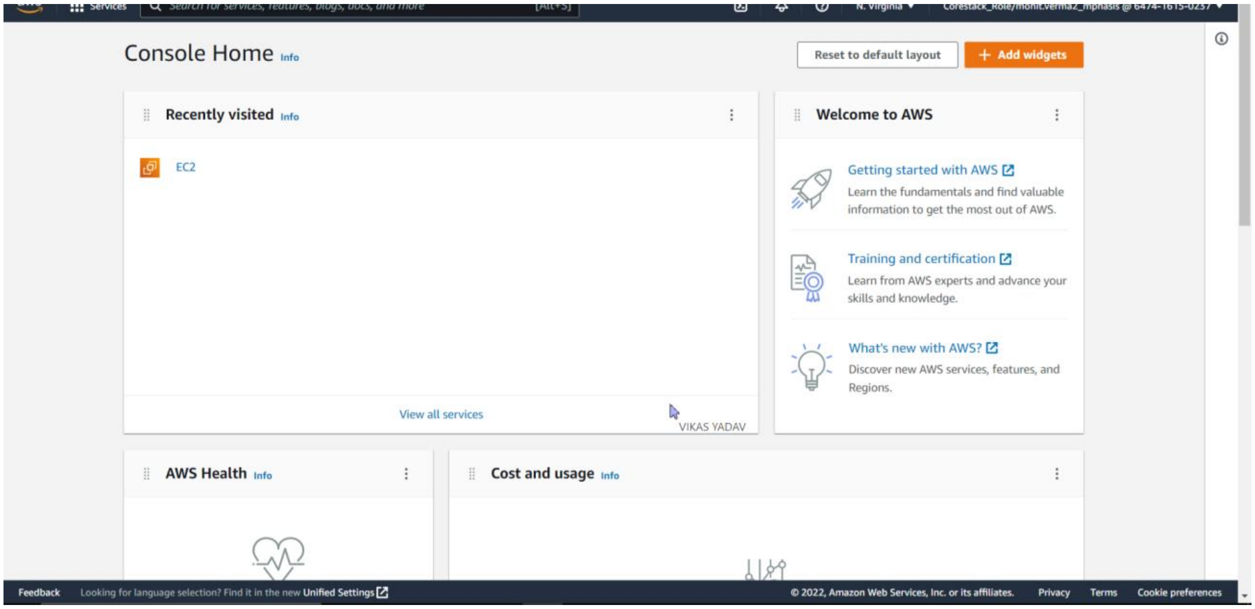
Deploying ELK Stack on Docker Container

First we need to create an EC2- instance.



Console Home Info

Reset to default layout | + Add widgets

Recently visited Info

EC2

View all services

VIKAS YADAV

Welcome to AWS

Getting started with AWS
Learn the fundamentals and find valuable information to get the most out of AWS.

Training and certification
Learn from AWS experts and advance your skills and knowledge.

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Discover new AWS services, features, and Regions.

AWS Health Info

Cost and usage Info

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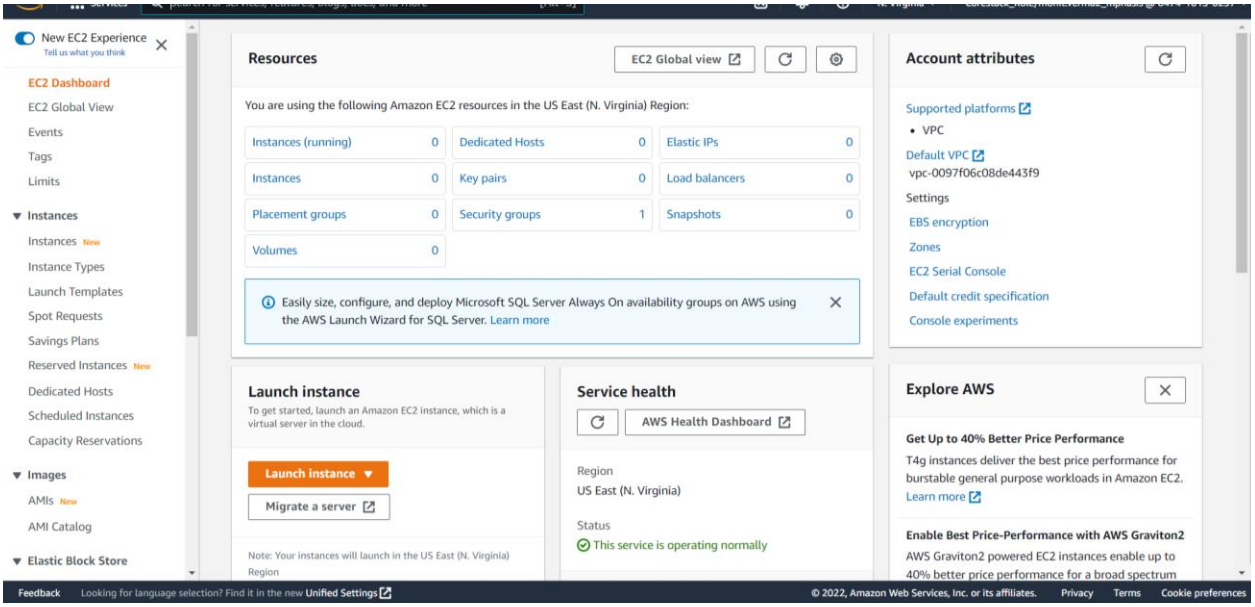

New EC2 Experience
Tell us what you think

- EC2 Dashboard
- EC2 Global View
- Events
- Tags
- Limits
- ▼ Instances
  - Instances New
  - Instance Types
  - Launch Templates
  - Spot Requests
  - Savings Plans
  - Reserved Instances New
  - Dedicated Hosts
  - Scheduled Instances
  - Capacity Reservations
- ▼ Images
  - AMIs New
  - AMI Catalog
- ▼ Elastic Block Store

Resources

EC2 Global view

You are using the following Amazon EC2 resources in the US East (N. Virginia) Region:

Instances (running)	0	Dedicated Hosts	0	Elastic IPs	0
Instances	0	Key pairs	0	Load balancers	0
Placement groups	0	Security groups	1	Snapshots	0
Volumes	0				

Easily size, configure, and deploy Microsoft SQL Server Always On availability groups on AWS using the AWS Launch Wizard for SQL Server. Learn more

Launch instance
To get started, launch an Amazon EC2 instance, which is a virtual server in the cloud.

Launch instance ▼

Migrate a server

Note: Your instances will launch in the US East (N. Virginia) Region

Service health

AWS Health Dashboard

Region
US East (N. Virginia)

Status
This service is operating normally

Account attributes

Supported platforms
- VPC

Default VPC
vpc-0097f06c08de443f9

Settings
- EBS encryption
- Zones
- EC2 Serial Console
- Default credit specification
- Console experiments

Explore AWS

Get Up to 40% Better Price Performance
T4g instances deliver the best price performance for burstable general purpose workloads in Amazon EC2. Learn more

Enable Best Price-Performance with AWS Graviton2
AWS Graviton2 powered EC2 instances enable up to 40% better price performance for a broad spectrum

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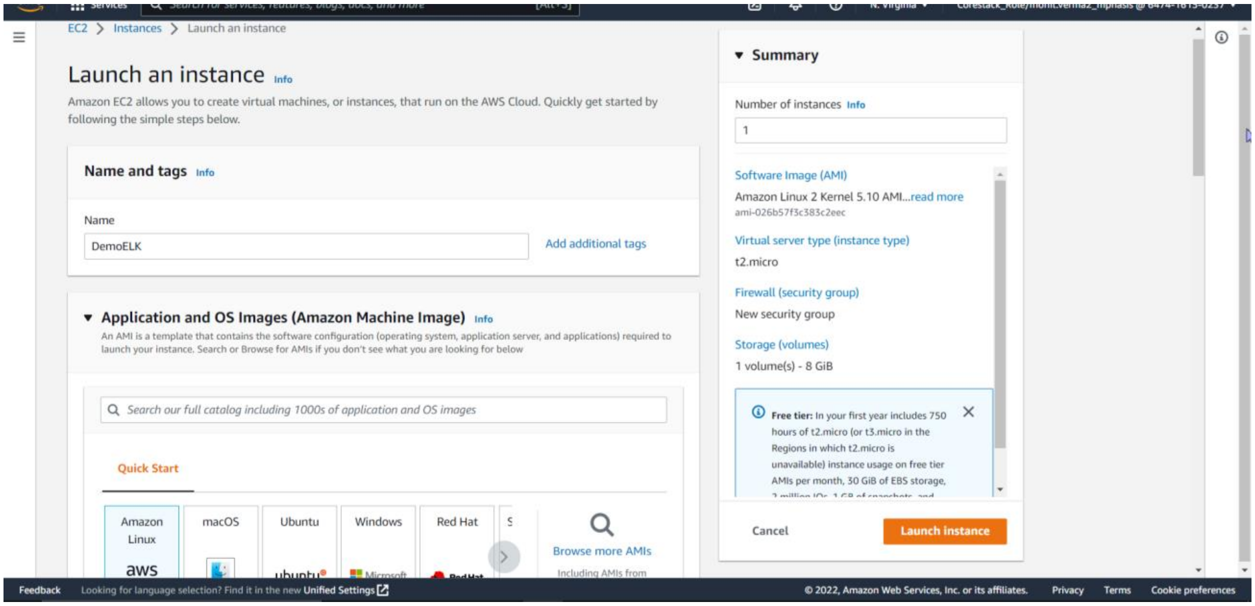

EC2 > Instances > Launch an instance

Launch an instance Info

Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below.

