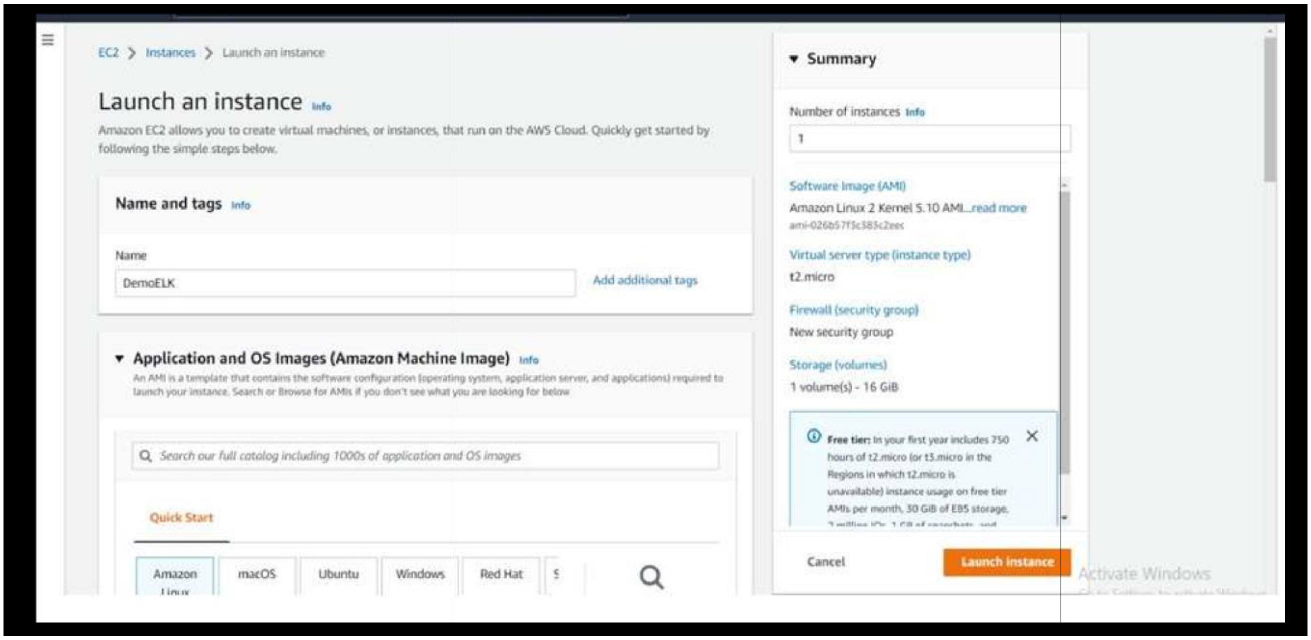
Deploying ELK Stack on Docker Container

create an EC2- instance



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

▼ Summary

Number of instances Info: 1

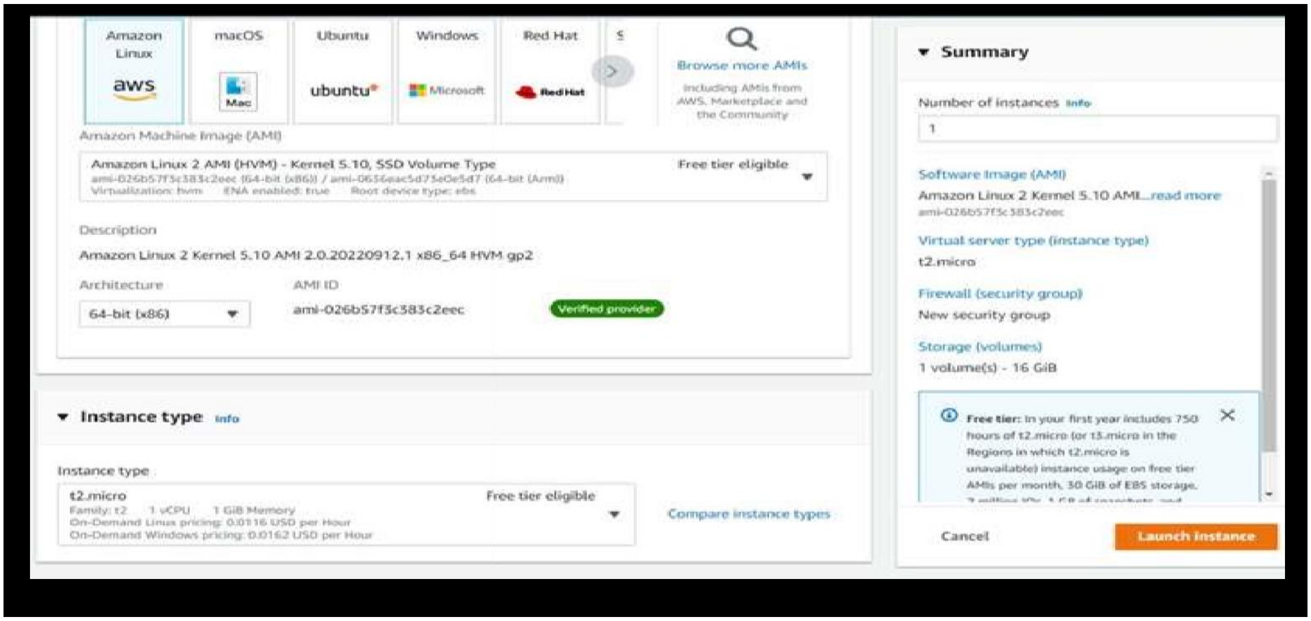
Software Image (AMI): Amazon Linux 2 Kernel 5.10 AMI...read more
ami-026b57f3c383c2eec

Virtual server type (instance type): t2.micro

Firewall (security group): New security group

Storage (volumes): 1 volume(s) - 16 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,



Amazon Machine Image (AMI)

Amazon Linux 2 AMI (HVM) - Kernel 5.10, SSD Volume Type — Free tier eligible
ami-026b57f3c383c2eec (64-bit (x86)) / ami-0656eac5d73e0e5d7 (64-bit (Arm))
Virtualization: hvm   ENA enabled: true   Root device type: ebs

Description: Amazon Linux 2 Kernel 5.10 AMI 2.0.20220912.1 x86_64 HVM gp2

Architecture: 64-bit (x86)

AMI ID: ami-026b57f3c383c2eec — Verified provider

▼ Instance type Info

Instance type: t2.micro — Free tier eligible
Family: t2   1 vCPU   1 GiB Memory
On-Demand Linux pricing: 0.0116 USD per Hour
On-Demand Windows pricing: 0.0162 USD per Hour

