

NWEN243 - Project 2 - Images and Explanations
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Image 1 (1.jpg):

- Shows server and client connection on local machine.
- Server side shows when a client is connected and disconnected.
- Server side compiles and runs the server code establishing a port at 5001.
- Client side shows it compiles and runs the client connection via connecting to localhost at port 5001 and requests a year to be returned.
- Client side prints out the song information that is sent by the server and disconnects.

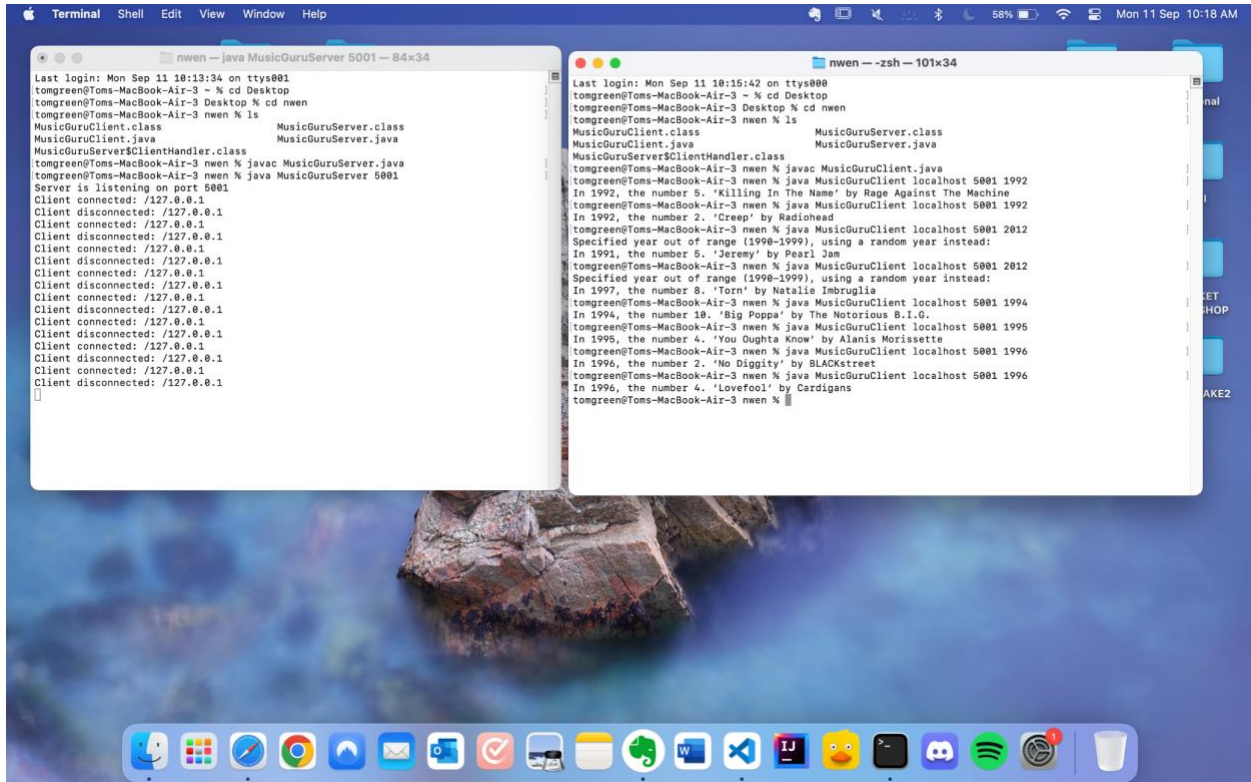


Image 2:

- Shows uploading the MusicGuruServer code to my AWS instance via the terminal.
- On the left side is the instance terminal connected through ssh and shows the MusicGuruServer now in the instance
- On the right side is the local machine terminal showing the uploading of MusicGuruServer to the instance IP.