Name and tags Info

Name: DemoELK

Add additional tags

▼ Application and OS Images (Amazon Machine Image) Info

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

Search our full catalog including 1000s of application and OS images

Quick Start

Amazon Linux | macOS | Ubuntu | Windows | Red Hat | S

Browse more AMIs

Including AMIs from

▼ Summary

Number of instances Info: 1

Software Image (AMI)
Amazon Linux 2 Kernel 5.10 AMI...read more
ami-026b57f3c383c2eec

Virtual server type (instance type)
t2.micro

Firewall (security group)
New security group

Storage (volumes)
1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 30 GiB of EBS storage,

Cancel | Launch instance

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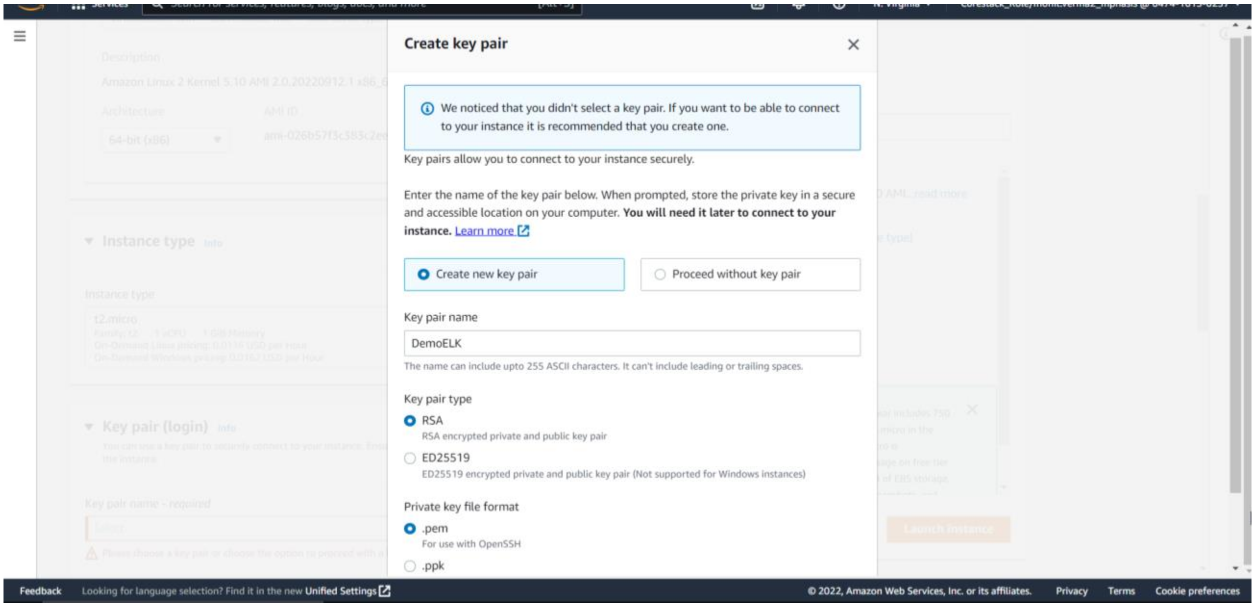

Create key pair ×

We noticed that you didn't select a key pair. If you want to be able to connect to your instance it is recommended that you create one.

Key pairs allow you to connect to your instance securely.

Enter the name of the key pair below. When prompted, store the private key in a secure and accessible location on your computer. **You will need it later to connect to your instance.** Learn more

● Create new key pair ○ Proceed without key pair

Key pair name: DemoELK

The name can include upto 255 ASCII characters. It can't include leading or trailing spaces.

Key pair type

● RSA
RSA encrypted private and public key pair

○ ED25519
ED25519 encrypted private and public key pair (Not supported for Windows instances)

Private key file format

● .pem
For use with OpenSSH

○ .ppk

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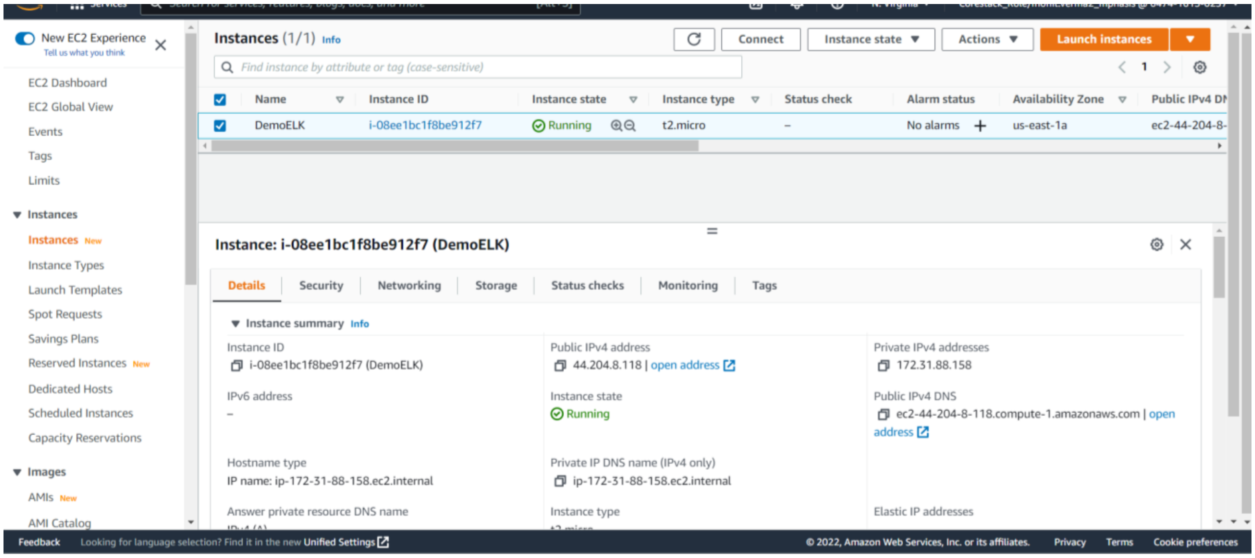
Now connect to the instance using putty



Instances (1/1) Info

☑	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DN
☑	DemoELK	i-08ee1bc1f8be912f7	Running	t2.micro	–	No alarms	us-east-1a	ec2-44-204-8-

Instance: i-08ee1bc1f8be912f7 (DemoELK)

Instance summary Info

Instance ID
i-08ee1bc1f8be912f7 (DemoELK)

Public IPv4 address
44.204.8.118 | open address

Private IPv4 addresses
172.31.88.158

IPv6 address
–

Instance state
Running

Public IPv4 DNS
ec2-44-204-8-118.compute-1.amazonaws.com | open address

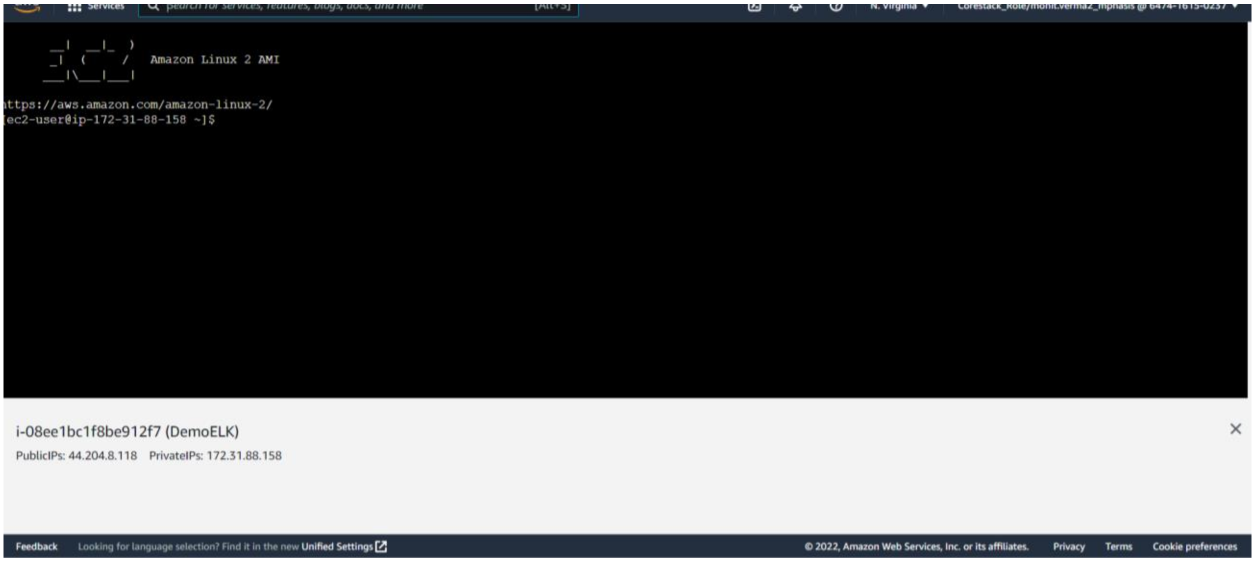
Hostname type
IP name: ip-172-31-88-158.ec2.internal

Private IP DNS name (IPv4 only)
ip-172-31-88-158.ec2.internal

Answer private resource DNS name

Instance type

Elastic IP addresses



```
       __|  __|_  )
       _|  (     /   Amazon Linux 2 AMI
      ___|\___|___|

ttps://aws.amazon.com/amazon-linux-2/
ec2-user@ip-172-31-88-158 ~]$
```

i-08ee1bc1f8be912f7 (DemoELK)

