

Day-3

.....

Today's working will be on the Sub section of EC2 instance that is Network and Security. It has many points covered like Security Groups, Elastic IPs, Key Pairs, etc.....

The Contents are as Follows:

▼ Network & Security

Security Groups

Elastic IPs

Placement Groups

Key Pairs

Network Interfaces

Security Groups: They control which traffic can enter or leave your instances. You define rules to allow or deny traffic based on things like the IP, port, etc.

Security Groups (1/1) [Info](#) [Actions](#) [Export security groups to CSV](#) [Create security group](#)

Find resources by attribute or tag

sg-08afa41ee049dbfdf [Clear filters](#) [< 1 >](#) [Settings](#)

<input checked="" type="checkbox"/>	Name	Security group ID	Security group name	VPC ID	Description	Owner
<input checked="" type="checkbox"/>	-	sg-08afa41ee049dbfdf	launch-wizard-1	vpc-07f5c4c9bdbf45b11	launch-wizard-1 created 2024-12-18T0...	1652785259

sg-08afa41ee049dbfdf - launch-wizard-1

[Details](#) [Inbound rules](#) [Outbound rules](#) [Sharing - new](#) [VPC associations - new](#) [Tags](#)

Details

Security group name launch-wizard-1	Security group ID sg-08afa41ee049dbfdf	Description launch-wizard-1 created 2024-12-18T08:50:39.913Z	VPC ID vpc-07f5c4c9bdbf45b11
Owner 1652785259	Inbound rules count 1 Permission entry	Outbound rules count 1 Permission entry	

Security Groups are a built-in feature of AWS, so there are no additional costs associated with using them so they are like the best way to keep you Cloud space secure. They are also very helpful in managing as created security groups can be assigned to multiple services.

Details of a Security group:

The screenshot shows the AWS Management Console interface. The left-hand navigation pane is expanded to 'Network & Security', with 'Security Groups' selected. The main content area displays the details for the security group 'sg-03e9265047f680766 - default'. The details section includes:

- Security group name:** default
- Security group ID:** sg-03e9265047f680766
- Description:** default VPC security group
- VPC ID:** vpc-07f5c4c9b0dbf45b11
- Owner:** 165278525958
- Inbound rules count:** 1 Permission entry
- Outbound rules count:** 1 Permission entry

Below the details, there are tabs for 'Inbound rules', 'Outbound rules', 'Sharing - new', 'VPC associations - new', and 'Tags'. The 'Inbound rules' tab is active, showing a table with one rule:

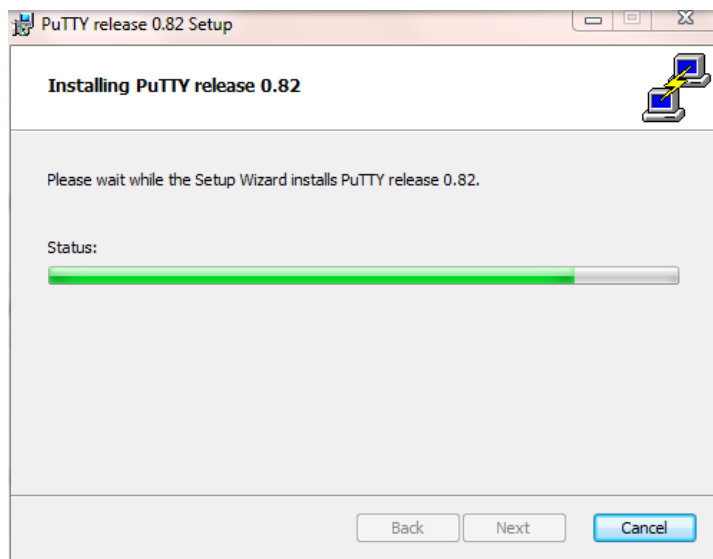
Name	Security group rule ID	IP version	Type	Protocol	Port range
-	sgr-0c699b3e3963db360	-	All traffic	All	All

Creating a Key Pair: (You need a key pair to create and connect an Instance)