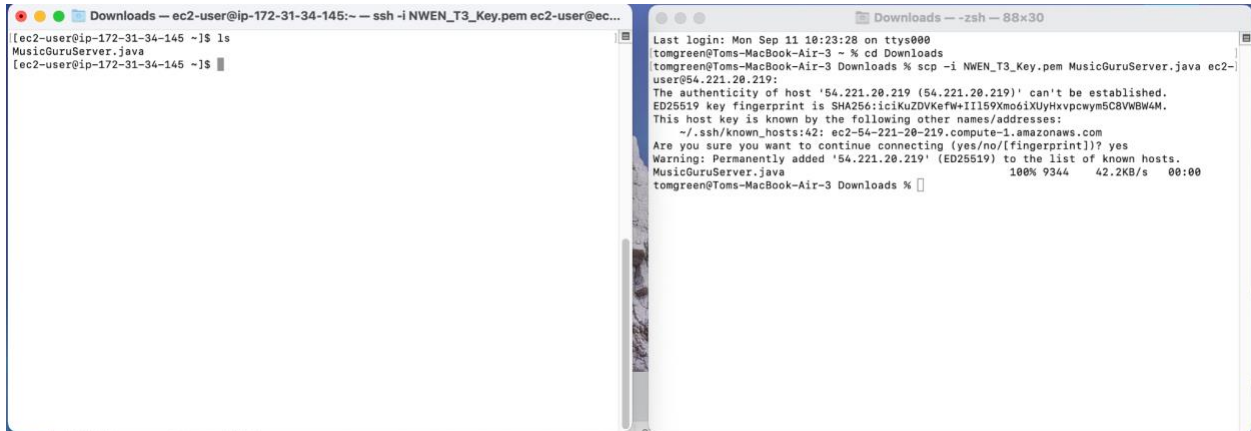


Image 3 (2.jpg):

- Shows server and client connection from instance and local machine.
- Server side shows when a client is connected and disconnected.
- Server side compiles and runs the server code establishing a port at 5001.
- Client side shows it compiles and runs the client connection via connecting to instance IP at port 5001 and requests a year to be returned.
- Client side prints out the song information that is sent by the server and disconnects.

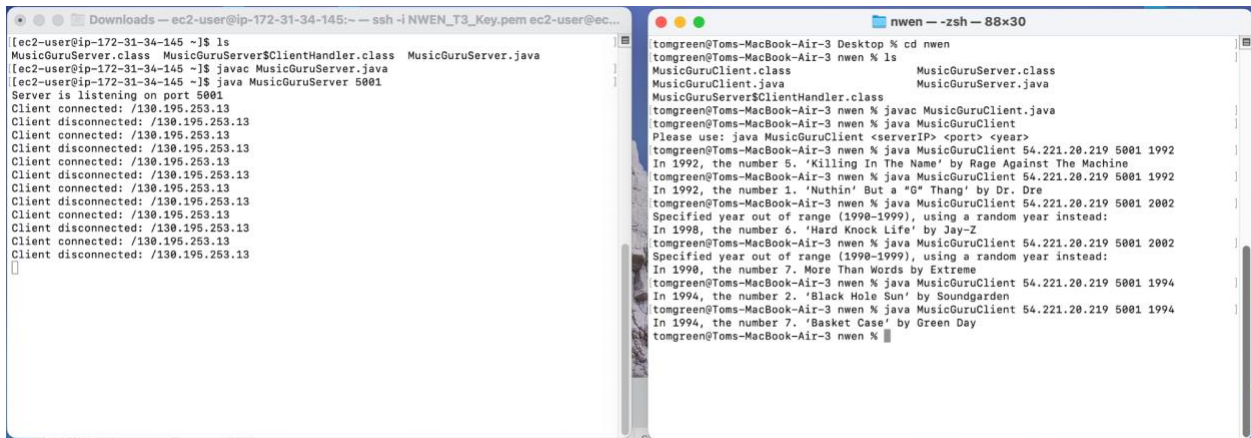


Image 4:

- Shows same thing as Image 3 however the client side is also printing out the private IP address using `socket.getHostName()`

