AWS Cloud EC2

1. EC2 instance creation

a. List of instances created with first name and last name:

aws III Services Q. Seco	ich for sei	vices, feotures,	Koga, di	es, and more	[Alt+5].								×.	4	Ø	k Virginia 🕯		semmeljete
New EC2 Experience X	Inst	ances (2)	fa					_	C	Connect	Instan	ce state ¥	Action	: T	Launch	instance	E [
FC2 Dashtmard	۹	Find instance b	y attribu	ite ar tog (case-sensitive)												< 1	3	۲
EC2 Global View	D.	Name		Instance ID	Instance state		Instance type	Ψ.	Status check	Alaem	status	Availability Zon	90 V	Pub	lic IPv4 DN	5 1	11	Public IP
Events	D.	Sravani		1-0db92858ef0c4a60f	@ Running	00	t2.micro		@ Initializing	No alar	ms +	us-east-1b		e;2	44-212-10-	37.com		44.212.10
Tags		Vulupala		1-07fc995cfd71d6e38	@ Running	QQ	t2.micro		÷	No alar	ms +	us-east-1c		ec2	54-227-18	3-65.cp		54.227.11
Limits	8																	

b. Connect to the first instance using key pair:



2. EBS (Elastic Block Storage)

a. Create a Volume from Volumes menu:

⊘ Su	ccessfully created	l volu	ime <u>vol-060495e604740d</u>	<u>070</u> .														×
Vol	umes (1/3)														C A	tions	Create volu	ime
Q	Search																< 1 >	۲
	Name	v	Volume ID	v	Type	v	Size	v	IOPS	v	Throughput	V	Snapshot	v	Created	V	Availability Zone	Δ.
U	7		vol-0786e9bb6f04a468	88	gp2		8 GiB		100				snap-07bb8	51	2022/10/20 10:09 GMT	+5:	us-east-1c	
	SravaniVolume		vol-060495e604740d0	70	gp2		1 GiB		100		127		111		2022/10/20 10:18 GMT	+5:	us-cast-1c	
	-		vol-Oec118a47bd7cf73	9	gpZ		8 GiB		100		140		snap-07bb8	51	2022/10/20 10:07 GMT	+5:	us-east-1b	

b. Attach volume to EC2 instance:

EC2 > Volumes > vol-060495e604740d070 > Attach volume

Attach volume Info

Attach a volume to an instance to use it as you would a regular physical hard disk drive.

Basic details		
Volume ID		
D vol-060495e604740d070 (SravaniVolume)		
Availability Zone		
us-east-1c		
Instance Info		
i-07fc995cfd71d6e38 🔻 C		
Only instances in the same Availability Zone as the selected volume are displayed. Device name Info		
/dev/sdf		
Recommended device names for Linux: /dev/sda1 for root volume. /dev/sd[f-p] for data volumes.		
③ Newer Linux kernels may rename your devices to /dev/xvdf through /dev/xvdp internally, even when the device name entered here (and shown in the details) is /dev/sdf through /dev/sdp.		
	Cancel	Attach volume

c. Make a file system after attaching the volume, mount file system, create files and un mount :

```
[ec2-user@ip-172-31-16-223 ~]$ sudo su
[root@ip-172-31-16-223 ec2-user]# lsblk
NAME
        MAJ:MIN RM SIZE RO TYPE MOUNTPOINT
xvda
        202:0
                 0
                      8G 0 disk
                      8G 0 part /
∟xvda1 202:1
                  0
xvdf
        202:80
                  0
                      1G 0 disk
[root@ip-172-31-16-223 ec2-user]# mkdir Sravani
[root@ip-172-31-16-223 ec2-user]# fisk -]
bash: fisk: command not found
[root@ip-172-31-16-223 ec2-user]# dfisk -]
bash: dfisk: command not found
[root@ip-172-31-16-223 ec2-user]# fdisk -]
Disk /dev/xvda: 8 GiB, 8589934592 bytes, 16777216 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disklabel type: gpt
Disk identifier: 7F24463C-2CA8-4011-B531-E8704FF21B48
Device
              Start
                          End Sectors Size Type
/dev/xvda1
               4096 16777182 16773087
                                          8G Linux filesystem
/dev/xvda128 2048
                        4095
                                  2048
                                          1M BIOS boot
Partition table entries are not in disk order.
Disk /dev/xvdf: 1 GiB, 1073741824 bytes, 2097152 sectors
Units: sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
[root@ip-172-31-16-223 ec2-user]# mkfs -t xfs /dev/xvdf
meta-data=/dev/xvdf
                                   isize=512
                                                 agcount=4, agsize=65536 blks
                                   sectsz=512
                                                 attr=2, projid32bit=1
                                                  finobt=1, sparse=0
                                   crc=1
                                                 blocks=262144, imaxpct=25
data
                                   bsize=4096
                                   sunit=0
                                                 swidth=0 blks
                                   bsize=4096
naming
         =version 2
                                                  ascii-ci=0 ftype=1
         =internal log
                                   bsize=4096
                                                 blocks=2560, version=2
log
                                   sectsz=512
                                                 sunit=0 blks, lazy-count=1
realtime =none
                                   extsz=4096
                                                 blocks=0, rtextents=0
[root@ip-172-31-16-223 ec2-user]# mount -t xfs /dev/xvdf /home/ec2-user/Sravani
[root@ip-172-31-16-223 ec2-user]# touch SharedFileEBS.txt
[root@ip-172-31-16-223 ec2-user]# cd Sravani/
[root@ip-172-31-16-223 Sravani]# ]s
[root@ip-172-31-16-223 Sravani]# touch SharedFileEBS.txt
[root@ip-172-31-16-223 Sravani]# ]s
SharedFileEBS.txt
[root@ip-172-31-16-223 Sravani]# cd ...
[root@ip-172-31-16-223 ec2-user]# umount /home/ec2-user/Sravani
```