PublicIPs: 44.204.8.118 PrivateIPs: 172.31.88.158

Feedback
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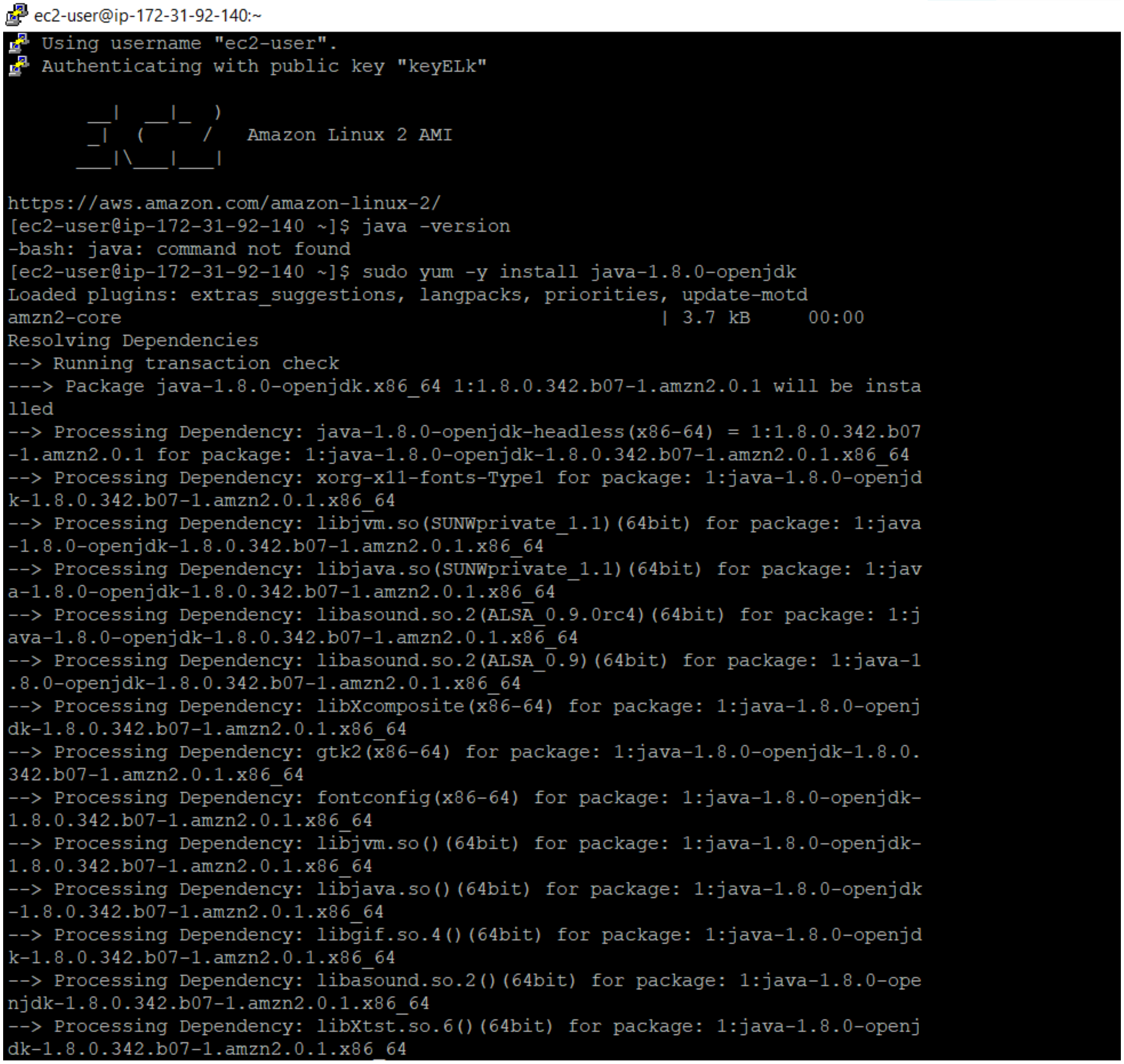
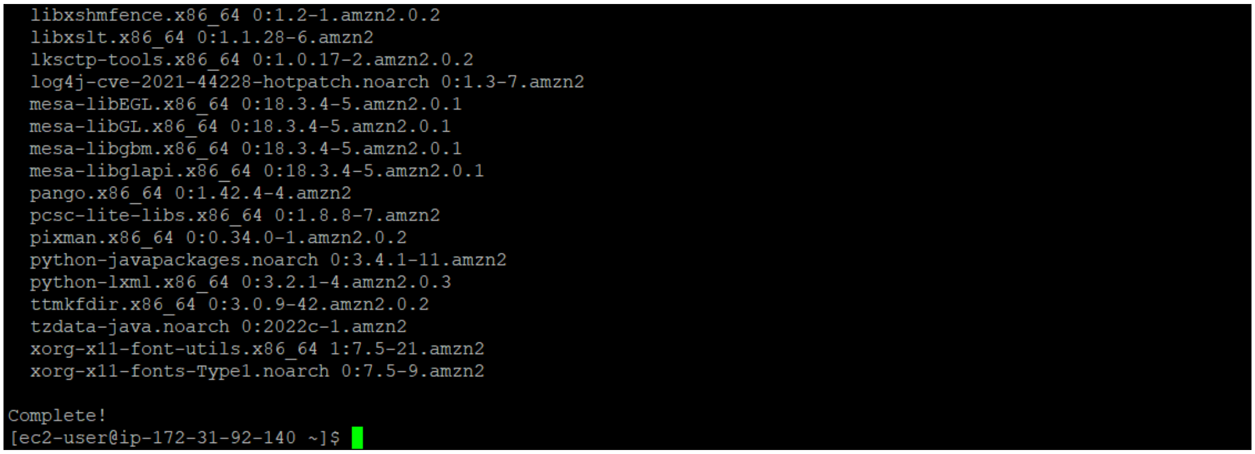
Now follow the following step

Step1: Install java and its Dependencies

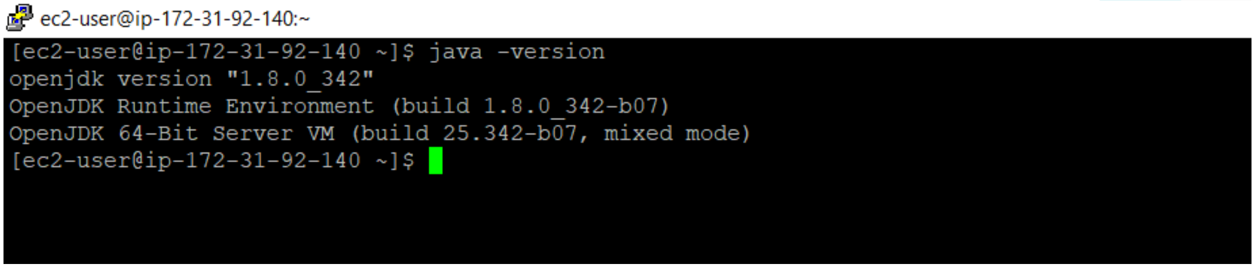


ec2-user@ip-172-31-92-140:~

```
Using username "ec2-user".
Authenticating with public key "keyELk"

       __|  __|_  )
       _|  (     /   Amazon Linux 2 AMI
      ___|\___|___|

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-92-140 ~]$ java -version
-bash: java: command not found
[ec2-user@ip-172-31-92-140 ~]$ sudo yum -y install java-1.8.0-openjdk
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
amzn2-core                                              | 3.7 kB     00:00
Resolving Dependencies
--> Running transaction check
---> Package java-1.8.0-openjdk.x86_64 1:1.8.0.342.b07-1.amzn2.0.1 will be insta
lled
--> Processing Dependency: java-1.8.0-openjdk-headless(x86-64) = 1:1.8.0.342.b07
-1.amzn2.0.1 for package: 1:java-1.8.0-openjdk-1.8.0.342.b07-1.amzn2.0.1.x86_64
--> Processing Dependency: xorg-x11-fonts-Type1 for package: 1:java-1.8.0-openjd
k-1.8.0.342.b07-1.amzn2.0.1.x86_64
--> Processing Dependency: libjvm.so(SUNWprivate_1.1)(64bit) for package: 1:java
-1.8.0-openjdk-1.8.0.342.b07-1.amzn2.0.1.x86_64
--> Processing Dependency: libjava.so(SUNWprivate_1.1)(64bit) for package: 1:jav
a-1.8.0-openjdk-1.8.0.342.b07-1.amzn2.0.1.x86_64
--> Processing Dependency: libasound.so.2(ALSA_0.9.0rc4)(64bit) for package: 1:j
ava-1.8.0-openjdk-1.8.0.342.b07-1.amzn2.0.1.x86_64
--> Processing Dependency: libasound.so.2(ALSA_0.9)(64bit) for package: 1:java-1
.8.0-openjdk-1.8.0.342.b07-1.amzn2.0.1.x86_64
--> Processing Dependency: libXcomposite(x86-64) for package: 1:java-1.8.0-openj
dk-1.8.0.342.b07-1.amzn2.0.1.x86_64
--> Processing Dependency: gtk2(x86-64) for package: 1:java-1.8.0-openjdk-1.8.0.
342.b07-1.amzn2.0.1.x86_64
--> Processing Dependency: fontconfig(x86-64) for package: 1:java-1.8.0-openjdk-
1.8.0.342.b07-1.amzn2.0.1.x86_64
--> Processing Dependency: libjvm.so()(64bit) for package: 1:java-1.8.0-openjdk-
1.8.0.342.b07-1.amzn2.0.1.x86_64
--> Processing Dependency: libjava.so()(64bit) for package: 1:java-1.8.0-openjdk
-1.8.0.342.b07-1.amzn2.0.1.x86_64
--> Processing Dependency: libgif.so.4()(64bit) for package: 1:java-1.8.0-openjd
k-1.8.0.342.b07-1.amzn2.0.1.x86_64
--> Processing Dependency: libasound.so.2()(64bit) for package: 1:java-1.8.0-ope
njdk-1.8.0.342.b07-1.amzn2.0.1.x86_64
--> Processing Dependency: libXtst.so.6()(64bit) for package: 1:java-1.8.0-openj
dk-1.8.0.342.b07-1.amzn2.0.1.x86_64
```