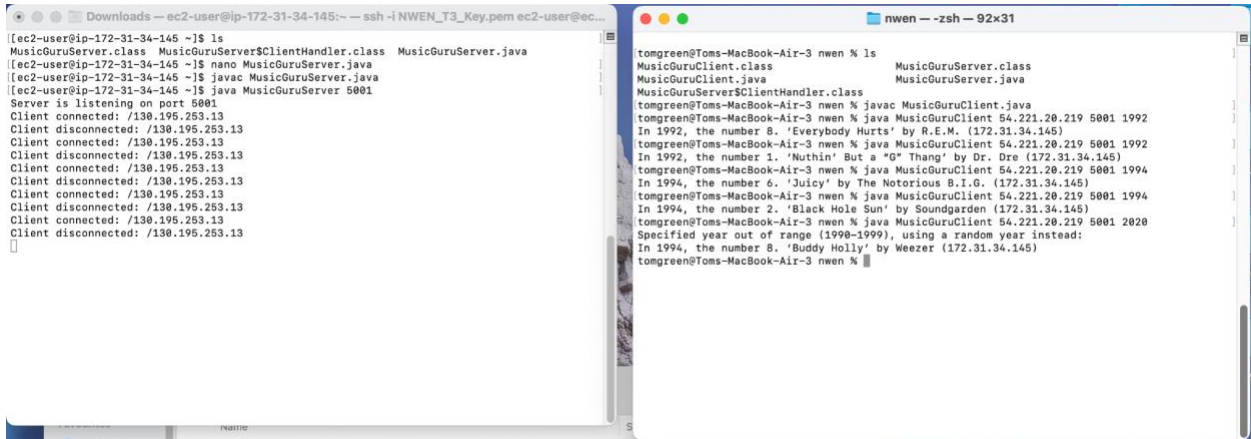


Image 5 (3.jpg):

- Shows process of creating run.sh and crontab. This allows the MusicGuruServer to be run without compiling at port 5001 if a client connects with the appropriate IP address and port established.

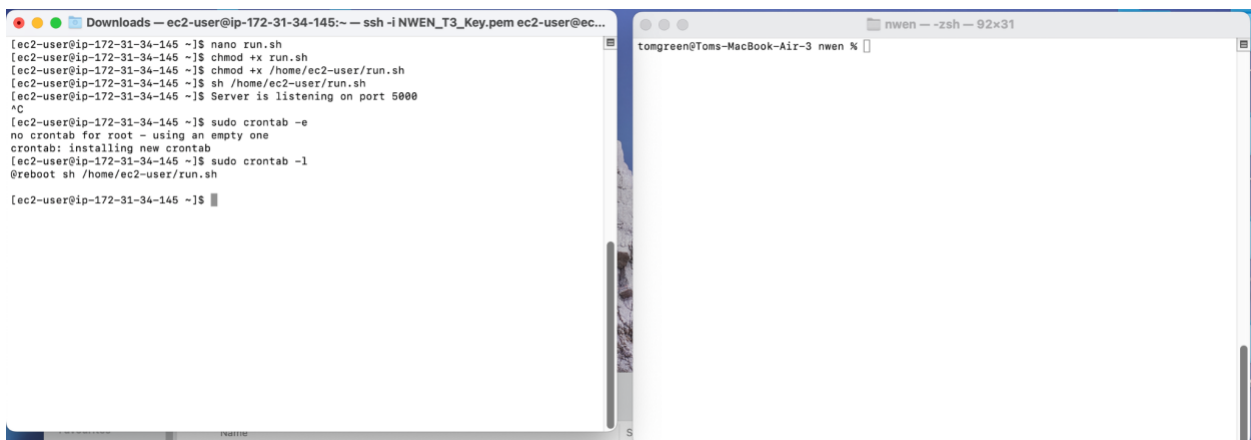
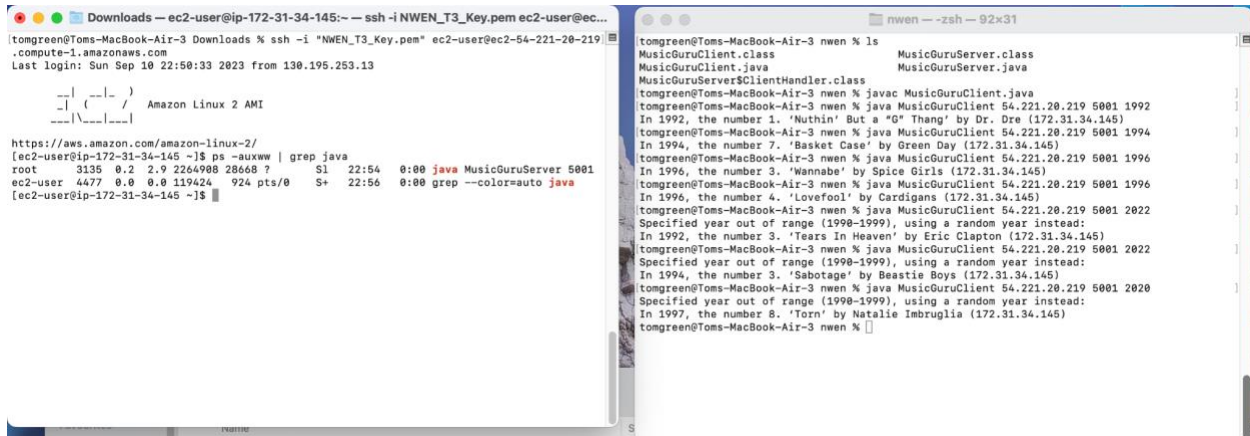