d. Detach the volume from the instance:

١V	/olu	mes (1/3)													C	Acti	ons 🛦	Create vo	stume
1	Q. 3	iearch														Mod	lify volun	ne	
		Name 🗸	Volume ID	ų.	Type	v	Size	Ψ.	IOP5	v	Throughput	9	Snapshot 👳	Create	d	Crea	ite snapsl	hat	
E			vol-0786e9bb6f04a4688		gp2		8 GiB		100		2		snap-07bb851	2022/	10/20 10:0	9 Crea	ite snapsl	not lifecycle pol	ICY
E		SravaniVolume	vol-060495e604740d070	0	gp2		1 GiB		100		2		(*)	2022/	10/20 10:1	B Atta	da volum	(c) (c)	
10	3	•	vol-Oec118a47bd7cf759		gpZ	_	8 GIB	_	100	_	•		snap-07bb851	2022/	10/20 10:0	Det	sch volun	RC	
																For Mar Mar	e detach age auto age tags	volume -enabled I/O	

e. Create another instance in the same availability zone:

		65						<u> </u>							
Q	Find instance by	attribu	ite or tag (case-sensitive)										<	1)	0
	Name	v	Instance ID	Instance stat	e 🔻	Instance type	~	Status check	Alarm state	15	Availability Zone	v	Public IPv4 DNS	♥	Public IP
	Vulupala		i-07fc995cfd71d6e38	@ Running	00	t2.micro		2/2 checks passed	No alarms	+	us-east-1c		ec2-54-227-189-65.co	a -	54.227.1
D	EBSSravani		1-05c3795fcae7f1201	@ Running	ଭ୍ର୍	t2.micro		Sec	No alarms	+	us-east-1c		ec2-52-91-138-60.com.		52.91.13
	Sravani		i-0db92858ef0c4a60f	@ Running	QQ	t2.micro		Ø 2/2 checks passed	No alarms	+	us-east-1b		ec2-44-212-10-37.com.	**	44.212.10
1.1							_								

f. Attach the same volume to this instance :