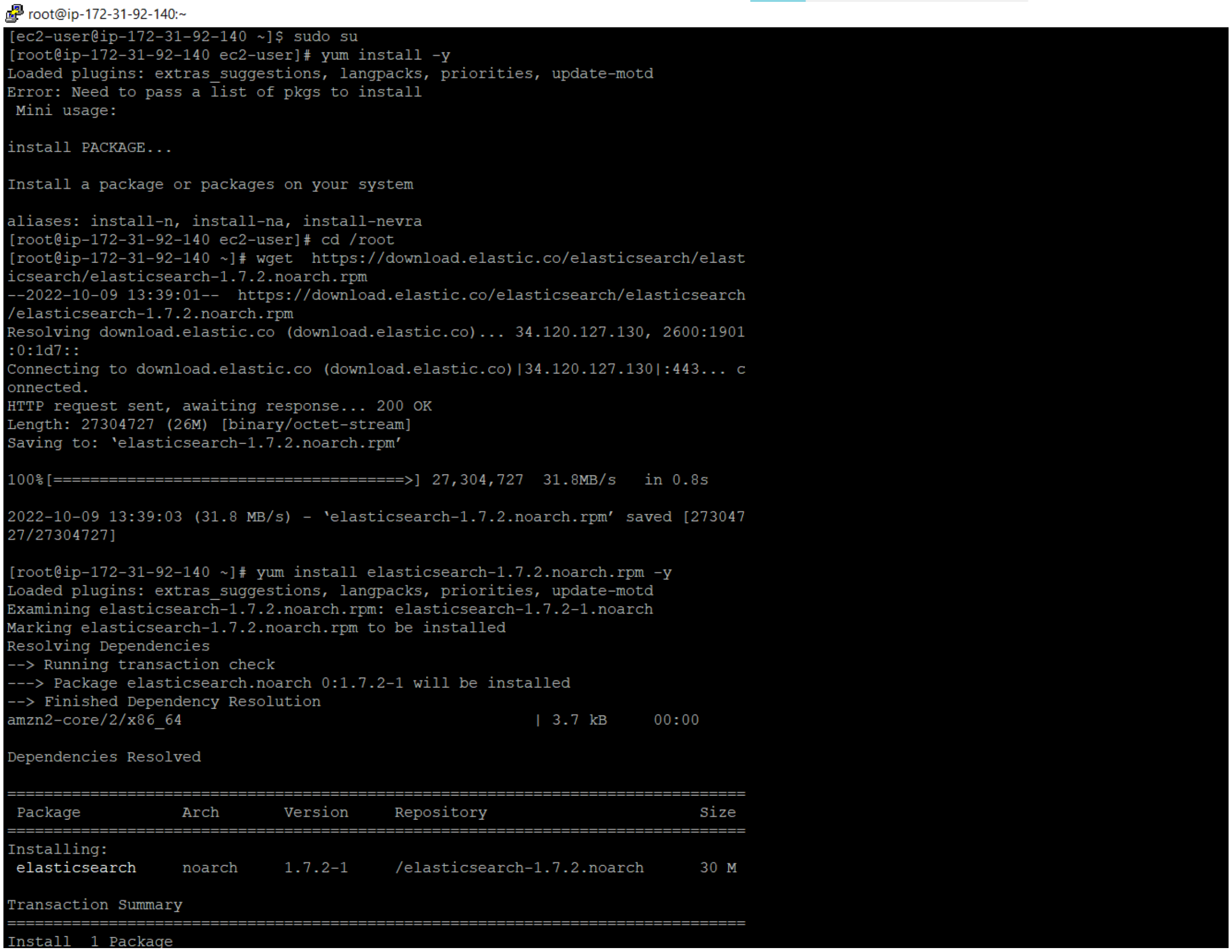
```
  libxshmfence.x86_64 0:1.2-1.amzn2.0.2
  libxslt.x86_64 0:1.1.28-6.amzn2
  lksctp-tools.x86_64 0:1.0.17-2.amzn2.0.2
  log4j-cve-2021-44228-hotpatch.noarch 0:1.3-7.amzn2
  mesa-libEGL.x86_64 0:18.3.4-5.amzn2.0.1
  mesa-libGL.x86_64 0:18.3.4-5.amzn2.0.1
  mesa-libgbm.x86_64 0:18.3.4-5.amzn2.0.1
  mesa-libglapi.x86_64 0:18.3.4-5.amzn2.0.1
  pango.x86_64 0:1.42.4-4.amzn2
  pcsc-lite-libs.x86_64 0:1.8.8-7.amzn2
  pixman.x86_64 0:0.34.0-1.amzn2.0.2
  python-javapackages.noarch 0:3.4.1-11.amzn2
  python-lxml.x86_64 0:3.2.1-4.amzn2.0.3
  ttmkfdir.x86_64 0:3.0.9-42.amzn2.0.2
  tzdata-java.noarch 0:2022c-1.amzn2
  xorg-x11-font-utils.x86_64 1:7.5-21.amzn2
  xorg-x11-fonts-Type1.noarch 0:7.5-9.amzn2

Complete!
[ec2-user@ip-172-31-92-140 ~]$ █
```



ec2-user@ip-172-31-92-140:~

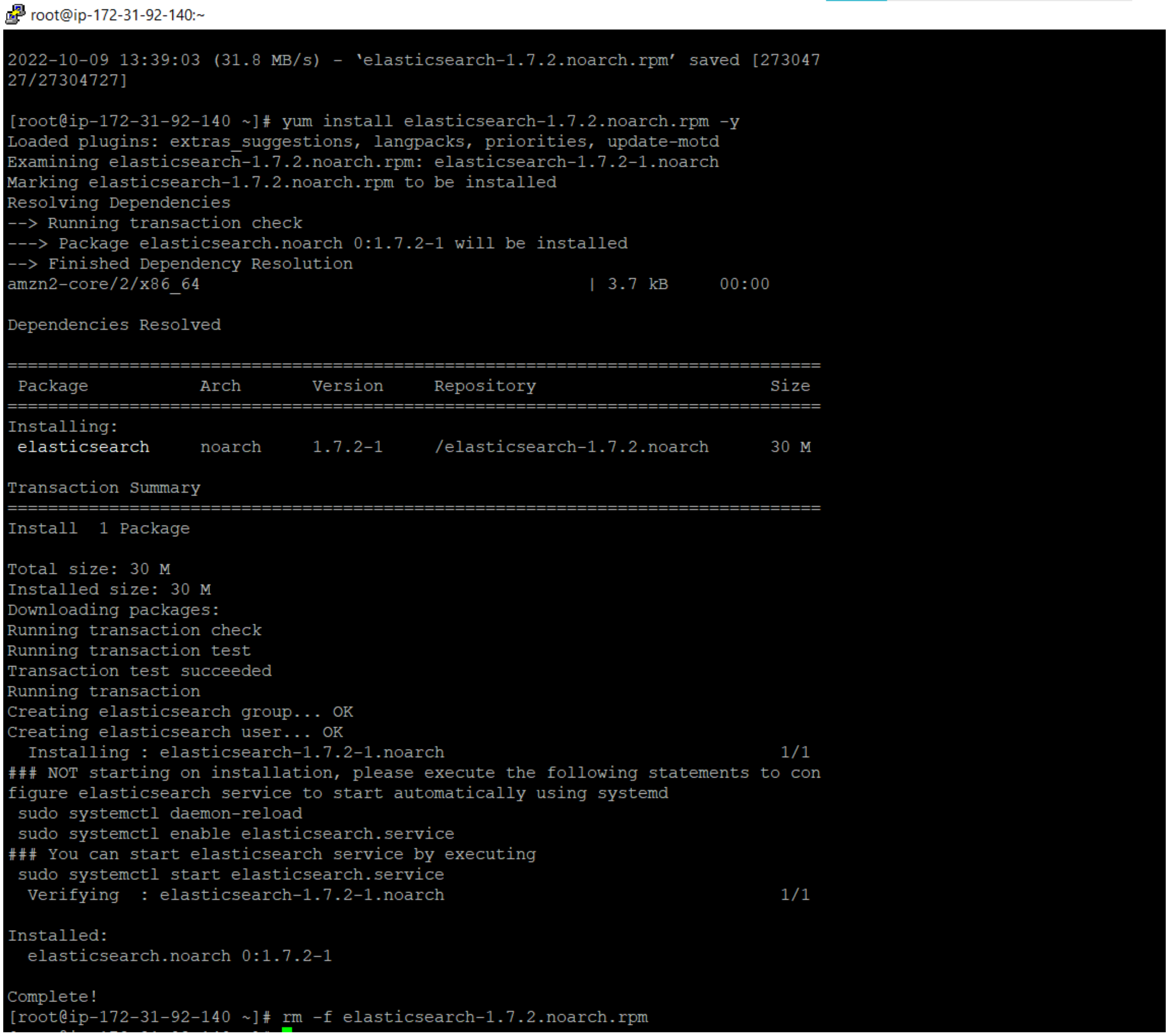
```
[ec2-user@ip-172-31-92-140 ~]$ java -version
openjdk version "1.8.0_342"
OpenJDK Runtime Environment (build 1.8.0_342-b07)
OpenJDK 64-Bit Server VM (build 25.342-b07, mixed mode)
[ec2-user@ip-172-31-92-140 ~]$ 
```