Compare instance types

▼ Summary

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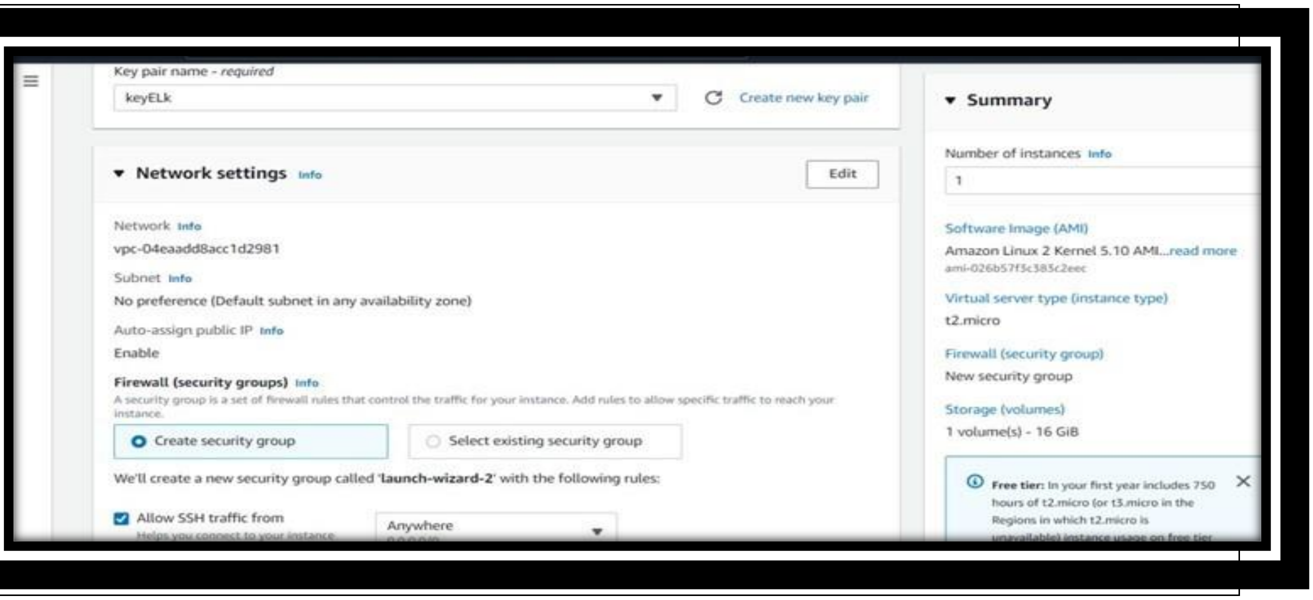

Key pair name - *required*

keyELk

Network settings Info

Network Info
vpc-04eaadd8acc1d2981

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 control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

● Create security group ○ Select existing security group

We'll create a new security group called '**launch-wizard-2**' with the following rules:

☑ Allow SSH traffic from
Helps you connect to your instance

Anywhere

Summary

Number of instances Info
1

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

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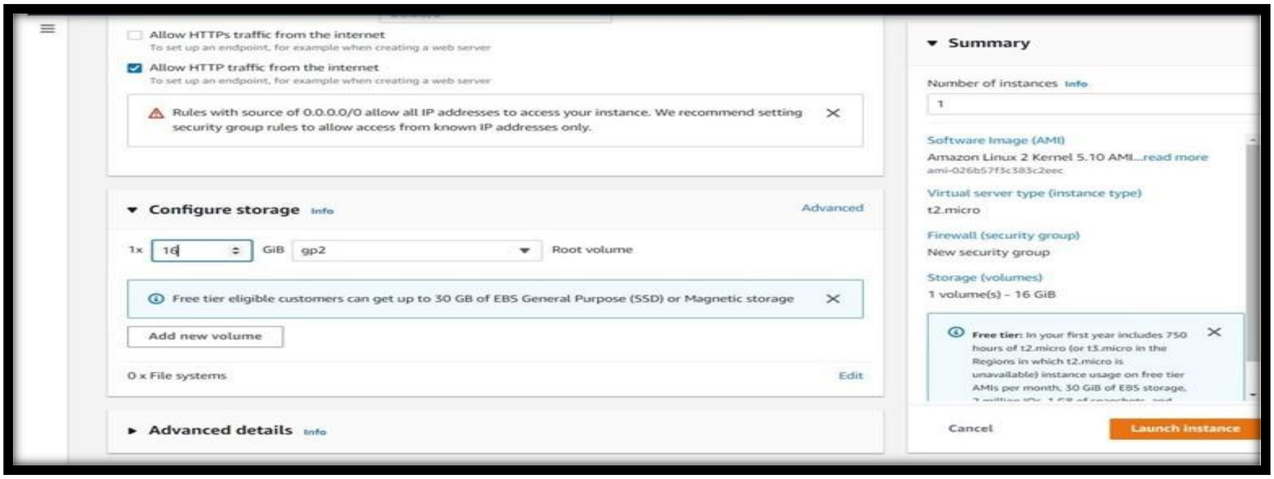

□ Allow HTTPs traffic from the internet
To set up an endpoint, for example when creating a web server

☑ Allow HTTP traffic from the internet
To set up an endpoint, for example when creating a web server

Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

Configure storage Info

1x 16 GiB gp2 Root volume

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage

0 x File systems

Advanced details Info

Summary

Number of instances Info
1

Software Image (AMI)
Amazon Linux 2 Kernel 5.10 AMI...read more
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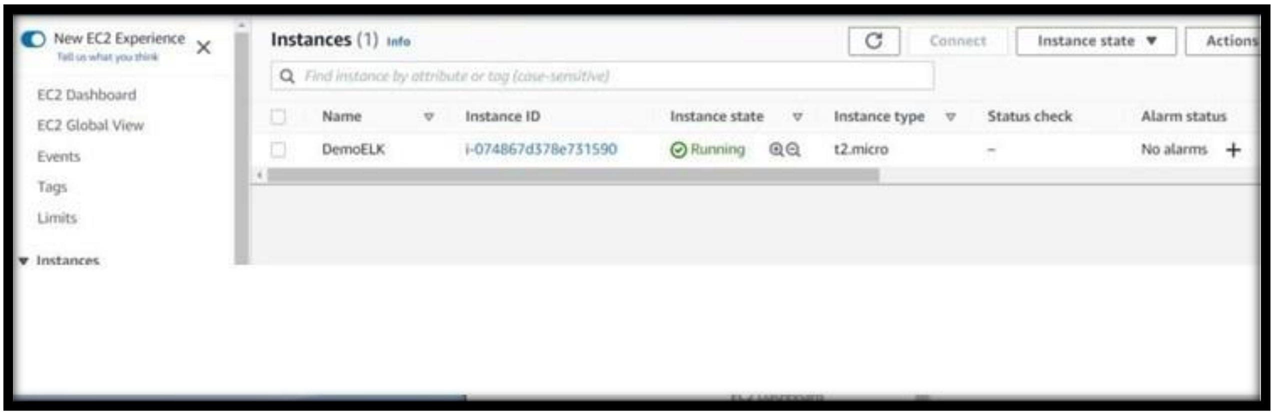
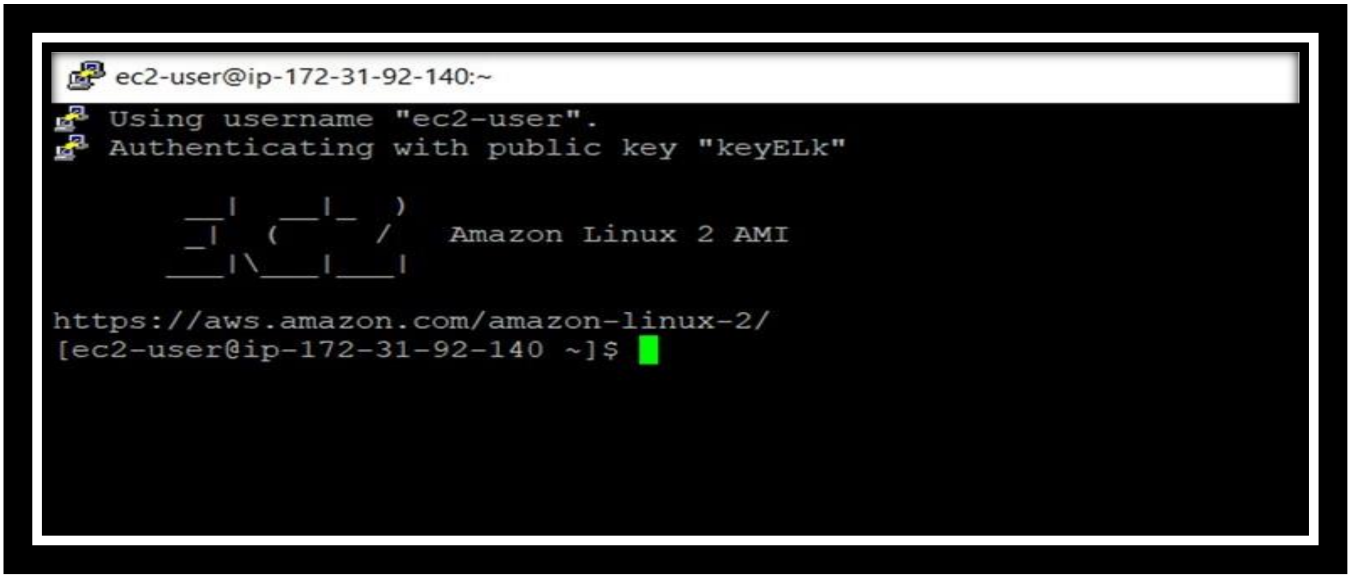


Instances (1) Info

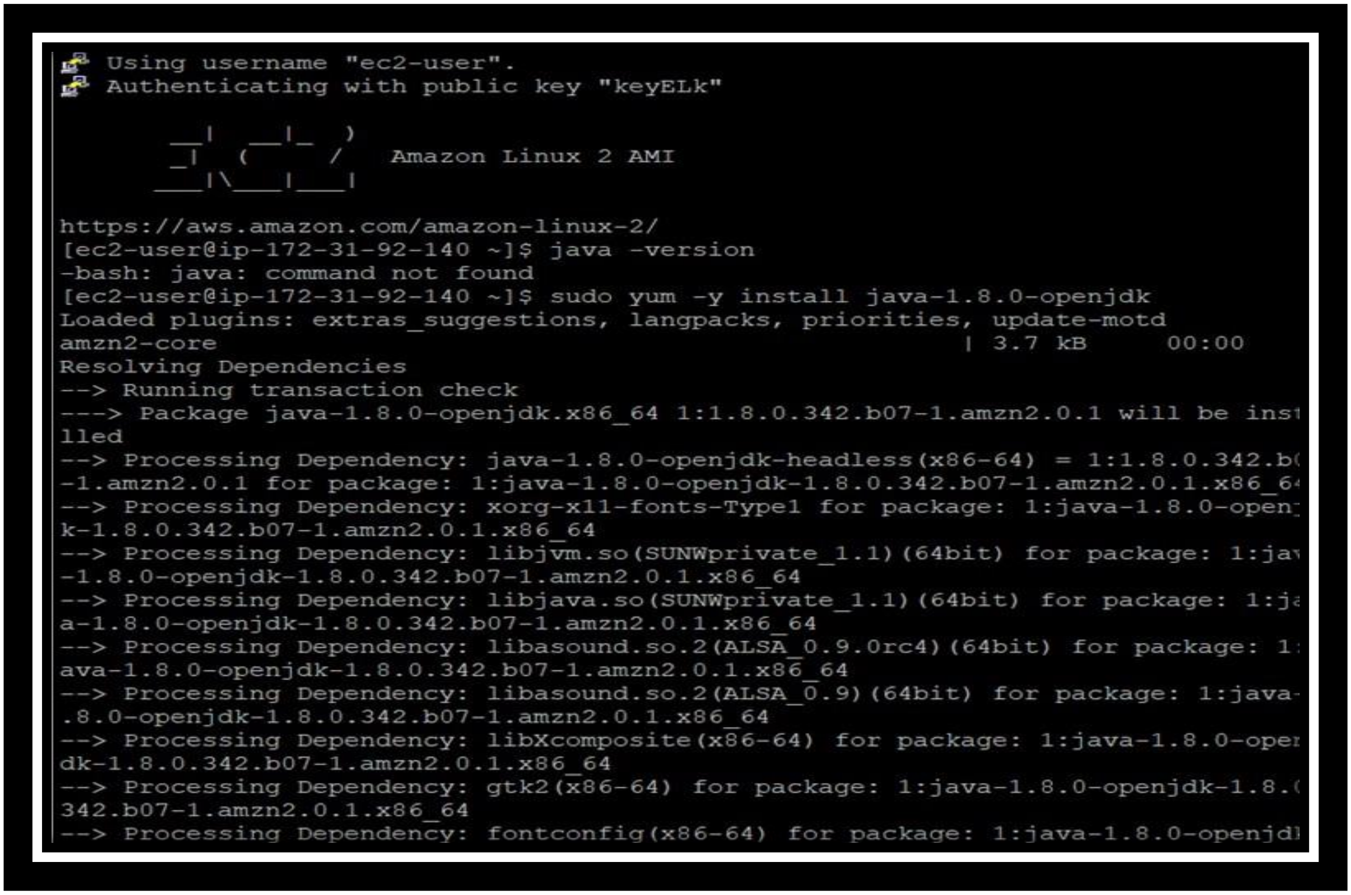
Find instance by attribute or tag (case-sensitive)