Image 6 (4.jpg):

- Shows client connection to the server via using an instance IP port and a year to be sent back.
- On the left side is the instance without the server being compiled and ran which shows that our run.sh and crontab has worked and running the java MusicGuruServer manually



The image contains two side-by-side terminal screenshots. The left terminal shows the output of 'ps -auxww | grep java' on an Amazon Linux 2 instance, displaying the 'java MusicGuruServer 5001' process running as root. The right terminal shows the output of 'ls' and 'nwen % ls' on a MacBook-Air-3, listing Java files and displaying a series of client connections with song titles and years.

```
Downloads — ec2-user@ip-172-31-34-145:~ — ssh -i NWEN_T3_Key.pem ec2-user@ec2-54-221-20-219.compute-1.amazonaws.com
Last login: Sun Sep 10 22:50:33 2023 from 130.195.253.13

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https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-34-145 ~]$ ps -auxww | grep java
root      3135  0.2  2.9 2264908 28668 ?        Sl   22:54   0:00 java MusicGuruServer 5001
ec2-user  4477  0.0  0.0 119424   924 pts/0    S+   22:56   0:00 grep --color=auto java
[ec2-user@ip-172-31-34-145 ~]$

nwen — -zsh — 92x31
tomgreen@Toms-MacBook-Air-3 nwen % ls
MusicGuruClient.class      MusicGuruServer.class
MusicGuruClient.java       MusicGuruServer.java
MusicGuruServer$ClientHandler.class
tomgreen@Toms-MacBook-Air-3 nwen % javac MusicGuruClient.java
tomgreen@Toms-MacBook-Air-3 nwen % java MusicGuruClient 54.221.20.219 5001 1992
In 1992, the number 1. 'Nuthin' But a 'G' Thang' by Dr. Dre (172.31.34.145)
tomgreen@Toms-MacBook-Air-3 nwen % java MusicGuruClient 54.221.20.219 5001 1994
In 1994, the number 7. 'Basket Case' by Green Day (172.31.34.145)
tomgreen@Toms-MacBook-Air-3 nwen % java MusicGuruClient 54.221.20.219 5001 1996
In 1996, the number 3. 'Wannabe' by Spice Girls (172.31.34.145)
tomgreen@Toms-MacBook-Air-3 nwen % java MusicGuruClient 54.221.20.219 5001 1996
In 1996, the number 4. 'Lovefool' by Cardigans (172.31.34.145)
tomgreen@Toms-MacBook-Air-3 nwen % java MusicGuruClient 54.221.20.219 5001 2022
Specified year out of range (1990-1999), using a random year instead:
In 1992, the number 3. 'Tears In Heaven' by Eric Clapton (172.31.34.145)
tomgreen@Toms-MacBook-Air-3 nwen % java MusicGuruClient 54.221.20.219 5001 2022
Specified year out of range (1990-1999), using a random year instead:
In 1994, the number 3. 'Sabotage' by Beastie Boys (172.31.34.145)
tomgreen@Toms-MacBook-Air-3 nwen % java MusicGuruClient 54.221.20.219 5001 2020
Specified year out of range (1990-1999), using a random year instead:
In 1997, the number 8. 'Torn' by Natalie Imbruglia (172.31.34.145)
tomgreen@Toms-MacBook-Air-3 nwen %
```

Image 7 (5.jpg):

- Left side shows original instance as well as created instance from AMI image of the original instance.
- Right side shows local machine running MusicGuruClient and connecting to the server via IP address respectively as well as port number at 5001 and year to be returned.
- Shows both client terminals and server side by side both running the MusicGuruClient.