Step2: Install Elastic search on AWS Server



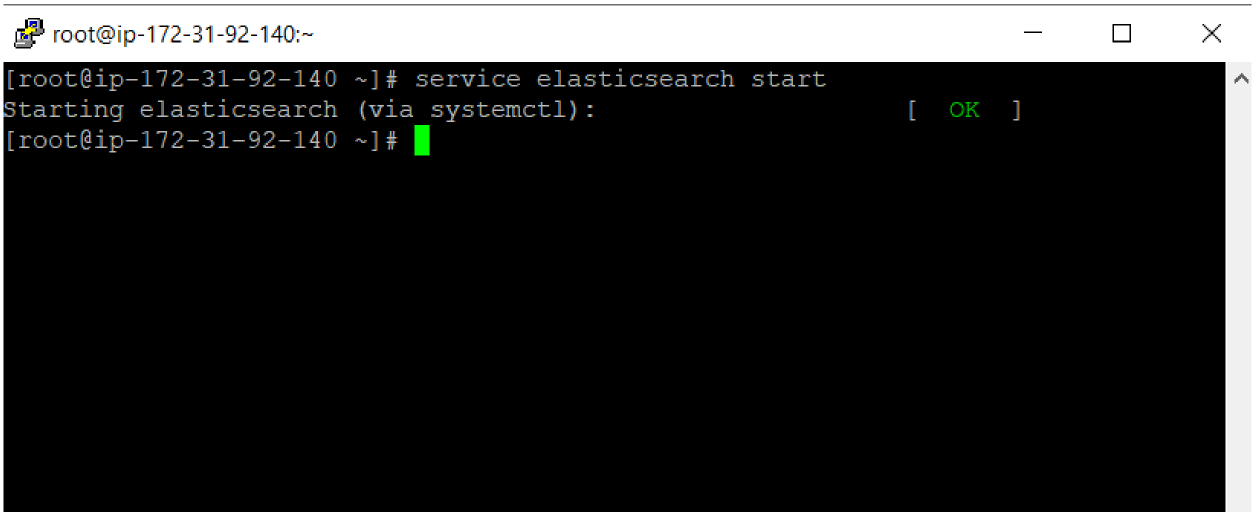
root@ip-172-31-92-140:~

```
[ec2-user@ip-172-31-92-140 ~]$ sudo su
[root@ip-172-31-92-140 ec2-user]# yum install -y
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Error: Need to pass a list of pkgs to install
 Mini usage:

install PACKAGE...

Install a package or packages on your system

aliases: install-n, install-na, install-nevra
[root@ip-172-31-92-140 ec2-user]# cd /root
[root@ip-172-31-92-140 ~]# wget  https://download.elastic.co/elasticsearch/elast
icsearch/elasticsearch-1.7.2.noarch.rpm
--2022-10-09 13:39:01--  https://download.elastic.co/elasticsearch/elasticsearch
/elasticsearch-1.7.2.noarch.rpm
Resolving download.elastic.co (download.elastic.co)... 34.120.127.130, 2600:1901
:0:1d7::
Connecting to download.elastic.co (download.elastic.co)|34.120.127.130|:443... c
onnected.
HTTP request sent, awaiting response... 200 OK
Length: 27304727 (26M) [binary/octet-stream]
Saving to: ‘elasticsearch-1.7.2.noarch.rpm’

100%[======================================>] 27,304,727  31.8MB/s   in 0.8s

2022-10-09 13:39:03 (31.8 MB/s) - ‘elasticsearch-1.7.2.noarch.rpm’ saved [273047
27/27304727]

[root@ip-172-31-92-140 ~]# yum install elasticsearch-1.7.2.noarch.rpm -y
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Examining elasticsearch-1.7.2.noarch.rpm: elasticsearch-1.7.2-1.noarch
Marking elasticsearch-1.7.2.noarch.rpm to be installed
Resolving Dependencies
--> Running transaction check
---> Package elasticsearch.noarch 0:1.7.2-1 will be installed
--> Finished Dependency Resolution
amzn2-core/2/x86_64                                      | 3.7 kB     00:00

Dependencies Resolved

================================================================================
 Package            Arch        Version      Repository                    Size
================================================================================
Installing:
 elasticsearch      noarch      1.7.2-1      /elasticsearch-1.7.2.noarch      30 M

Transaction Summary
================================================================================
Install  1 Package
```



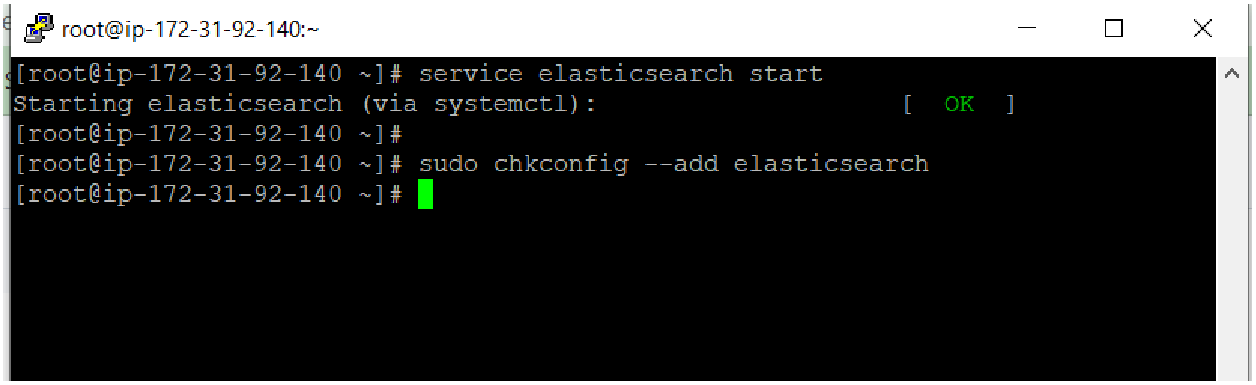
```
2022-10-09 13:39:03 (31.8 MB/s) - 'elasticsearch-1.7.2.noarch.rpm' saved [273047
27/27304727]

[root@ip-172-31-92-140 ~]# yum install elasticsearch-1.7.2.noarch.rpm -y
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Examining elasticsearch-1.7.2.noarch.rpm: elasticsearch-1.7.2-1.noarch
Marking elasticsearch-1.7.2.noarch.rpm to be installed
Resolving Dependencies
--> Running transaction check
---> Package elasticsearch.noarch 0:1.7.2-1 will be installed
--> Finished Dependency Resolution
amzn2-core/2/x86_64                                      | 3.7 kB     00:00

Dependencies Resolved

================================================================================
 Package           Arch       Version     Repository                       Size
================================================================================
Installing:
 elasticsearch     noarch     1.7.2-1     /elasticsearch-1.7.2.noarch      30 M

Transaction Summary
================================================================================
Install  1 Package

Total size: 30 M
Installed size: 30 M
Downloading packages:
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
Creating elasticsearch group... OK
Creating elasticsearch user... OK
  Installing : elasticsearch-1.7.2-1.noarch                                 1/1
### NOT starting on installation, please execute the following statements to con
figure elasticsearch service to start automatically using systemd
 sudo systemctl daemon-reload
 sudo systemctl enable elasticsearch.service
### You can start elasticsearch service by executing
 sudo systemctl start elasticsearch.service
  Verifying  : elasticsearch-1.7.2-1.noarch                                 1/1

Installed:
  elasticsearch.noarch 0:1.7.2-1

Complete!
[root@ip-172-31-92-140 ~]# rm -f elasticsearch-1.7.2.noarch.rpm
```

Step3: Start the Server



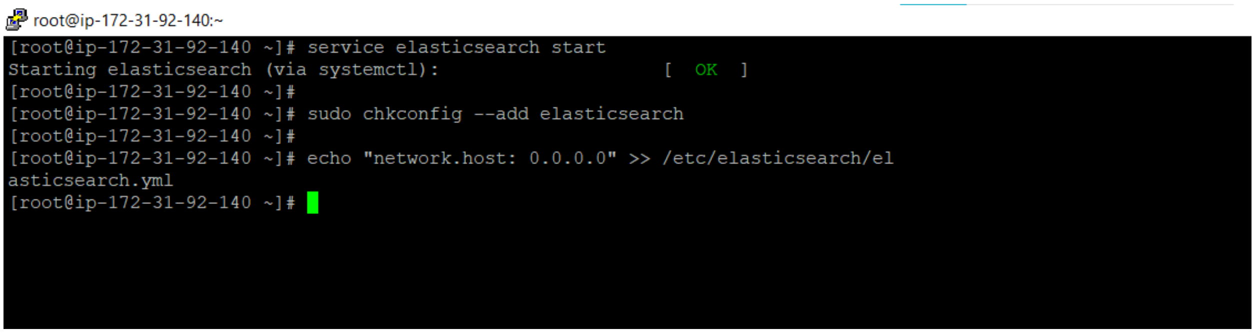
```
[root@ip-172-31-92-140 ~]# service elasticsearch start
Starting elasticsearch (via systemctl):                    [  OK  ]
[root@ip-172-31-92-140 ~]#
```