Name	Instance ID	Instance state	Instance type	Status check	Alarm status
DemoELK	i-074867d378e731590	Running	t2.micro	–	No alarms

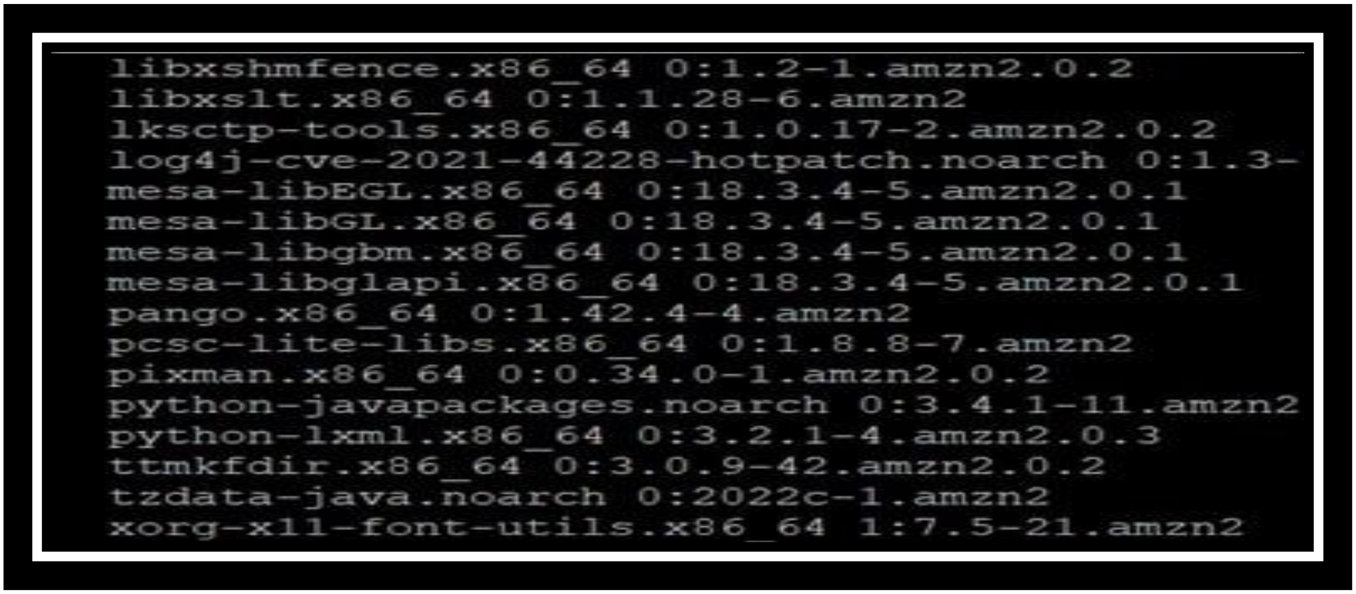


```
ec2-user@ip-172-31-92-140:~
Using username "ec2-user".
Authenticating with public key "keyELk"

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

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-172-31-92-140 ~]$ 
```

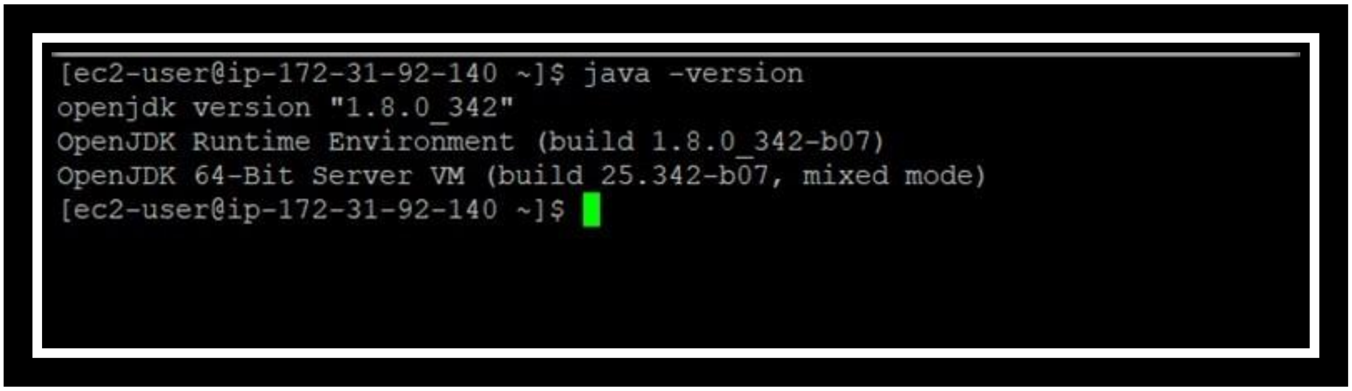
Install java and its Dependencies



```
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 inst
lled
--> Processing Dependency: java-1.8.0-openjdk-headless(x86-64) = 1:1.8.0.342.b
-1.amzn2.0.1 for package: 1:java-1.8.0-openjdk-1.8.0.342.b07-1.amzn2.0.1.x86_6
--> Processing Dependency: xorg-x11-fonts-Type1 for package: 1:java-1.8.0-open
k-1.8.0.342.b07-1.amzn2.0.1.x86_64
--> Processing Dependency: libjvm.so(SUNWprivate_1.1)(64bit) for package: 1:ja
-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:j
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
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
.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-ope
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.
342.b07-1.amzn2.0.1.x86_64
--> Processing Dependency: fontconfig(x86-64) for package: 1:java-1.8.0-openjd
```

