafbb243eec  IPv4 settings Assigned by AWS  ap-south-1c (aps1-az2)		¥		
Assigned by AWS		•		
Assigned by AWS		▼		

### select the security group created in previous step

Security groups Info A security group is a set of firewall rules that control the traffic to your load balance	
Security groups Select up to 5 security groups	• C
Create new security group 🗹	
default sg-0a933f584270e1d73 X     pavansecuritygroup sg-0b2       VPC: vpc-09317cf0e99b50044     VPC: vpc-09317cf0e99b50044	491921275b837c 🗙

### create a target group

▼ Listener HTTP:80		Remove
Protocol Port HTTP T: 80 1-65535	Default action     Info       Forward to     Select a target group       Create target group	C

Listener tags - optional

Consider adding tags to your listener. Tags enable you to categorize your AWS resources so you can more easily manage them.

### Choose the target type, we have selected Instances

🖸 Inst	ances	
• 5	Supports load balancing to instances within a specific VPC.	
• F	acilitates the use of Amazon EC2 Auto Scaling 🛃 to manage and scale your EC2 capacity.	
) IP a	ddresses	
• 5	Supports load balancing to VPC and on-premises resources.	
• F	acilitates routing to multiple IP addresses and network interfaces on the same instance.	
. (	Offers flexibility with microservice based architectures, simplifying inter-application communication.	
• 5	Supports IPv6 targets, enabling end-to-end IPv6 communication, and IPv4-to-IPv6 NAT.	
) Lam	ibda function	
• F	Facilitates routing to a single Lambda function.	
• 4	Accessible to Application Load Balancers only.	
	vlication Load Balancer	
. (	Offers the flexibility for a Network Load Balancer to accept and route TCP requests within a specific VPC.	
• F	acilitates using static IP addresses and PrivateLink with an Application Load Balancer.	

Give targetgroup name (pavantargetgroup) select HTTP protocol, default VPC

Target group name
pavantargetgroup
A maximum of 32 alphanumeric characters including hyphens are allowed, but the name must not begin or end with a hyphen.
Protocol Port
HTTP ▼ : 80
VPC Select the VPC with the instances that you want to include in the target group.
- vpc-09317cf0e99b50044 IPv4: 172.31.0.0/16
Protocol version
• HTTP1 Send requests to targets using HTTP/1.1. Supported when the request protocol is HTTP/1.1 or HTTP/2.
<ul> <li>HTTP2 Send requests to targets using HTTP/2. Supported when the request protocol is HTTP/2 or gRPC, but gRPC-specific features are not available.</li> </ul>
<ul> <li>gRPC Send requests to targets using gRPC. Supported when the request protocol is gRPC.</li> </ul>

# give the numbers based on requirement under Advance healthchecks

<ul> <li>Advanced health check settings</li> </ul>	Restore defaults	
Port The port the load balancer uses when performing health checks on targets. The default is the port on which each targ load balancer, but you can specify a different port.	et receives traffic from the	
<ul> <li>Traffic port</li> </ul>		
Override		
Healthy threshold		
The number of consecutive health checks successes required before considering an unhealthy target healthy.		
4		
2-10		
Unhealthy threshold		
The number of consecutive health check failures required before considering a target unhealthy.		
3		
2-10		
Timeout		
The amount of time, in seconds, during which no response means a failed health check.		
4 🗢		
seconds		
2-120		
Interval		
The approximate amount of time between health checks of an individual target		
30		
seconds		
5-300		

200				
ttributes				
<ul> <li>Gertain default attribute group.</li> </ul>	s will be applied to your targ	get group. You can view and ed	it them after creating the t	arget
Tags - optional				

register the targets , with two new machines created (shagani, pavan)

Regi	ster targets					
This is ar	n optional step to create a ta	arget group. However, to en	sure that your load balance	er routes traffic to this targ	et group you must register your targets.	
Avai	lable instances (2/2)					
Q	Filter resources by property	or value				< 1 > 🐵
	Instance ID	▼ Name	⊽ State ⊽	Security groups	Zone	▼ Subnet ID ▼
	i-0e9c949a9f45aff48	pavan	<b>⊘</b> running	launch-wizard-6	ap-south-1b	subnet- 0039a2eafbb243 eec
	i-Ode03cd0a5f33b646	shagani	⊘ running	launch-wizard-7	ap-south-1b	subnet- 0039a2eafbb243 eec
			2 s	elected		
			Ports for the select Ports for routing traff 80 1-65535 (separate mu	ted instances ic to the selected instances. ultiple ports with commas)		