Step4: Automatically Boot u on start



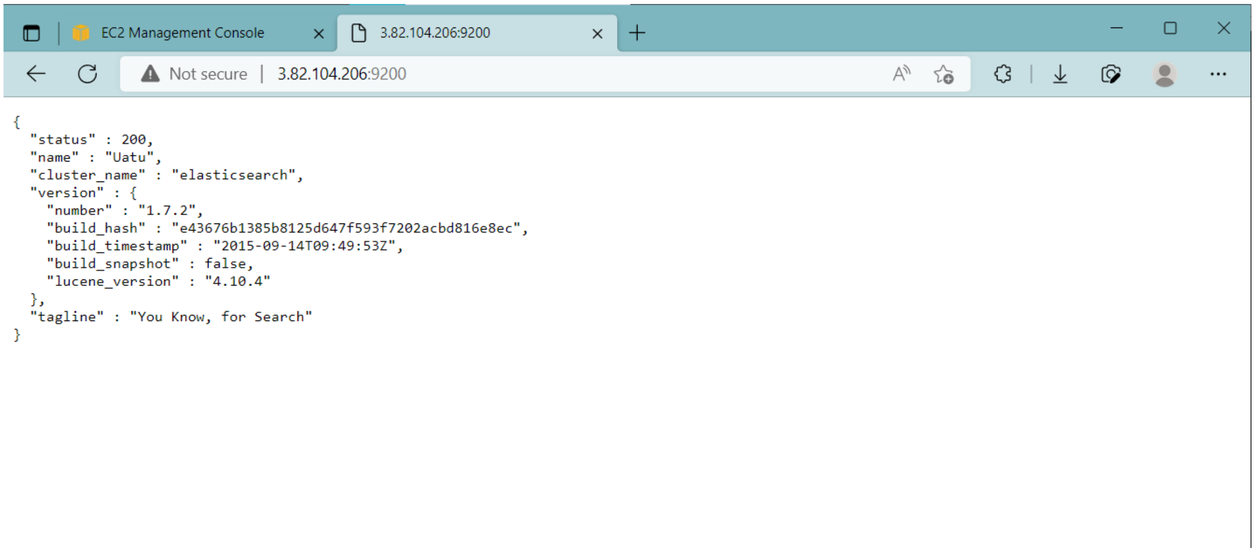
```
[root@ip-172-31-92-140 ~]# service elasticsearch start
Starting elasticsearch (via systemctl):                    [  OK  ]
[root@ip-172-31-92-140 ~]#
[root@ip-172-31-92-140 ~]# sudo chkconfig --add elasticsearch
[root@ip-172-31-92-140 ~]#
```

Step5:Configuring AWS IP so you can access using public IP



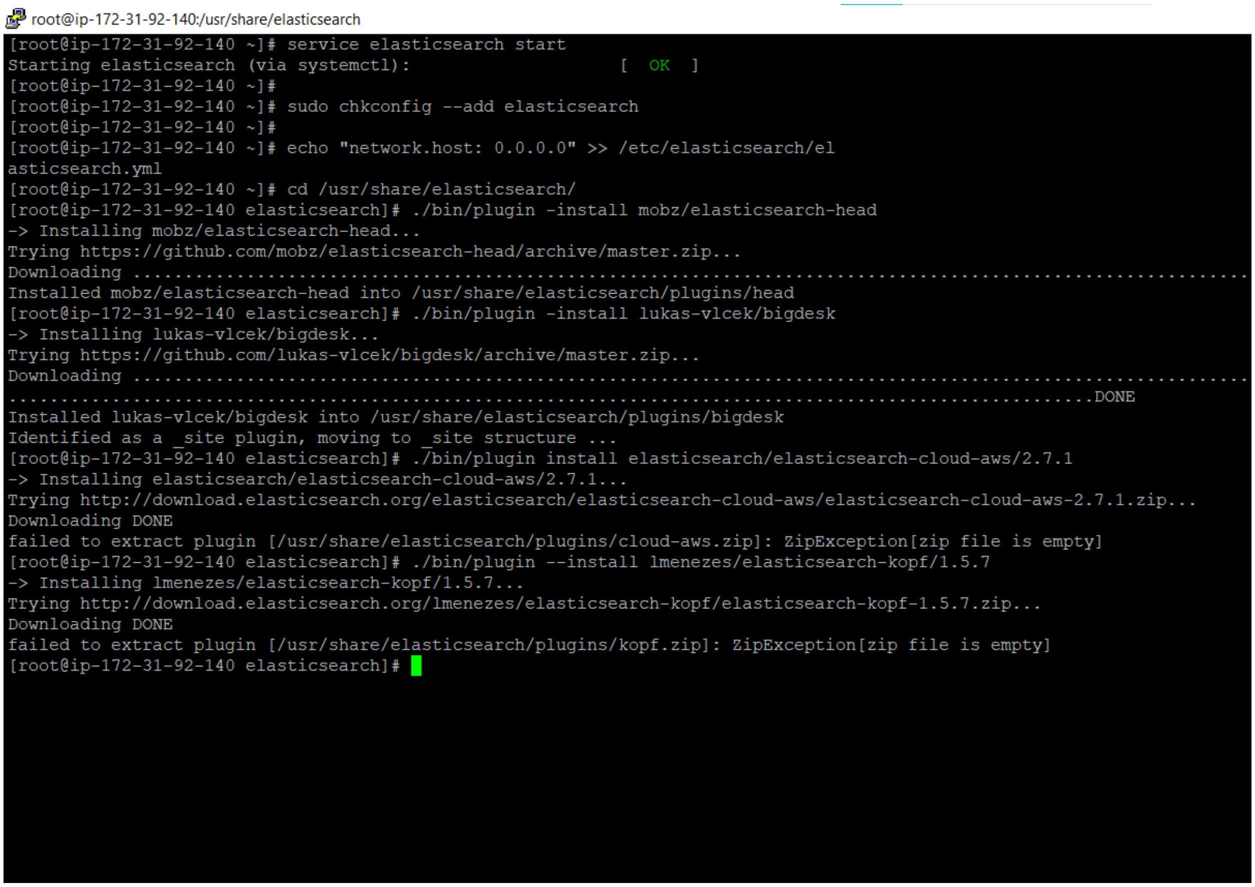
```
[root@ip-172-31-92-140 ~]# service elasticsearch start
Starting elasticsearch (via systemctl):                    [  OK  ]
[root@ip-172-31-92-140 ~]#
[root@ip-172-31-92-140 ~]# sudo chkconfig --add elasticsearch
[root@ip-172-31-92-140 ~]#
[root@ip-172-31-92-140 ~]# echo "network.host: 0.0.0.0" >> /etc/elasticsearch/el
asticsearch.yml
[root@ip-172-31-92-140 ~]#
```

Checking Elastic Search



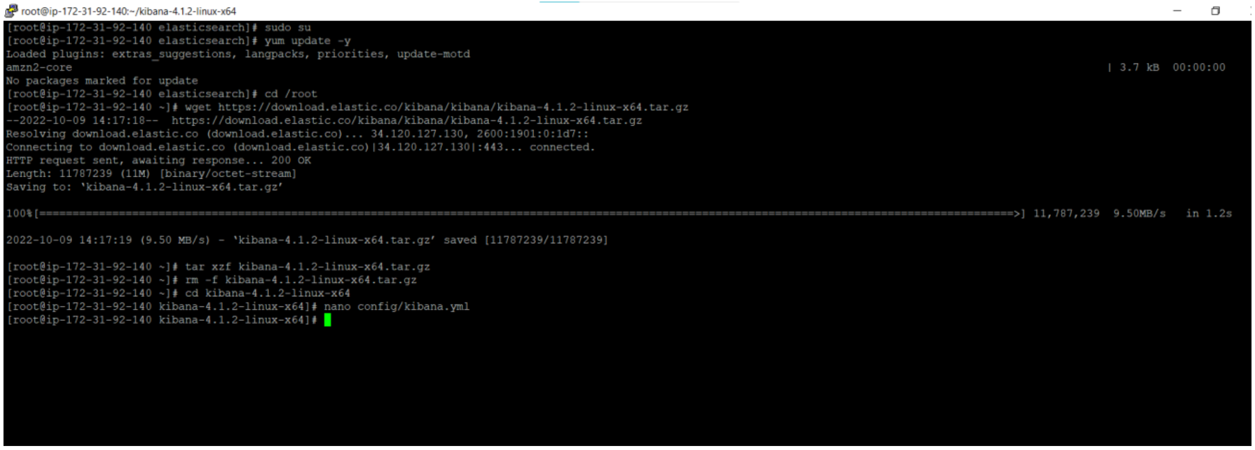
```
{
  "status" : 200,
  "name" : "Uatu",
  "cluster_name" : "elasticsearch",
  "version" : {
    "number" : "1.7.2",
    "build_hash" : "e43676b1385b8125d647f593f7202acbd816e8ec",
    "build_timestamp" : "2015-09-14T09:49:53Z",
    "build_snapshot" : false,
    "lucene_version" : "4.10.4"
  },
  "tagline" : "You Know, for Search"
}
```