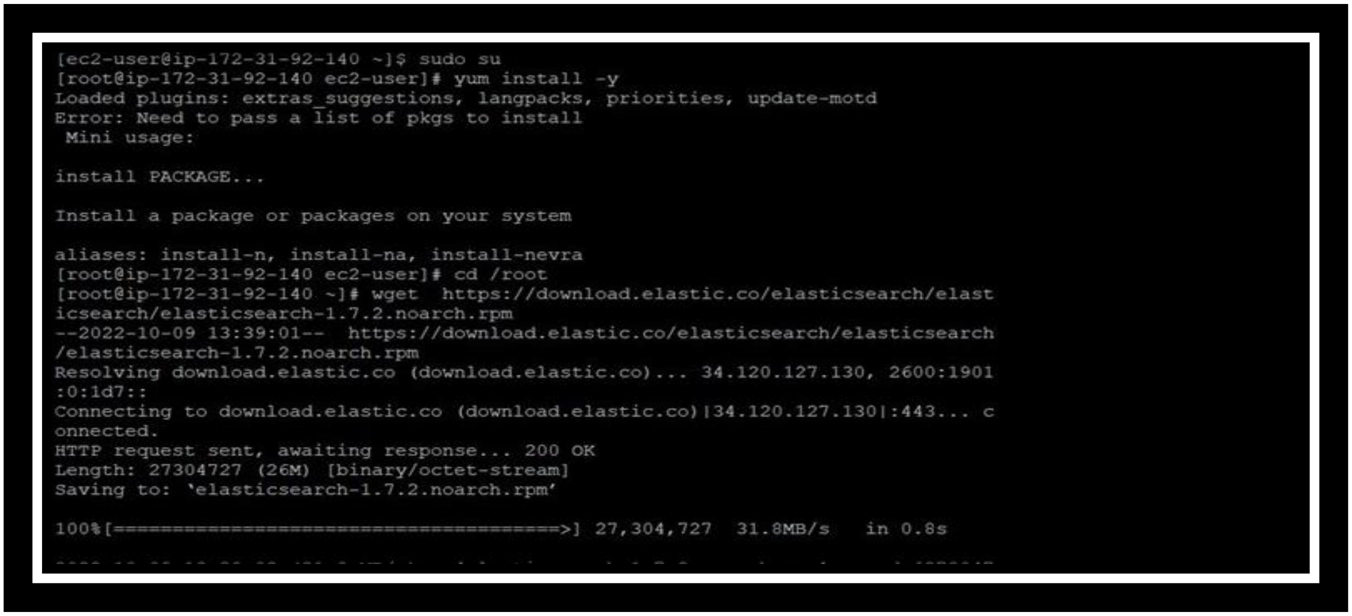


```
libxshmfence.x86_64 0:1.2-1.amzn2.0.2
libxslt.x86_64 0:1.1.28-6.amzn2
lksctp-tools.x86_64 0:1.0.17-2.amzn2.0.2
log4j-cve-2021-44228-hotpatch.noarch 0:1.3-
mesa-libEGL.x86_64 0:18.3.4-5.amzn2.0.1
mesa-libGL.x86_64 0:18.3.4-5.amzn2.0.1
mesa-libgbm.x86_64 0:18.3.4-5.amzn2.0.1
mesa-libglapi.x86_64 0:18.3.4-5.amzn2.0.1
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
```

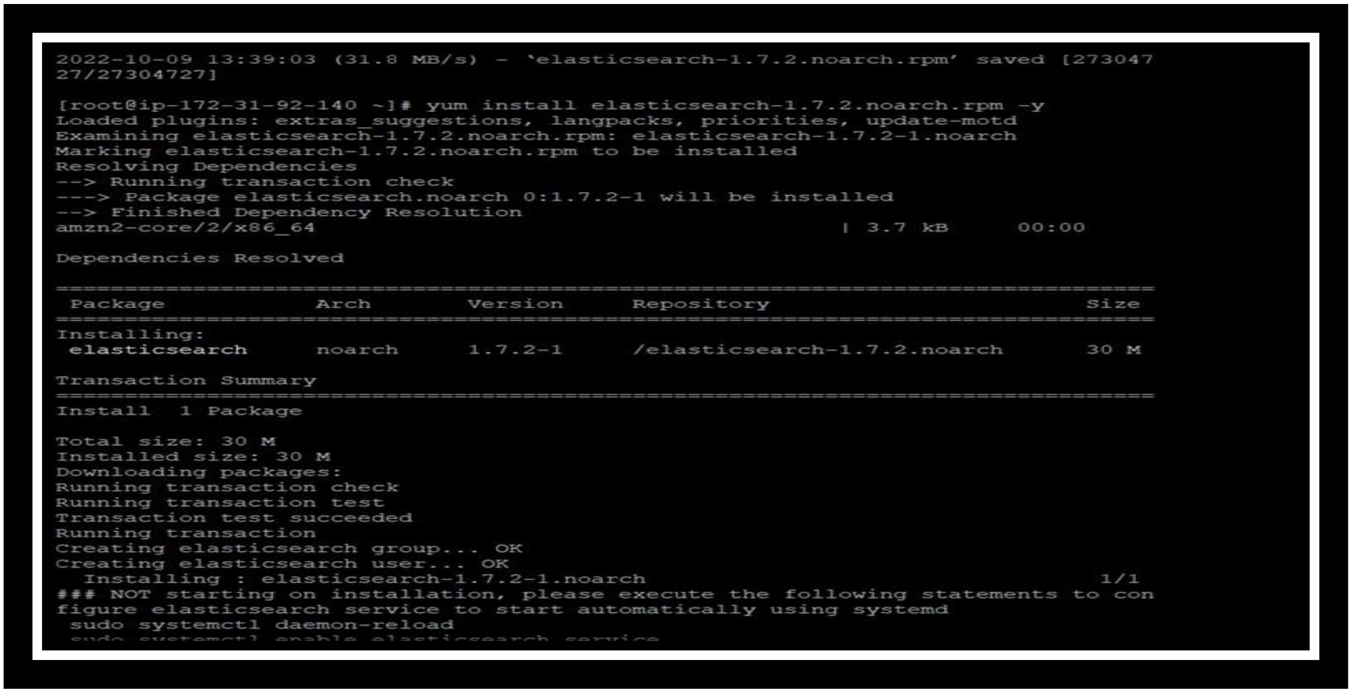


```
[ec2-user@ip-172-31-92-140 ~]$ java -version
openjdk version "1.8.0_342"
OpenJDK Runtime Environment (build 1.8.0_342-b07)
OpenJDK 64-Bit Server VM (build 25.342-b07, mixed mode)
[ec2-user@ip-172-31-92-140 ~]$
```