# create on 'create target group'

/iew targe	ts							
argets (2)	)							Remove all pending
All	▼ Q Filter re	sources by property or value						< 1 > ©
Remove	Health status ⊽	Instance ID v	Name ⊽	Port ⊽	State ⊽	Security groups ⊽	Zone 🛛 🗸	Subnet ID 🛛 🗢
×	Pending	i-0de03cd0a5f33b646	shagani	80	⊘ running	launch-wizard-7	ap-south-1b	subnet-0039a2eafbb243eec
×	Pending	i-0e9c949a9f45aff48	pavan	80	⊘ running	launch-wizard-6	ap-south-1b	subnet-0039a2eafbb243eec

# Target group created

<b>Q</b> Search or filter target groups						< 1 > 🐵
Name v	ARN	$\nabla$	Port	▼ Protocol	▼ Target type	
pavantargetgroup	🗇 arn:aws:elas	sticloadbalancin	80	HTTP	Instance	None associated
						•
iet group: pavantargetg	roup		=			~
get group: pavantargetg	roup		=			×
get group: pavantargetg egistered targets (2)	roup		=		C Deregister	X Register targets
get group: pavantargetg egistered targets (2) Q Filter resources by property c	roup r value		=		C Deregister	Register targets       < 1 >
get group: pavantargetg egistered targets (2) Q. Filter resources by property of Instance ID v	roup	Port v	= Zone ⊽	Health status ⊽	C Deregister Health status details	X Register targets < 1 > @
get group: pavantargetg tegistered targets (2) Q. Filter resources by property of Instance ID マ i- Ode03cd0a5f33b646	roup rvalue Name $\nabla$ shagani	Port V	Zone v	Health status ⊽ ⊖ unused	C Deregister Health status details Target group is not configur the load balancer	Register targets       < 1 > ③       ed to receive traffic from

# Associate the Target Group with Load balancer

rotocol Port	Default	action Info				
HTTP V: 80 1-65535	Forwar Create to	Forward to     pavantargetgroup     HT       Target type: Instance, IPv4     T				
Summary Review and confirm your configuration: Basic configuration Edit	Security groups Edit	Network mapping Edit	Listeners and routing Edit			
pavanloadbalancer Internet-facing IPv4	<ul> <li>default</li> <li>sg-0a933f584270e1d73 2</li> <li>pavansecuritygroup</li> <li>sg-0b2491921275b837c 2</li> </ul>	<ul> <li>VPC vpc-09317cf0e99b50044 [2]</li> <li>ap-south-1a subnet-06272fea215826763 [2]</li> <li>ap-south-1b subnet-0039a2eafbb243eec [2]</li> <li>ap-south-1c</li> </ul>	HTTP:80 defaults to     pavantargetgroup [2]			
		subnet-0c5ebc89712faf603				

Click on create Load Balancer

Successfully created load balancer: pavanloadbalancer Note: It might take a few minutes for your load balancer to be fully set up and ready to route traffic. Targets will also take a few minutes to complete the registration process and pass initial health checks.							
EC2 > Load balancers > pavanloadbalancer > Create Application Load Balancer							
Create Application Load Balancer							
<ul> <li>Suggested next steps</li> <li>Review, customize, or enable attributes for your load balancer and listeners using the Description and Listeners tabs within pavanloadbalancer.</li> <li>Discover other services that you can integrate with your load balancer. Visit the Integrated services tab within pavanloadbalancer.</li> </ul>	lancer						

Loa Elas	Load balancers (1/1) Elastic Load Balancing scales your load balancer capacity automatically in response to changes in incoming traffic.						s in incoming traffic.		C Actions v		Create load balancer		
Q	, Filter by property or v	value cer 🗙	Clear filters								< 1		0
	Name	⊽	DNS name	$\bigtriangledown$	State	$\nabla$	VPC ID	$\nabla$	Availability Zones	$\nabla$	Туре	▽	Da