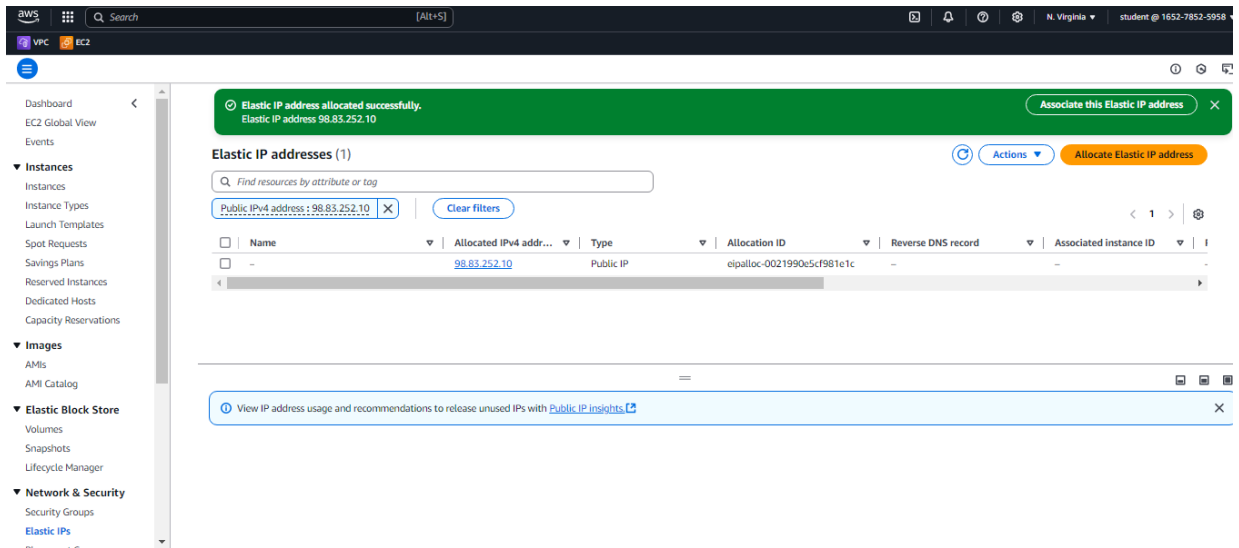
The screenshot shows the 'Key pairs' page in the AWS Management Console. The page title is 'Key pairs (1/1) Info'. There is a search bar with the placeholder text 'Find Key Pair by attribute or tag'. On the right, there are 'Actions' and 'Create key pair' buttons. Below the search bar is a table with the following data:

Name	Type	Created	Fingerprint	ID
PairKey	rsa	2024/12/18 14:22 GMT+5:30	3f:b5:82:44:f8:ac:b0:90:97:2b:f8:c0:9c:6e:e4:22:...	key-091614c1d9c610083

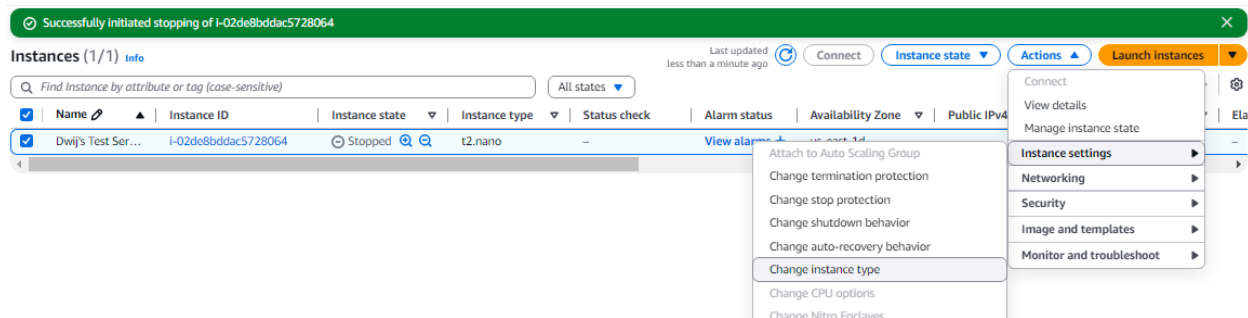
Use PuTTY to generate key pairs:



Elastic IP: It's a static IP address (which will not change) that you can associate with any of your instances in a particular region.