Install elastic search on aws server

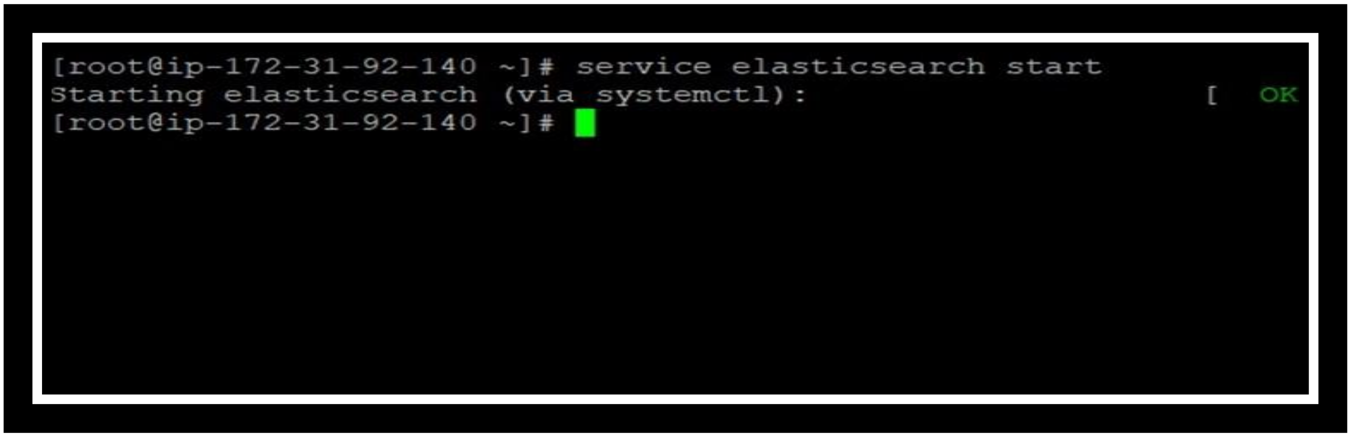


```
[ec2-user@ip-172-31-92-140 ~]$ sudo su
[root@ip-172-31-92-140 ec2-user]# yum install -y
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Error: Need to pass a list of pkgs to install
 Mini usage:

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
```



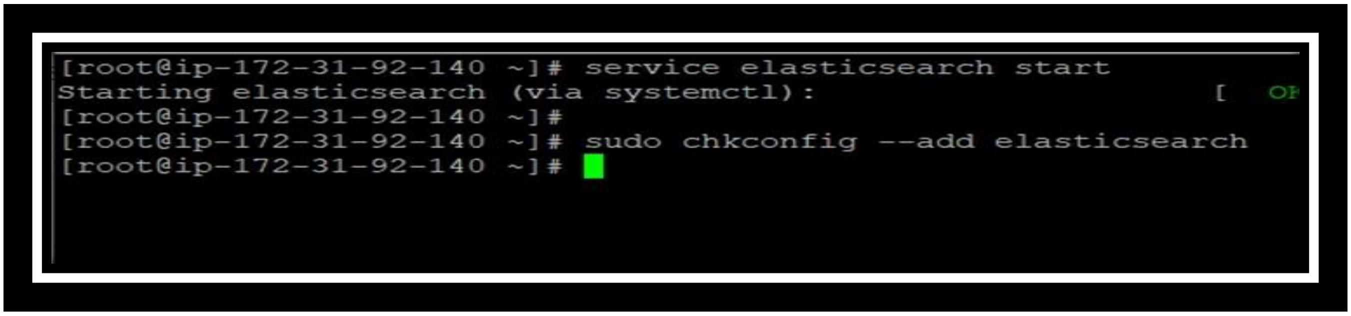
```
2022-10-09 13:39:03 (31.8 MB/s) - 'elasticsearch-1.7.2.noarch.rpm' saved [273047
27/27304727]

[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

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
```

Start the Server



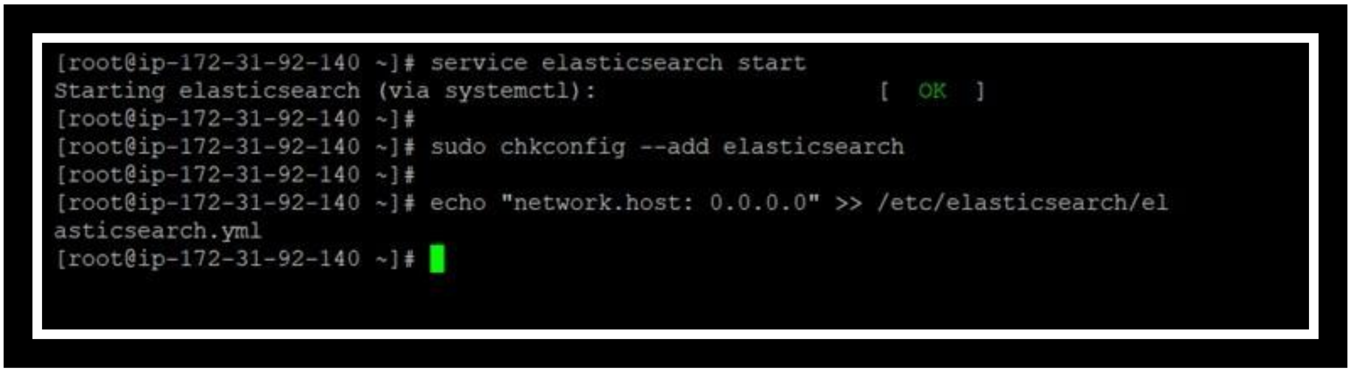
```
[root@ip-172-31-92-140 ~]# service elasticsearch start
Starting elasticsearch (via systemctl):                    [  OK
[root@ip-172-31-92-140 ~]#
```