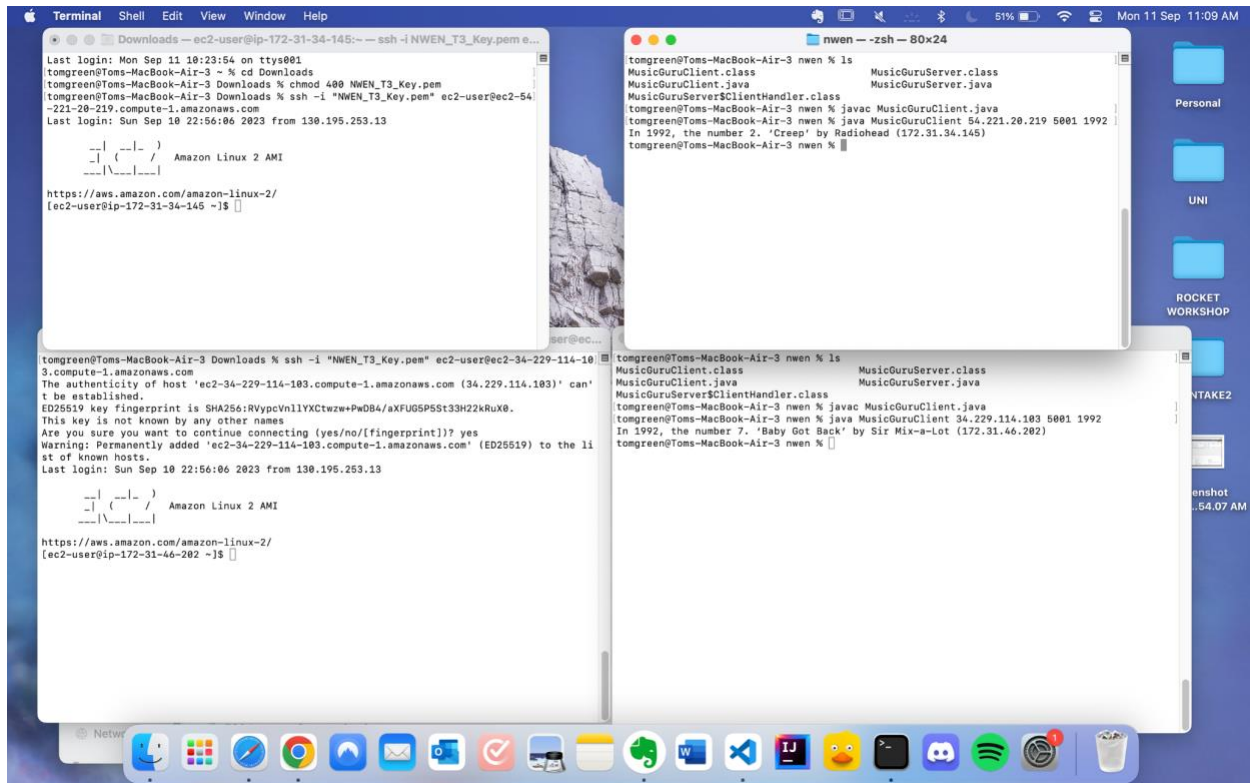


Image 8:

- Shows original instance 'NWEN_TAKE3' running in the instances dashboard (ignore all the other NWEN instances I had to do it a lot)

The screenshot displays the AWS Management Console for the 'us-east-1' region. The 'Instances' dashboard shows a list of EC2 instances. The instance 'NWEN_TAKE3' (ID: i-0978d3accb5d0eff5) is in a 'Running' state. Below the list, the details for this instance are expanded, showing its configuration and network settings.

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elasti
cybr271_brute...	i-0e485532434c31a1f	Running	t3.small	2/2 checks passed	No alarms	us-east-1d	ec2-3-80-31-38.comput...	3.80.31.38	-
NWEN_PROJE...	i-04af3b9d4c52ee2aa	Terminated	t2.micro	-	No alarms	us-east-1a	-	-	-
NWEN_TRY_A...	i-0d0b0ed4c448fda8a	Terminated	t2.micro	-	No alarms	us-east-1a	-	-	-
NWEN_AMI_M...	i-0ffc67a542feef4b1	Terminated	t2.micro	-	No alarms	us-east-1a	-	-	-
NWEN_TAKE3	i-0978d3accb5d0eff5	Running	t2.micro	2/2 checks passed	No alarms	us-east-1a	ec2-54-221-20-219.co...	54.221.20.219	-

Instance: i-0978d3accb5d0eff5 (NWEN_TAKE3)