Step6:Install Plugins



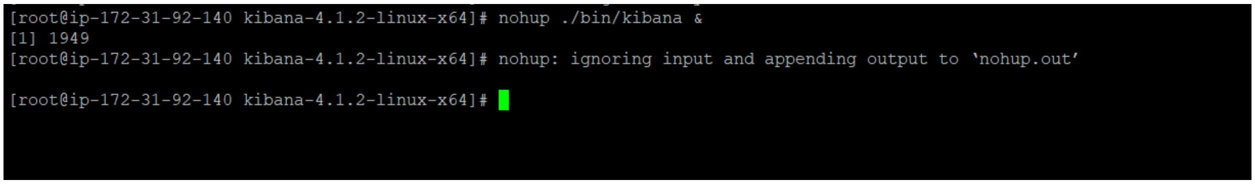
```
[root@ip-172-31-92-140 ~]# service elasticsearch start
Starting elasticsearch (via systemctl):                    [  OK  ]
[root@ip-172-31-92-140 ~]#
[root@ip-172-31-92-140 ~]# sudo chkconfig --add elasticsearch
[root@ip-172-31-92-140 ~]#
[root@ip-172-31-92-140 ~]# echo "network.host: 0.0.0.0" >> /etc/elasticsearch/el
asticsearch.yml
[root@ip-172-31-92-140 ~]# cd /usr/share/elasticsearch/
[root@ip-172-31-92-140 elasticsearch]# ./bin/plugin -install mobz/elasticsearch-head
-> Installing mobz/elasticsearch-head...
Trying https://github.com/mobz/elasticsearch-head/archive/master.zip...
Downloading ...........................................................................................................
Installed mobz/elasticsearch-head into /usr/share/elasticsearch/plugins/head
[root@ip-172-31-92-140 elasticsearch]# ./bin/plugin -install lukas-vlcek/bigdesk
-> Installing lukas-vlcek/bigdesk...
Trying https://github.com/lukas-vlcek/bigdesk/archive/master.zip...
Downloading ...........................................................................................................
.........................................................................................................DONE
Installed lukas-vlcek/bigdesk into /usr/share/elasticsearch/plugins/bigdesk
Identified as a _site plugin, moving to _site structure ...
[root@ip-172-31-92-140 elasticsearch]# ./bin/plugin install elasticsearch/elasticsearch-cloud-aws/2.7.1
-> Installing elasticsearch/elasticsearch-cloud-aws/2.7.1...
Trying http://download.elasticsearch.org/elasticsearch/elasticsearch-cloud-aws/elasticsearch-cloud-aws-2.7.1.zip...
Downloading DONE
failed to extract plugin [/usr/share/elasticsearch/plugins/cloud-aws.zip]: ZipException[zip file is empty]
[root@ip-172-31-92-140 elasticsearch]# ./bin/plugin --install lmenezes/elasticsearch-kopf/1.5.7
-> Installing lmenezes/elasticsearch-kopf/1.5.7...
Trying http://download.elasticsearch.org/lmenezes/elasticsearch-kopf/elasticsearch-kopf-1.5.7.zip...
Downloading DONE
failed to extract plugin [/usr/share/elasticsearch/plugins/kopf.zip]: ZipException[zip file is empty]
[root@ip-172-31-92-140 elasticsearch]#
```

Step 7:InstallKibana

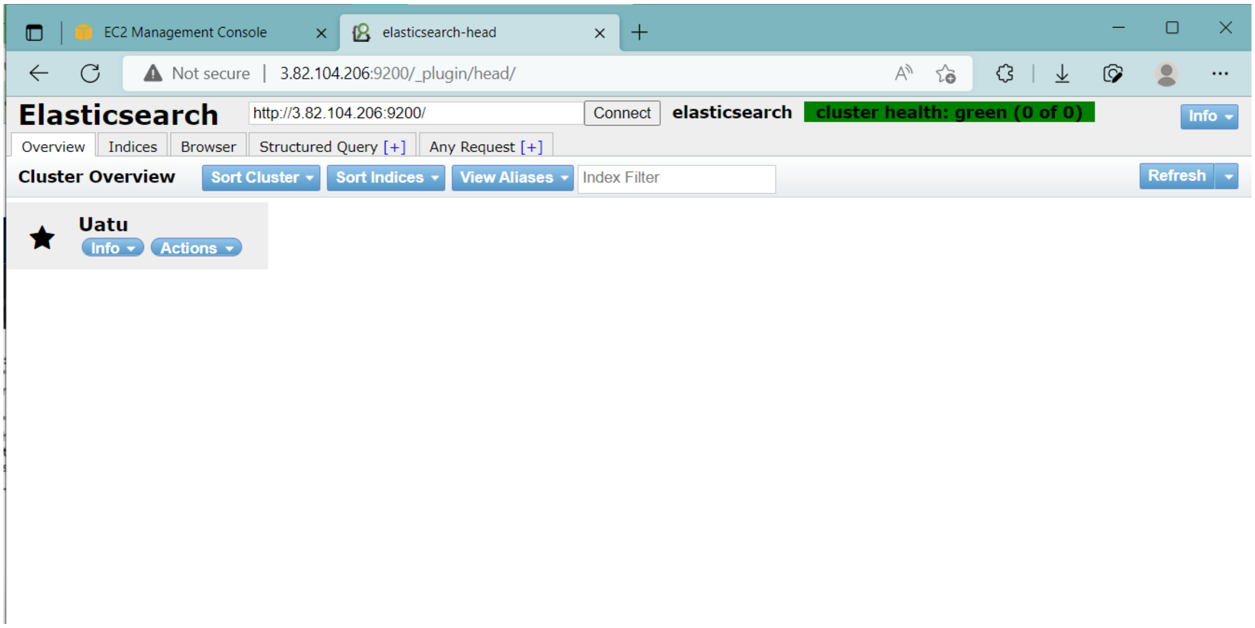


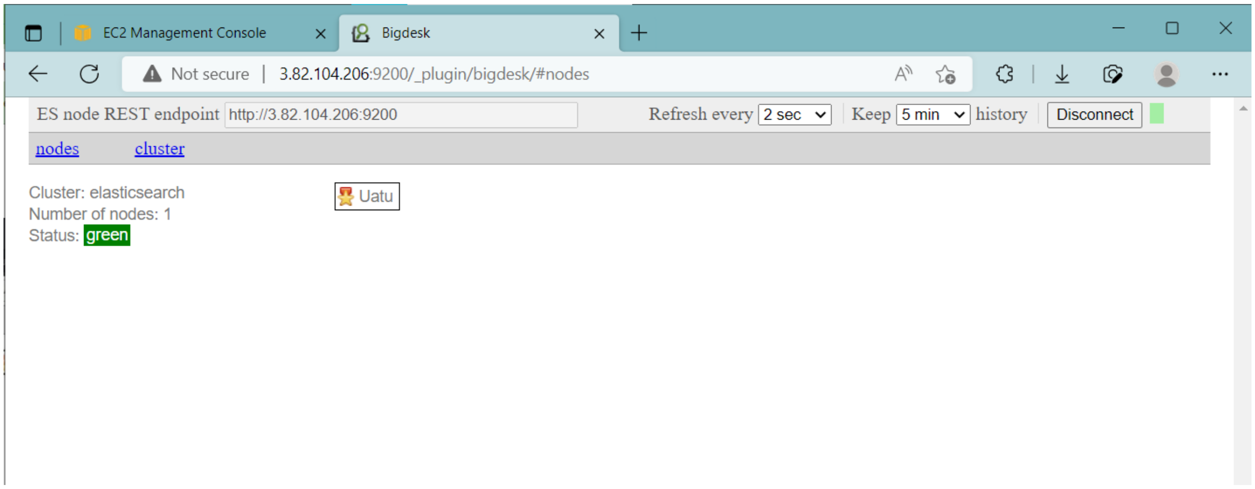
root@ip-172-31-92-140:~/kibana-4.1.2-linux-x64

```
[root@ip-172-31-92-140 elasticsearch]# sudo su
[root@ip-172-31-92-140 elasticsearch]# yum update -y
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
amzn2-core                                                                                                                   | 3.7 kB  00:00:00
No packages marked for update
[root@ip-172-31-92-140 elasticsearch]# cd /root
[root@ip-172-31-92-140 ~]# wget https://download.elastic.co/kibana/kibana/kibana-4.1.2-linux-x64.tar.gz
--2022-10-09 14:17:18--  https://download.elastic.co/kibana/kibana/kibana-4.1.2-linux-x64.tar.gz
Resolving download.elastic.co (download.elastic.co)... 34.120.127.130, 2600:1901:0:1d7::
Connecting to download.elastic.co (download.elastic.co)|34.120.127.130|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 11787239 (11M) [binary/octet-stream]
Saving to: 'kibana-4.1.2-linux-x64.tar.gz'

100%[=============================================================================================================>] 11,787,239  9.50MB/s   in 1.2s

2022-10-09 14:17:19 (9.50 MB/s) - 'kibana-4.1.2-linux-x64.tar.gz' saved [11787239/11787239]

[root@ip-172-31-92-140 ~]# tar xzf kibana-4.1.2-linux-x64.tar.gz
[root@ip-172-31-92-140 ~]# rm -f kibana-4.1.2-linux-x64.tar.gz
[root@ip-172-31-92-140 ~]# cd kibana-4.1.2-linux-x64
[root@ip-172-31-92-140 kibana-4.1.2-linux-x64]# nano config/kibana.yml
[root@ip-172-31-92-140 kibana-4.1.2-linux-x64]# 
```