Automatically Boot u on start



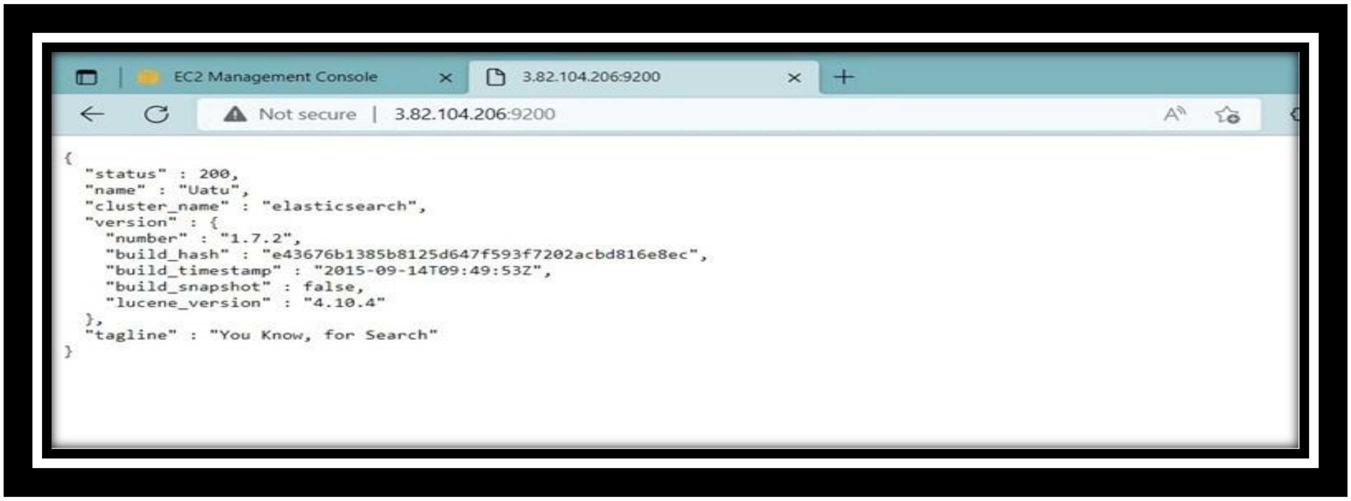
```
[root@ip-172-31-92-140 ~]# service elasticsearch start
Starting elasticsearch (via systemctl):                    [  OK
[root@ip-172-31-92-140 ~]#
[root@ip-172-31-92-140 ~]# sudo chkconfig --add elasticsearch
[root@ip-172-31-92-140 ~]#
```

Configuring AWS IP so you can access using public IP



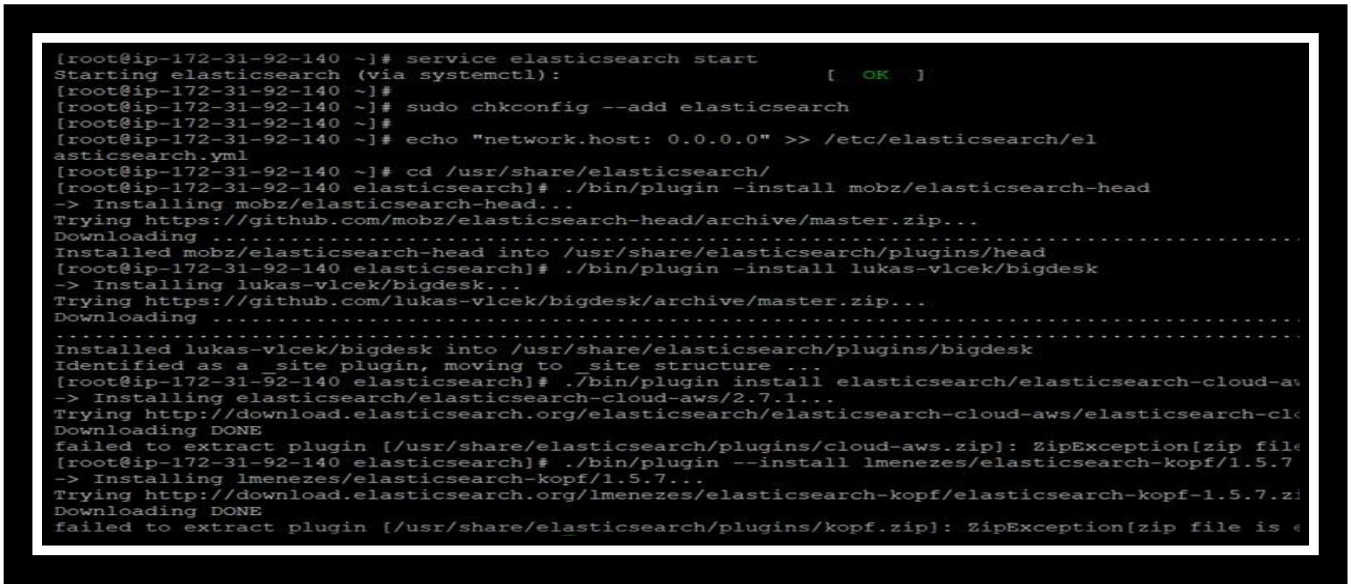
```
[root@ip-172-31-92-140 ~]# service elasticsearch start
Starting elasticsearch (via systemctl):                    [  OK  ]
[root@ip-172-31-92-140 ~]#
[root@ip-172-31-92-140 ~]# sudo chkconfig --add elasticsearch
[root@ip-172-31-92-140 ~]#
[root@ip-172-31-92-140 ~]# echo "network.host: 0.0.0.0" >>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

Checking Elastic Search



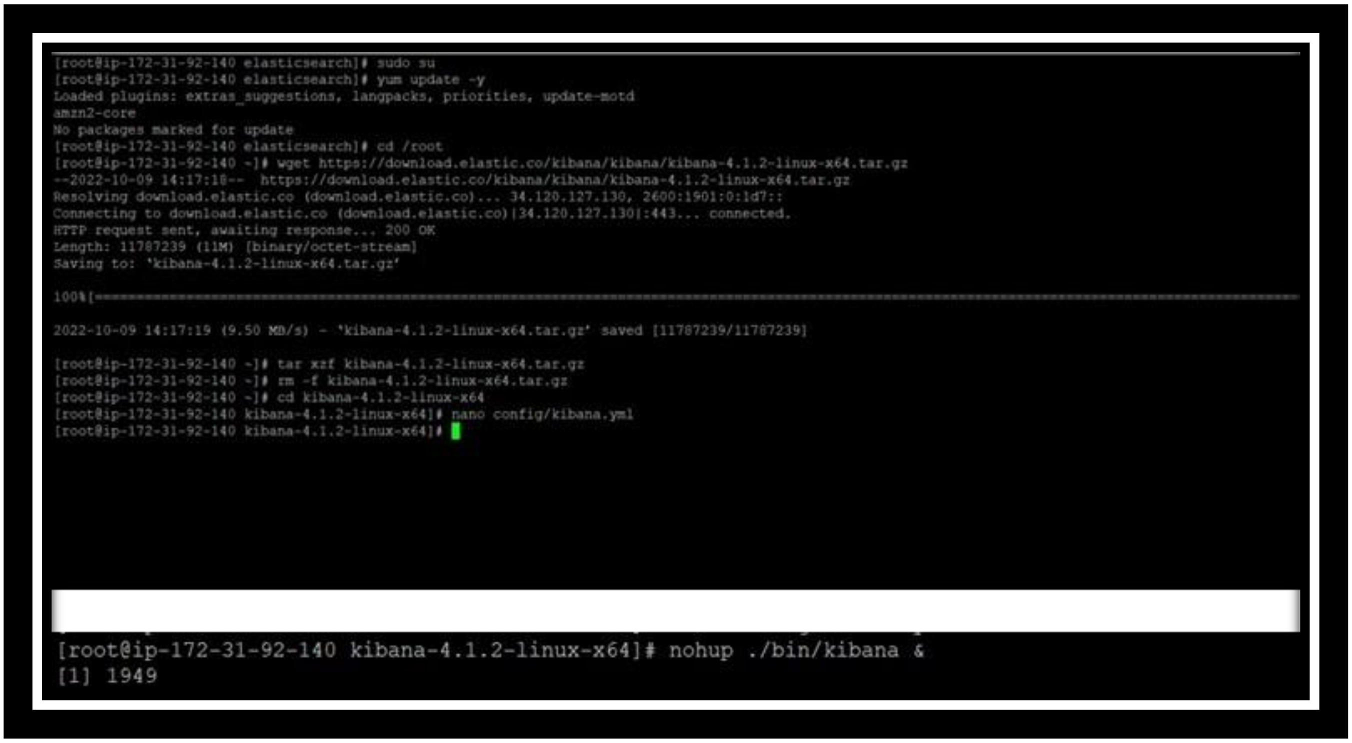
```
{
  "status" : 200,
  "name" : "Uatu",
  "cluster_name" : "elasticsearch",
  "version" : {
    "number" : "1.7.2",
    "build_hash" : "e43676b1385b8125d647f593f7202acbd816e8ec",
    "build_timestamp" : "2015-09-14T09:49:53Z",
    "build_snapshot" : false,
    "lucene_version" : "4.10.4"
  },
  "tagline"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