Changing Instance Type:



Note: You cannot change CPU for t2 micro instance.

Change instance type [info](#) [Get advice](#)

You can change the instance type only if the current instance type and the instance type that you want are compatible.

Instance ID
i-02de8bddac5728064 (Dwij's Test Server)

Current instance type
t2.nano

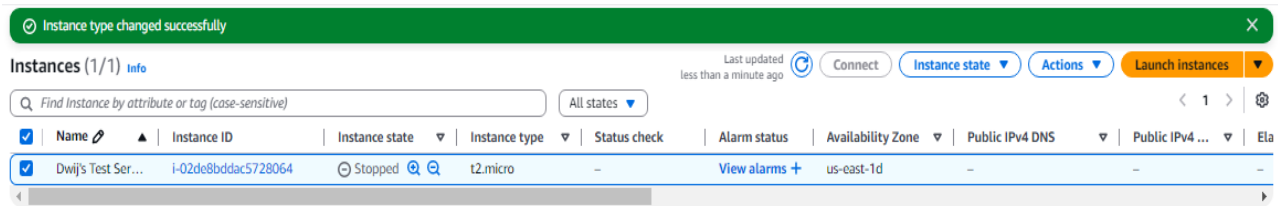
New instance type
t2.micro

☐ EBS-optimized
EBS-optimized is not supported for this instance type

▼ Instance type comparison

Attribute	t2.nano	t2.micro
On-Demand Linux pricing	0.0058 USD per Hour	0.0116 USD per Hour
On-Demand Windows pricing	0.0081 USD per Hour	0.0162 USD per Hour
vCPUs	1 (1 core)	1 (1 core)
Memory (MiB)	512	1024
Storage (GiB)	-	-

Change Successful:



Instance type changed successfully

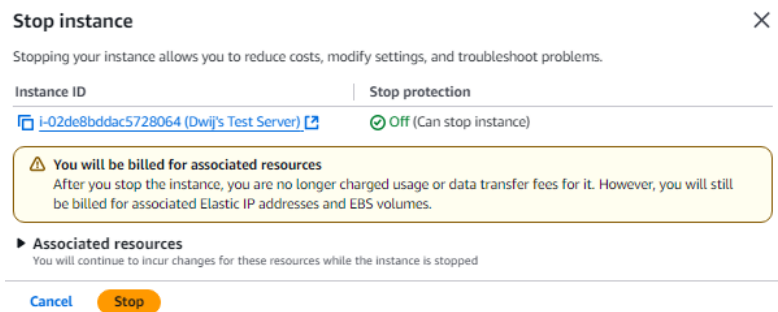
Instances (1/1) [Info](#)

Find Instance by attribute or tag (case-sensitive) All states

Last updated less than a minute ago [Connect](#) [Instance state](#) [Actions](#) [Launch instances](#)

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Ela
<input checked="" type="checkbox"/>	Dwij's Test Ser...	i-02de8bddac5728064	Stopped	t2.micro	-	View alarms +	us-east-1d	-	-	-

Note: You need to stop an Instance before changing its type.



Stop instance

Stopping your instance allows you to reduce costs, modify settings, and troubleshoot problems.

Instance ID | Stop protection

[i-02de8bddac5728064 \(Dwij's Test Server\)](#) [🔗](#) [🟢 Off](#) (Can stop instance)

⚠️ You will be billed for associated resources
After you stop the instance, you are no longer charged usage or data transfer fees for it. However, you will still be billed for associated Elastic IP addresses and EBS volumes.

► **Associated resources**
You will continue to incur charges for these resources while the instance is stopped

[Cancel](#) [Stop](#)

Facts:

- 1) Cloud is like a web, once you enter it, it's very hard to get out of it.
- 2) Cloud requires skill, if you have it then cloud is a boon; if not, cloud is nothing more than a curse.
- 3) Security Groups is one of the most useful feature of cloud.
- 4) Elastic IPs provides stability and flexibility for your AWS infrastructure.
- 5) Keep your private key safe and secure! If someone gets access to it, they can gain access to your server.