Basic details Volume ID vol-060495e604740d070 (SravaniVolume) Availability Zone us-east-1c Instance Info i-06c3795fcae7f1201 v CC Only instances in the same Availability Zone as the selected volume are displayed. Device name Info /dev/sdf Recommended device names for Linux /dev/sda1 for root volume. /dev/sd[f-p] for data volumes. Newer Linux kernels may rename your devices to /dev/xvdf through /dev/xvdp internally, even when the device name entered here (and shown in the details) is /dev/sdf through /dev/sdp.	ach a volume to an instance to use it as you would a regular physical hard disk drive.	
Volume ID vol-060495e604740d070 (SravaniVolume) Availability Zone us-east-1c Instance Info i-06c3795fcae7f1201 v C Only instances in the same Availability Zone as the selected volume are displayed. Device name Info /dev/sdf Recommended device names for Linux /dev/sda1 for root volume. /dev/sd[f-p] for data volumes. I Newer Linux kernels may rename your devices to /dev/xvdf through /dev/xvdp internally, even when the device name entered here (and shown in the details) is /dev/sdf through /dev/sdp.	Basic details	
 vol-060495e604740d070 (SravaniVolume) Availability Zone us-east-1c Instance Info i-06c3795fcae7f1201	Volume ID	
Availability Zone us-east-1c Instance Info i-O6c3795fcae7f1201 C Only instances in the same Availability Zone as the selected volume are displayed. Device name Info /dev/sdf Recommended device names for Linux /dev/sda1 for root volume. /dev/sd[f-p] for data volumes. Newer Linux kernels may rename your devices to /dev/xvdf through /dev/xvdp internally, even when the device name entered here (and shown in the details) is /dev/sdf through /dev/sdp.	vol-060495e604740d070 (SravaniVolume)	
us-east-1c Instance Info i-O6c3795fcae7f1201 C Only instances in the same Availability Zone as the selected volume are displayed. Device name Info /dev/sdf Recommended device names for Linux /dev/sda1 for root volume. /dev/sd[f-p] for data volumes. Newer Linux kernels may rename your devices to /dev/xvdf through /dev/xvdp internally, even when the device name entered here (and shown in the details) is /dev/sdf through /dev/sdp.	Availability Zone	
Instance Info i-O6c3795fcae7f1201 C Only instances in the same Availability Zone as the selected volume are displayed. Device name Info /dev/sdf Recommended device names for Linux: /dev/sda1 for root volume. /dev/sd[f-p] for data volumes. Newer Linux kernels may rename your devices to /dev/xvdf through /dev/xvdp internally, even when the device name entered here (and shown in the details) is /dev/sdf through /dev/sdp.	us-east-1c	
i-O6c3795fcae7f1201 C Only instances in the same Availability Zone as the selected volume are displayed. Device name Info /dev/sdf Recommended device names for Linux /dev/sda1 for root volume. /dev/sd[f-p] for data volumes. Newer Linux kernels may rename your devices to /dev/xvdf through /dev/xvdp internally, even when the device name entered here (and shown in the details) is /dev/sdf through /dev/sdp.	Instance Info	
Only instances in the same Availability Zone as the selected volume are displayed. Device name Info /dev/sdf Recommended device names for Linux /dev/sda1 for root volume. /dev/sd[f-p] for data volumes. Newer Linux kernels may rename your devices to /dev/xvdf through /dev/xvdp internally, even when the device name entered here (and shown in the details) is /dev/sdf through /dev/sdp.	i-06c3795fcae7f1201 🔹 🖸	
Device name Info /dev/sdf Recommended device names for Linux /dev/sda1 for root volume. /dev/sd[f-p] for data volumes. () Newer Linux kernels may rename your devices to /dev/xvdf through /dev/xvdp internally, even when the device name entered here (and shown in the details) is /dev/sdf through /dev/sdp.	Only instances in the same Availability Zone as the selected volume are displayed.	
/dev/sdf Recommended device names for Linux /dev/sda1 for root volume. /dev/sd[f-p] for data volumes. ③ Newer Linux kernels may rename your devices to /dev/xvdf through /dev/xvdp internally, even when the device name entered here (and shown in the details) is /dev/sdf through /dev/sdp.	Device name Info	
Recommended device names for Linux /dev/sda1 for root volume. /dev/sd[f-p] for data volumes. Newer Linux kernels may rename your devices to /dev/xvdf through /dev/xvdp internally, even when the device name entered here (and shown in the details) is /dev/sdf through /dev/sdp.	/dev/sdf	
Newer Linux kernels may rename your devices to /dev/xvdf through /dev/xvdp internally, even when the device name entered here (and shown in the details) is /dev/sdf through /dev/sdp.	Recommended device names for Linux /dev/sda1 for root volume. /dev/sd[f-p] for data volumes.	
/dev/xvdp internally, even when the device name entered here (and shown in the details) is /dev/sdf through /dev/sdp.	③ Newer Linux kernels may rename your devices to /dev/xvdf through	
the details) is /dev/sdf through /dev/sdp.	/dev/xvdp internally, even when the device name entered here (and shown in	
	the details) is /dev/sdf through /dev/sdp.	

g. Without making a file system, mount the same one and notice the file that we created in the first machine can be accessed here:

🚸 root@ip-172-31-30-239:/home/ec2-user/Sravani	_		\times
ECDSA key fingerprint is SHA256:+UD5d0dD3nvHjVJP2ilNDTzlpHzirzx Are you sure you want to continue connecting (yes/no/[fingerpri Warning: Permanently added 'ec2-52-91-138-60.compute-1.amazonaw O' (ECDSA) to the list of known hosts.	1HDOq6[nt])? y s.com,	DjomDM. yes 52.91.13	38. 6
_) _ (/ Amazon Linux 2 AMI \			
<pre>https://aws.amazon.com/amazon-linux-2/ 4 package(s) needed for security, out of 7 available Run "sudo yum update" to apply all updates. [ec2-user@ip-172-31-30-239 ~]\$ sudo su [root@ip-172-31-30-239 ec2-user]# lsblk NAME MAJ:MIN RM SIZE RO TYPE MOUNTPOINT xvda 202:0 0 8G 0 disk └_xvdal 202:1 0 8G 0 part / xvdf 202:80 0 1G 0 disk [root@ip-172-31-30-239 ec2-user]# mkdir Sravani [root@ip-172-31-30-239 ec2-user]# mount -t xfs /dev/xvdf Sravan [root@ip-172-31-30-239 ec2-user]# cd Sravani/ [root@ip-172-31-30-239 Sravani]# ls SharedFileEBS.txt</pre>	i		
[root@ip-172-31-30-239 Sravani]#			~

3. Snapshot

a. Create snapshot from volume:

🕘 Su	ccessfully atta	ached vol	ume vol-0	050495e504740d070	to instant	ce <u>1-06</u>	ic3795fcae7	f1201.									×
/olu	umes (1/4)													C	Actions 1	Create volum	ne
Q,	Search															< 1 >	0
1	Name	v	Volume	e ID 🛛 🗸	Type	Ψ	Size	Ŧ	IOPS	Ÿ	Throughput 👳	Snapshot	∇	Created	~	Availability Zone	Ŧ
	-		vol-078	6e9bb6f04a4688	gp2		8 GiB		100		2	snap-07bb8	51	2022/10/20 10:09	GMT+5:	us-east-1c	
	SravaniVol	ume	vol-060	1405-604730-8070			1 GiB		100		e.			2022/10/20 10:18	GMT+5:	us-east-1c	
	-		vol-0c3	Modify volume			8 GiB		100		2	snap-07bb8	51	2022/10/20 10:55	GMT+5:	us-east-1c	
			vol-Oes	Create snapshot			8 Gi8		100		*	snap-07bb8	51	2022/10/20 10:07	GMT+5:	us-east-1b	
				Create snapshot life	cycle poli	cy											
				Delete volume													
				Attach volume													
				Detach volume													
				Force detach volum	e												
				Manage auto-enabl	od 1/0												

b. Snapshots list:

Sna	apshots (1)									C	🗹 Rei	ycle Bin	Actions 🔻	Create snapshot
Ov	wned by me 🔻	Q	Search											< 1 > @
	Name	¢	Snapshot ID	₽	Size	Ø	Description	7	Storage 👳	Snapshot status	Ψ	Started	\$	Progress
	SravaniSnaj	pshot	snap-Obe076f8b0de	47898	1 GiB		SravaniSnapShot		Standard	⊘ Completed		2022/10/3	20 11:04 GMT+5:	O Available (100%)
4			A.C.											,

c. Create volume from snapshot:

•	Snap	shots (1/1)									C	🖸 Rec	ycle Bin	Actions A Create snaps	hot
	Own	ed by me 🔻	Q	Search										Create volume from snapshot	0
		Name	V	Snapshot ID	v	Size	v	Description	v.	Storage ⊽	Snapshot status	v	Started	Create image from snapshot	-
		SravaniSnaps	hot	snap-0be076f8b0de47898	0	1 GiB		SravaniSnapShot		Standard	O Completed		2022/10/2	Copy snapshot	0%)
														Manage fast snapshot restore Archive snapshot Restore snapshot from archive Change restore period Delete snapshot Manage tags	

d. Select a different availability zone (selected us-eas-t1b since previously it was us-east-1c):

Volume settings	
Snapshot ID	
snap-0be076f8b0de47898 (SravaniSnapshot)	
Volume type Info	
General Purpose SSD (gp2)	•
Size (GiB) Info	
1	
Min: 1 GiB, Max: 16384 GiB. The value must be an integer.	
IOPS	
100 / 3000	
Baseline of 3 IOPS per GiB with a minimum of 100 IOPS, burst	table to 3000 IOP
Throughput (MiB/s) Info	
Not applicable	
Availability Zone Info	
us-east-1b	•

e. Attach the instance in the same availability zone as above to the volume created from snapshot:

ttach volume 📷	
ach a volume to an instance to use it as you would a regular physical hard disk drive.	
Basic details	
Volume ID	
🗇 vol-09bd6a4daa4ba96fb (VolumeFromSnapshot)	
Availability Zone	
us-east-1b	
Instance Info	
i-0db92858ef0c4a60f 🔹 🖸	
Only Instances in the same Availability Zone as the selected volume are displayed.	
Device name Info	
/dev/sdf	
Recommended device names for Linux /dev/sda1 for root volume. /dev/sd[f-p] for data volumes.	
Newer Linux kernels may rename your devices to /dev/xvdf through /dev/xvdp internally, even when the device name entered here (and shown in the details) is /dev/sdf through /dev/sdp.	
	Cancel Attach volume

f. Login to the instance in shell and notice the previous files can be accessed without creating the file system again:



4. AMI (Amazon Machine Image)

a. Create a ubuntu instance and install apache and check status:



b. Once apache s installed, to connect in browser edit the inbound rules in the security group attached to the instance:

ound rules into								
curity group rule ID	Type Info		Protocol Info	Port range Info	Source Info		Description - optional Info	
-0a333e7c75e03d54e	SSH	٠	TCP	22	Custom 🔻	Q		Delete
						0.0.0.0/0 ×		
	HTTP.		TCP	80	Anywhe ¥	Q.		Delete
						0.0.0.0/0 ×		

c. Get the public ip of the instance:

 Image: A second s	Sravanilnstanc	i-00d955ec1c353f746	⊘ Running	QQ	t2.micro	⊘ 2/2 checks
	Sravani	i-0db92858ef0c4a60f	⊖ Terminate	ed QQ	t2.micro	17
						41.1
Inst	ance: i=00d955e	c1c353f746 (Sravaniln	stanceForAMI)		_
Inst	ance: i-00d955ed	c1c353f746 (Sravaniln	stanceForAMI)		-
Inst Deta	ance: i-00d955ed	c1c353f746 (Sravaniln Networking Storage	stanceForAMI Status cheo) :ks	Monitoring	Tags
Inst Deta	ance: i-00d955ed	c1c353f746 (Sravaniln Networking Storage	Status cheo) :ks	Monitoring	Tags
Inst Deta V Ir Insta	ance: i-00d955ed	c1c353f746 (Sravaniln Networking Storage	stanceForAMI Status cheo) :ks ublic IPv4	Monitoring	Tags
Deta v Ir Insta	ance: i-00d955ed	c1c353f746 (Sravaniln Networking Storage	Status cheo) :ks ublic IPv4 D	Monitoring	Tags
Deta v Ir Insta i-000	ance: i-00d955ed	C1c353f746 (Sravaniln Networking Storage	Status cheo P) :ks ublic IPv4 D 54.89.212	Monitoring	Tags

d. Connect in browser <u>http://54.89.212.140</u>. Notice the following is launched:



e. Install Php:

🎨 ubuntu@ip-172	-31-89-234: ~		—		
System informa	ation as of Thu Oc	t 20 06:35:08 UTC 2022			^
System load: Usage of /: Memory usage: Swap usage:	0.0 27.7% of 7.57GB 26% 0%	Processes: Users logged in: IPv4 address for eth0:	107 0 172.31.89.234		
updates can b o see these add	e applied immediat ditional updates r	ely. un: apt listupgradab	le		
** System resta ast login: Thu buntu@ip-172-33 HP 8.1.11 (cli opyright (c) Thend the second end Engine v4.3	art required *** Oct 20 06:28:39 2 1-89-234:~\$ php) (built: Sep 29 2 he PHP Group 1.11. Copyright (c	022 from 43.241.120.40 version 022 22:29:14) (NTS)) Zend Technologies			
with Zend OI buntu@ip-172-3	Pcache v8.1.11, Co 1-89-234:~\$ sudo s	pyright (c), by Zend Te ystemctl restart apache	chnologies 2	((),	
/phpinfo.php >	1-89-234:~\$ echo ~ /dev/null 1-89-234:~\$	pnp_pnp1nto(); ? * :	sudo tee -a /va	ar/www/htm	

f. Install Php on the same instance and connect to the phpinfo.php page that we created:

Aber (Vale) over 5 cod et	- THE AVERAGE AND A CONTRACT OF A CONTRACT O	
	PHP Version 8.1.11	Php
	System	Linux to: 172-31-89-234 5, 16.0, 1019-3ns: #23 Uburtu SMP Wes Aug 17 18:33, 13 UTC 2022 x86-64
	Build Date	Sep 29 2022 22 29 14
	Build System	Linux
	Server API	Apacho 2.9 Handler
	Virtual Directory Support	deabled
	Configuration File (php.ini) Path	(dtoptp/8 Vapache)
	Loaded Configuration File	kticipters trapache2/php.ini
	Scan this dir for additional .ini files	/doptp/8 tippacte2/cent d
	Additional Jril files parsed	Mecapipal Tappache/send anD-pepade inii, inichopinal Tappache/abond ini Table inii Teopopial Tappache/send table centralisi ini inichopinal Tappache/send abd abd inii teopopial Tappache/send abd centralisi ini inichopinal Tappache/send abd abd inii Teopopial Tappache/send abd inichopinal Tappache/send abd abd inichopinal Tappache/send abd Tappache/send abd abd abd abd abd abd abd abd abd ab

g. Create AMI from the above instance:

Q,	Find instance by	attribu	ite or tag (case-sensitive)									Connect			1 > @	
	Name Vulupala EBSSravani	♥	Instance ID i-07fc995cfd71d6e38 i-06c3795fcae7f1201	Instance state	▼ @Q	Instance type t2.micro t2.micro	⊽	Status check	Alarm stat	tus Avi + us- + us-	illability east-1c east-1c	View details Manage instance Instance setting Networking	e state ps	F F	♥ Public - -	
	Sravanilnstani	C	i-00d955ec1c353f746 i-0db92858ef0c4a60f	 Running Terminated 	ଉପ ।ଉପ	t2.micro t2.micro		⊘ 2/2 checks pas	Create templa	+ us-	east-1b	Security Image and temp Monitor and tro	plates jubleshoo	4 4	54.89	
Am	azon Machin	ie Im	ages (AMIs) (1/1) Info				1	C Z R	ecycle Bin	🖸 EC2 Im	age Build	er Actions		Launch	h instance fr	om AME
m Ow	azon Machin ned by me ▼	e Im	ages (AMIs) (1/1) Info Find AMI by attribute or tag					C Z R	cycle Bin	🖸 EC2 Im	age Build	er Actions	•	Launch	h instance fr	om AML
.m.	azon Machin ned by me 🔻 Name	ne Im Q ⊽	ages (AMIs) (1/1) Info Find AMI by attribute or tag	▼ AM	l name		▼	C Z R	cycle Bin	[Ž EC2 Im	age Build	er Actions	5 ♥	Launci Visibility	h instance fr 〈 1 ▽	om AMI > © Status

h. Create instance from the above AMI:



i. Get the ip address of the instance created and edit the security group inbound rules to allow http port 80 and connect to apache and phpinfo:

	Name	∇	Instance ID	1	Instance state		Instance type	∇
	SravaniInstanceForAMI		i-00d955ec1c353f746		Running	€Q	t2.micro	
	SravaniInstanceFromAMI		i-0c8015f5ae4eb92fa		O Running	θQ	t2.micro	
<								
Inct	ance: i-0c8015f5ae4eb9	fa (Sr	vanilnstanceFromAM	(11)			=	
msu	ance. 1-00015158e4eb52		avanimistancerioniai	,				
			ciana la ciana la		10 00 10 A	E = 8		
Deta	ils Security Network	ang	Storage Status chec	ks	Monitorin	g 1	ags	
Deta	nstance summary Info	ang	Storage Status chec	ks	Monitorin	g 1	ags	
Deta v In Insta	nstance summary Info	ang	Storage Status chec	ks ubli	Monitorin	g 1	ags	
Deta v In Insta	nstance summary Info	ang	P	ks ubli	Monitorin	g 1	ags	



5. Load Balancer

- a. Create a security group with inbound rules to allow port 80
- b. Create a target group and select the two instances that you have created and click on Include as pending and click on Create target group button at the bottom

Step 1 Specify group details	Specify group details
Step 2	Your load balancer routes requests to the targets in a target group and performs health checks on the targets.
Register targets	Basic configuration Settings in this section cannot be changed after the target group is created.
	Choose a target type
	 Instances
	 Supports load balancing to instances within a specific VPC.

Register targets

Na

SravaniLBTG

ARN

🗇 am:aws:elasticloadbalancin.

This is an optional step to create a target group. However, to ensure that your load balancer routes traffic to this target group you must register your targets.