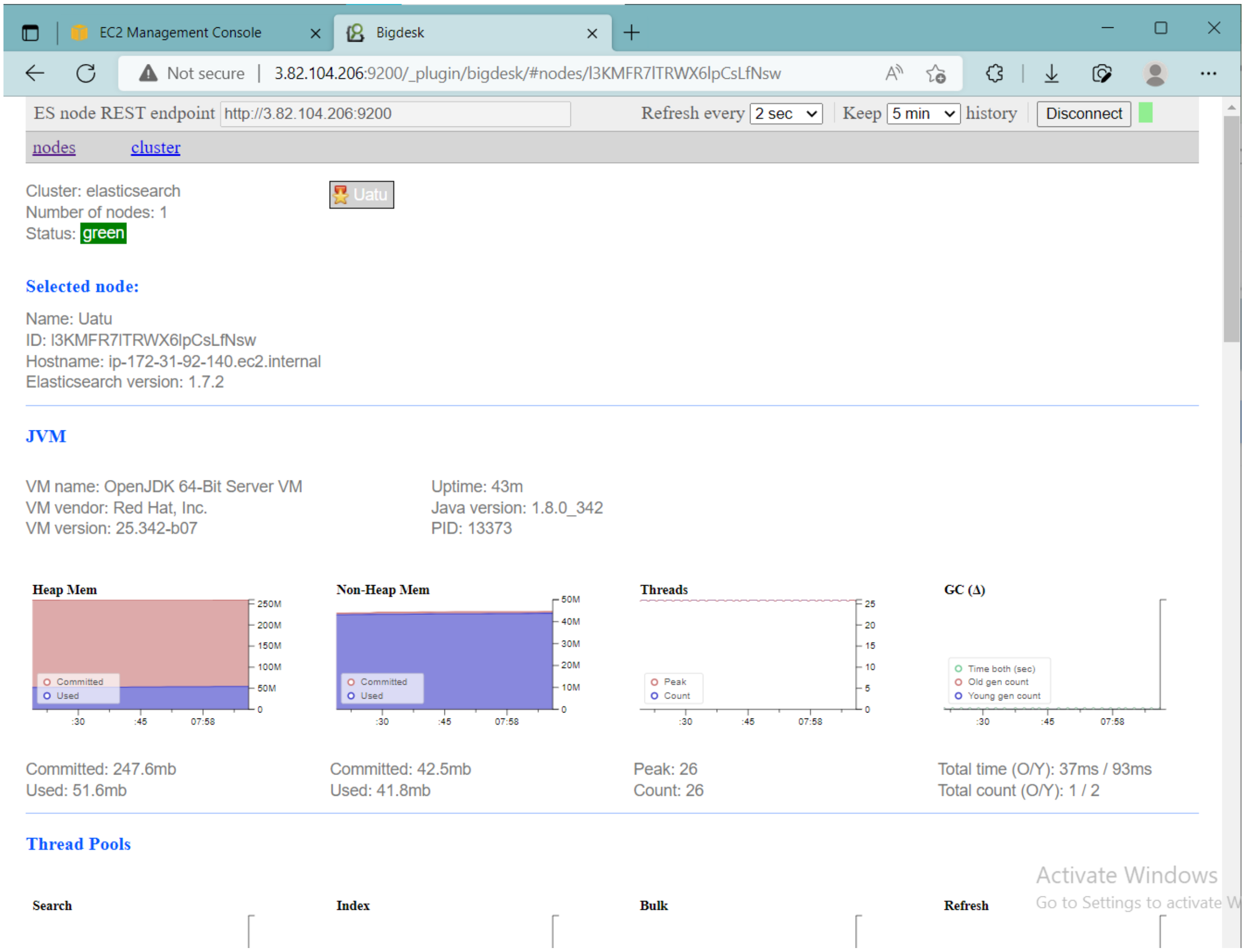
```
[root@ip-172-31-92-140 kibana-4.1.2-linux-x64]# nohup ./bin/kibana &
[1] 1949
[root@ip-172-31-92-140 kibana-4.1.2-linux-x64]# nohup: ignoring input and appending output to 'nohup.out'

[root@ip-172-31-92-140 kibana-4.1.2-linux-x64]# 
```





ES node REST endpoint http://3.82.104.206:9200 Refresh every 2 sec Keep 5 min history

Cluster: elasticsearch
Number of nodes: 1
Status: green



ES node REST endpoint http://3.82.104.206:9200 Refresh every 2 sec Keep 5 min history

Cluster: elasticsearch
Number of nodes: 1
Status: green

Selected node:

Name: Uatu
ID: I3KMFR7ITRWX6lpCsLfNsw
Hostname: ip-172-31-92-140.ec2.internal
Elasticsearch version: 1.7.2

JVM

VM name: OpenJDK 64-Bit Server VM
VM vendor: Red Hat, Inc.
VM version: 25.342-b07

Uptime: 43m
Java version: 1.8.0_342
PID: 13373

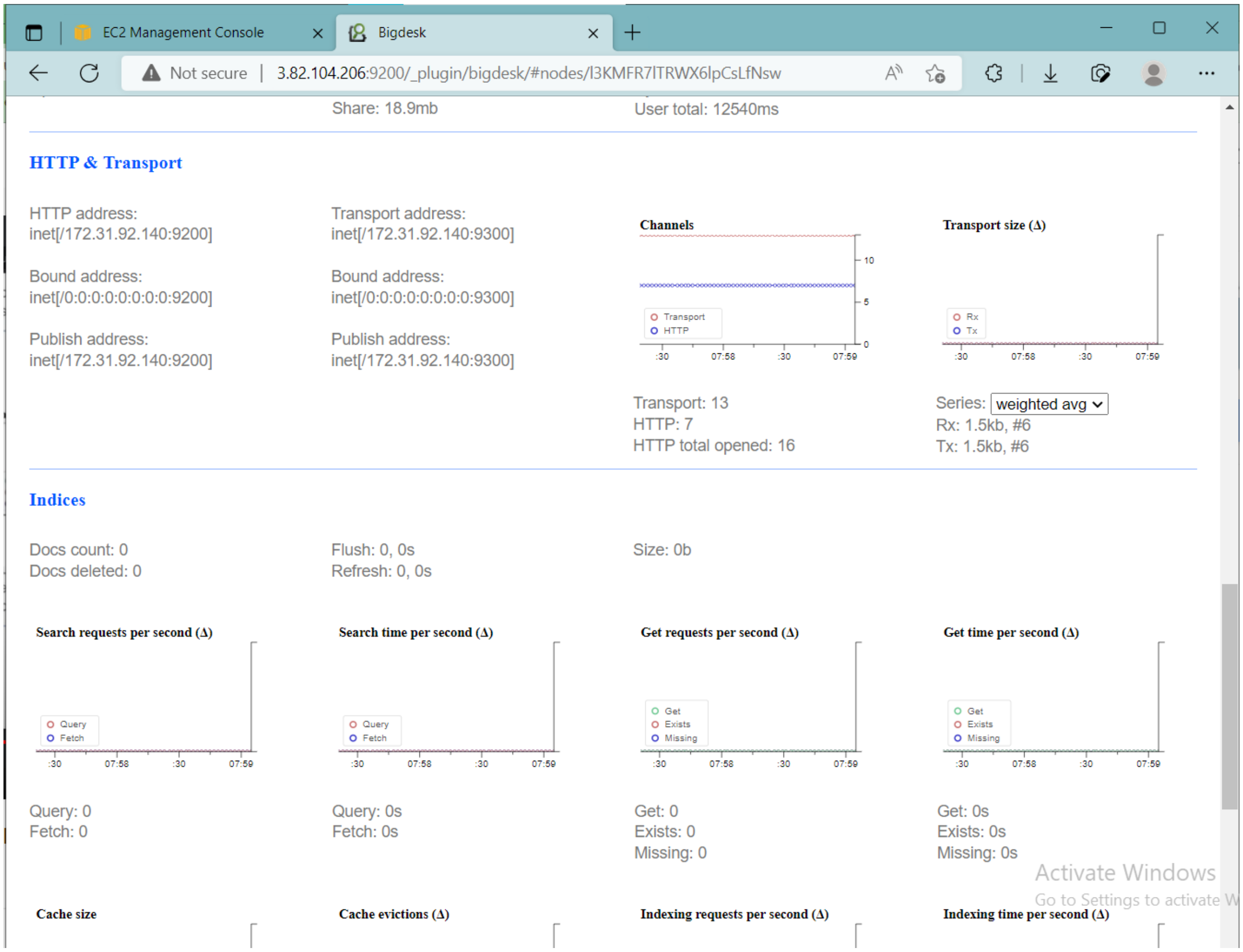
Committed: 247.6mb
Used: 51.6mb

Committed: 42.5mb
Used: 41.8mb

Peak: 26
Count: 26

Total time (O/Y): 37ms / 93ms
Total count (O/Y): 1 / 2

Thread Pools



EC2 Management Console
Bigdesk
Not secure
3.82.104.206:9200/_plugin/bigdesk/#nodes/I3KMFR7lTRWX6lpCsLfNsw
Activate Windows
Go to Settings to activate W

Share: 18.9mb

User total: 12540ms

HTTP & Transport

HTTP address:
inet[/172.31.92.140:9200]

Bound address:
inet[/0:0:0:0:0:0:0:0:9200]

Publish address:
inet[/172.31.92.140:9200]

Transport address:
inet[/172.31.92.140:9300]

Bound address:
inet[/0:0:0:0:0:0:0:0:9300]

Publish address:
inet[/172.31.92.140:9300]

Channels

Transport: 13
HTTP: 7
HTTP total opened: 16

Transport size (Δ)

Series: weighted avg
Rx: 1.5kb, #6
Tx: 1.5kb, #6

Indices

Docs count: 0
Docs deleted: 0

Flush: 0, 0s
Refresh: 0, 0s

Size: 0b

Search requests per second (Δ)

Query: 0
Fetch: 0

Search time per second (Δ)

Query: 0s
Fetch: 0s

Get requests per second (Δ)

Get: 0
Exists: 0
Missing: 0

Get time per second (Δ)

Get: 0s
Exists: 0s
Missing: 0s

Cache size

Cache evictions (Δ)

Indexing requests per second (Δ)

Indexing time per second (Δ)