Details | Security | Networking | Storage | Status checks | Monitoring | Tags

Instance summary | Info

Instance ID i-0978d3accb5d0eff5 (NWEN_TAKE3)	Public IPv4 address 54.221.20.219 open address	Private IPv4 addresses 172.31.34.145
IPv6 address -	Instance state Running	Public IPv4 DNS ec2-54-221-20-219.compute-1.amazonaws.com open address
Hostname type IP name: ip-172-31-34-145.ec2.internal	Private IP DNS name (IPv4 only) ip-172-31-34-145.ec2.internal	Elastic IP addresses -
Answer private resource DNS name IPv4 (A)	Instance type t2.micro	

Image 9 (6.jpg):

- Shows AMI image that was created from instance 'NWEN_TAKE3.'

The screenshot displays the AWS Management Console interface for Amazon Machine Images (AMIs) in the us-east-1 region. The left sidebar shows the navigation menu with categories like EC2 Dashboard, Instances, Images, Elastic Block Store, Network & Security, and Load Balancing. The main content area is titled 'Amazon Machine Images (AMIs) (1/4)' and includes a search bar and a table of AMIs. The AMI 'ami-035a4febffa63d847' is selected, and its details are shown in a modal window below the table.

Name	AMI ID	AMI name	Source	Owner	Visibility	Status	Creation date
nworp2	ami-0253e20e82d954abb	nworp2	609310301062/nworp2	609310301062	Private	Available	2023
NWEN_TAKE3	ami-035a4febffa63d847	NWEN_TAKE3	609310301062/NWEN_TAKE3	609310301062	Private	Available	2023
NWEN_IMAGE	ami-0be5978f535831d90	NWEN_IMAGE	609310301062/NWEN_IMAGE	609310301062	Private	Available	2023
MusicGuruAMI	ami-0ccc100113f65de2c	MusicGuruAMI	609310301062/MusicGuruAMI	609310301062	Private	Available	2023

AMI ID: ami-035a4febffa63d847			
Details			
AMI ID	ami-035a4febffa63d847	Image type	machine
AMI name	NWEN_TAKE3	Owner account ID	609310301062
Root device name	/dev/xvda	Status	Available
Boot mode	-	State reason	-
Description	-	Product codes	-
Last launched time	-	Block devices	/dev/xvda=snap-00bad072662f14113:8:true:gp2
Platform details	Linux/UNIX	Architecture	x86_64
Root device type	EBS	Source	609310301062/NWEN_TAKE3
Usage operation	RunInstances	Creation date	Mon Sep 11 2023 10:58:08 GMT+1200 (New Zealand Standard Time)
Virtualization type	hvm	RAM disk ID	-
Kernel ID	-	Deprecation time	-

Image 10 (7.jpg):

- Shows two instances running. One is the original instance 'NWEN TAKE3' and the other one is created from the AMI image of the original instance. Both are running and public IPv4 are shown on the right-hand side.

The screenshot displays the AWS Management Console for the 'us-east-1' region. The 'Instances' page is active, showing a list of EC2 instances. The table includes columns for Name, Instance ID, Instance state, Instance type, Status check, Alarm status, Availability Zone, Public IPv4 DNS, and Public IPv4 address. Two instances are in the 'Running' state: 'NWEN TAKE3' and 'NWEN TAKE3...'. Both have public IPv4 addresses assigned. The console also shows a sidebar with navigation options like EC2 Dashboard, EC2 Global View, Events, and a bottom bar with CloudShell, Feedback, and Language links.

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elasti
cybr271_brute...	i-0e485532434c31a1f	Stopped	t3.small	-	No alarms	us-east-1d	-	-	-
NWEN_PROJE...	i-04af3b9d4c52ee2aa	Terminated	t2.micro	-	No alarms	us-east-1a	-	-	-
NWEN_TRY_A...	i-0d0b0ed4c448fda8a	Terminated	t2.micro	-	No alarms	us-east-1a	-	-	-
NWEN_AMI_M...	i-0ffc67a542feef4b1	Terminated	t2.micro	-	No alarms	us-east-1a	-	-	-
NWEN TAKE3	i-0978d5acbb5d0eff5	Running	t2.micro	2/2 checks passed	No alarms	us-east-1a	ec2-54-221-20-219.co...	54.221.20.219	-
NWEN TAKE3...	i-050f02162484ce09c	Running	t2.micro	-	No alarms	us-east-1a	ec2-34-229-114-103.co...	34.229.114.103	-