Q. Filter resources by property or	olue							$\langle 1 \rangle$
Instance ID	v . M	Name	v State	w 5	iecurity groups	Zone	Ŷ	Subnet ID
i-00d955ec1c353f746	5 M	SravanilnstanceForA MI	@ running	1	aunch-wizard-4	us-east-1b		subnet- 027ca70deb3a9046
i-oc8015f5ae4eb92fa	S A	SravaniInstanceFrom AMI	<i>⊙</i> running	L	aunch-wizard-5	us-east-1b		subnet- 027ca70deb3a9046
			Ports for Ports for	r the selected in routing traffic to th	stances he selected instances.			
			Ports for Ports for 80 1-655351	r the selected in routing traffic to the Deparate multiple include as pend	stances reselected instances. ports with comment ing below			
2 > Target groups			Ports for Ports for 80 1-655351	r the selected in routing traffic to th Deparate multiple include as period	stances exelected instances. ports with communi- ing below			

c. C	reate a load	balancer by	choosing the	security group	and target group	created above:
------	--------------	-------------	--------------	----------------	------------------	----------------

80

Gr	eate Load Balancer	Actions									000
C), Filter by tags and at	ttibules or sear	ch by keyword								\mathbb{R} < 1 to 1 of 1 \supset \Im
	Name		DNS name	. *	State	7	VPC ID	100	Availability Zones	Туре	- Created At
	SravaniALB		SravaniALB-749763665 us-east-1 elb amazona	a	Active		vpc-080483116f33ab456		us-cast-1b, us-cast-1a	application	October 20, 2022

Protocol

HTTP

Target type

Instance

VPC ID

-

vpc= 080483115f33ab4

.

Load bala

(None associated

d. Private Ips of two machines : 172.31.89.234 and 172.31.92.35





6. VPC

a. Create a VPC:

Q Sea	rch for services, features, blogs, docs, and	more	[Alt+S]						D	\$	0	Sydney 🔻	sravar
×	Your VPCs (2) Info								C	Action	5.▼	Create V	/PC
	Q Filter VPCs											< 1 >	۲
w	Name Name	V	VPCID	V	State	V	IPv4 CIDR	4	IPv6 C	IDR		Ţ	DHCP
	0 -		vpc-0a2b91a26e	d02e516	⊘ Available		172.31.0.0/16		-				dopt-0
*	Sravani-VPC		vpc-030cd1d08cl	23e44c5	⊘ Available		192.168.0.0/16		-				dopt-0
	1												

b. Create an internet gateway and attach the VPC:

Inte	rnet gateways	(1/1) .	nfo					C Actions 🔻	Create in	nternet gate	way
Q	Filter internet gatev	vays								< 1 >	0
	Name	v	Internet gateway ID	V	State	▽	VPC ID		Owner		∇
2	Sravani-IGW		lgw-0eeccf977a0695209		⊖ Detache	d	121		73897408110	13	

· / manue gaceways / igw oe				
w-0eeccf977a069	5209 / Sravani-IGV	V		Actions v
Details Info				
Internet gateway ID	State	VPC ID	Owner	
🗗 igw-0eeccf977a0695209	⊘ Attached	vpc-030cd1d08c23e44c5 Sravani-	7 38974081103	

c. Create subnets (one for public subnet and one for private subnet)

Sub	nets (2) Info								C Actions	•	Create subnet
Q	Filter subnets										< 1 > @
	Name	v	Subnet ID	v	State	⊽	VPC	∇	IPv4 CIDR	v	IPv6 CIDR
	Sravani-PrvSN		subnet-082297ff0872e326e		🕝 Available		vpc-030cd1d08	c23e44c5 Sra	192.168.0.0/24		ан (т. с.
	Sravani-PubSN		subnet-06513a4a18b666fb3		⊘ Available		vpc-030cd1d08	c23e44c5 Sra	192.168.1.0/24		-

d. Create route tables (Public and Private)

⊘ R	oute table rtb-0d671	8ea313	daSabb Sravani-PrvRT was c	reater	d successfully.					×
Rou	te tables (4) Info						C	Actions 🔻	Create route tab	ole
Q,	Filter route tables								< 1 >	٢
0	Name	Ψ.	Route table ID	Ŧ	Explicit subnet associat	Edge associations	Main 🗢	VPC	~	0w
D	-		rtb-0be676c19a4419b75		2	2	Yes	vpc-030cd1d08e	23e44c5 \$ra	7389
	Sravani-PrvRT		rtb-0d6718ea313da5abb		-	-	No	vpc-030cd1d08e	23e44c5 Sra	7389
	Sravani-PubRT		rtb-0cbfa9f8b8182e391		2	1	No	vpc-030cd1d08c	23e44c5 Sra	7389
0	-		rtb-04b02f1552ec9a346		-	-	Yes	vpc-0a2b91a26e	d02e516	7389

e. Edit subnet associations from route table (Public->public and Private->private)

		-										
a 194	ar sahirri ansaciirciori									8	1 >	۲
)	Name	v.	Subnet ID	v	IPv4 CIDR	.v	IPv5 CIDR	v	Route table ID			
-	Sravani-Prv5N		submet-002297ff0872e326e		192.168.0.0/24		320		Main (rtb-0be676c19a4419b75)			
	Sravani-PubSN		sobnet-06513a4a18b666b3		192.168.1.0/24		(24)		Main (rtb-0be676c19s4415b75)			

f. Connect public route table to internet gateway:

stination	Target	Status	Propagated	
92 168 0.0/16	Q, local	X @Active	No	
Q, 0.0.0/d	Q, igw-0eecc/977a0695209	× -	No	

g. Create one instance each in public subnet and private subnet (Select the VPC and also the corresponding public and private subnets)

Inst	ances (2) Info				C	Connect		Instance state 🔻	7	Actions 🔻		Launch instances		•
Q	Find instance by attribute of	or tag (case-sensitive)								5.1	< 1	>	٢
	Name	⊽	Instance ID	Instance state	~	Instance type	₹	Status check	T	Alarm status	ŧ.	Availability Zone	V	Put
	Sravani-Prv-Instance		i-013bfeddc4fcfb514	@ Running	QQ	t2.micro				No alarms	+	ap-southeast-2b		-
	Sravani-Pub-Instance		i-010e0a57ae9c61f8c	@ Running	QQ	t2.micro		 Initializing 		No alarms	+	ap-southeast-2b		-
				25.24										

h. Edit the security groups created above to allow all ICMP and all TCP

bound rules into								
ecurity group rule ID	Type Info		Protocol	Port range	Source hife		Description - optional Info	
	SSH	•	TOP	22	Anywh 🛡	Q/	1	Delete
						0.0.0,0/0 ×		
	AILICMP - IPv4	Ψ.	ICMP	AB	Anywh 🔻	Q.:	1	Delete
						0.0.0.0/0 ×		
	All TCP	٠	TOP	0 - 65535	Anywh 🔻	9		Delete
						0.0.0.0/0 🗙		

i. Connect to the instance in public subnet1 (We should be able to connect and ping internet since it is connected to internet gateway)



j. To connect to the instance in private subnet1, copy the key file to public subnet and connect to the private instance from there using the public ip of the private subnet instance but you will not be able to connect to internet still since NAT gateway is not created:



k. Create a NAT gateway and associate public subnet

NAT	gateways (1/1)	Info						C	A	ctions 🔻 Cre	ate N	NAT g	jatewa	ay
Q	Filter NAT gateways										<	1	>	0
	Name	v	NAT gateway ID	~	Connectivit v	State	v	State message	v	Elastic IP addres	s V		Priva	ite IP ad
0	Sravani-NATGW		nat-02b0d0f6dce5b5db3		Public	⊘ Available		-		52.64.231.193			192.1	68.1.11

I. Go to the private route table and add NAT gateway

Edit routes						
Destination	Target		Status	Propagated		
192.168.0.0/16	Q, local	×	@ Active	No		
٩	Q, nat-02b0d0f6dce5b5db3	×	ā	No	Remov	re
Add route						
				Cancel	Preview	Save changes

m. Ping google.com from private subnet instance:

```
54 bytes from syd09s23-in-f14.1e100.net (142.250.66.206): icmp_seq=181 tt]=110 t
ime=1.02 ms
54 bytes from syd09s23-in-f14.1e100.net (142.250.66.206): icmp_seq=182 tt]=110 t
ime=0.978 ms
54 bytes from syd09s23-in-f14.1e100.net (142.250.66.206): icmp_seq=183 tt]=110 t
ime=0.952 ms
54 bytes from syd09s23-in-f14.1e100.net (142.250.66.206): icmp_seq=184 tt]=110 t
ime=0.952 ms
54 bytes from syd09s23-in-f14.1e100.net (142.250.66.206): icmp_seq=185 tt]=110 t
ime=0.952 ms
54 bytes from syd09s23-in-f14.1e100.net (142.250.66.206): icmp_seq=185 tt]=110 t
ime=0.976 ms
AC
--- google.com ping statistics ---
185 packets transmitted, 185 received, 0% packet loss, time 184673ms
att min/avg/max/mdev = 0.918/0.982/1.434/0.074 ms
[ec2-user@ip-192-168-0-133 ~]$
```