Install Plugins



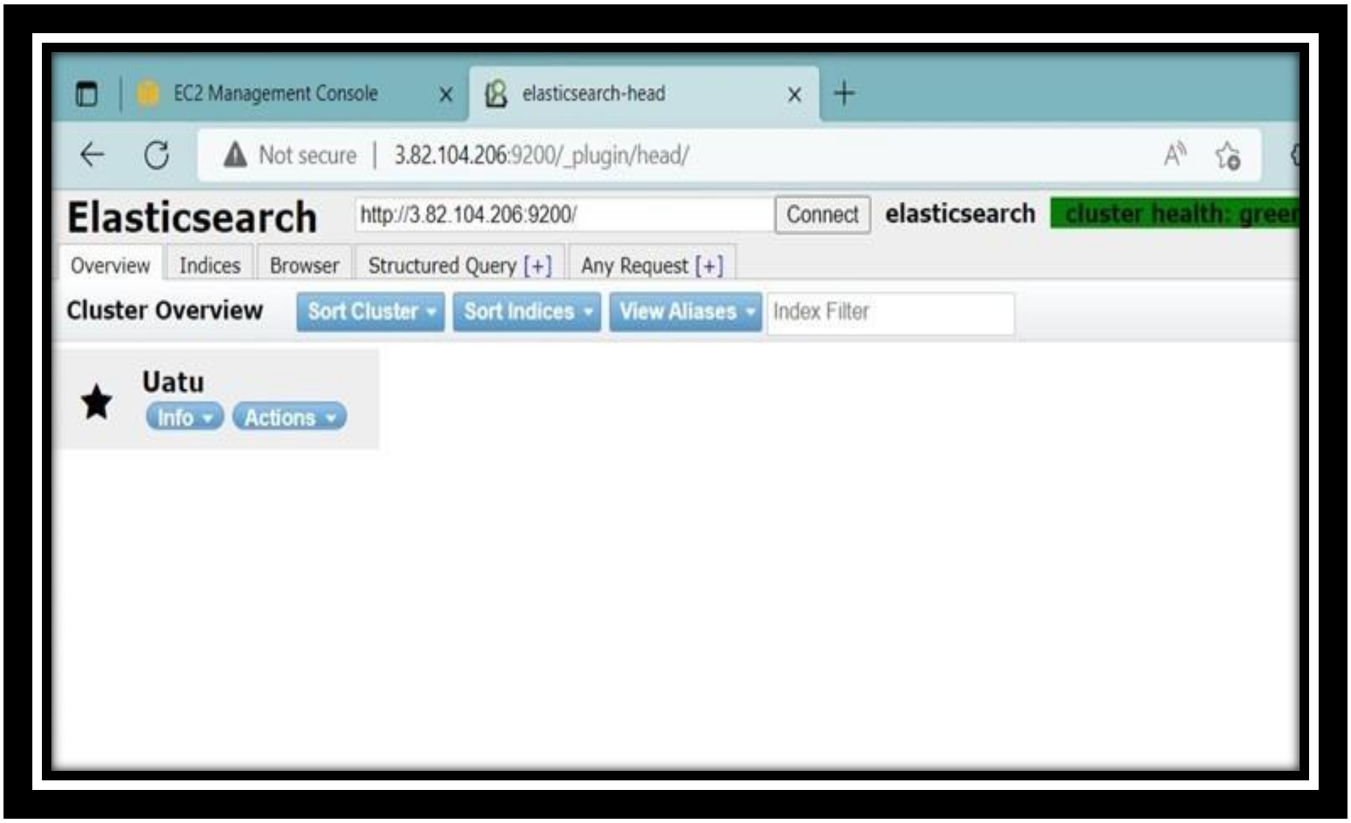
```
[root@ip-172-31-92-140 ~]# service elasticsearch start
Starting elasticsearch (via systemctl):                    [  OK  ]
[root@ip-172-31-92-140 ~]#
[root@ip-172-31-92-140 ~]# sudo chkconfig --add elasticsearch
[root@ip-172-31-92-140 ~]#
[root@ip-172-31-92-140 ~]# echo "network.host: 0.0.0.0" >> /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 ...................................................................................
...............................................................................................
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-aw
-> Installing elasticsearch/elasticsearch-cloud-aws/2.7.1...
Trying http://download.elasticsearch.org/elasticsearch/elasticsearch-cloud-aws/elasticsearch-cl
Downloading DONE
failed to extract plugin [/usr/share/elasticsearch/plugins/cloud-aws.zip]: ZipException[zip file
[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.z
Downloading DONE
failed to extract plugin [/usr/share/elasticsearch/plugins/kopf.zip]: ZipException[zip file is
```

Install Kibana



```
[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
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%[==========================================================================================================================>

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
```



3.82.104.206:9200/_plugin/head/

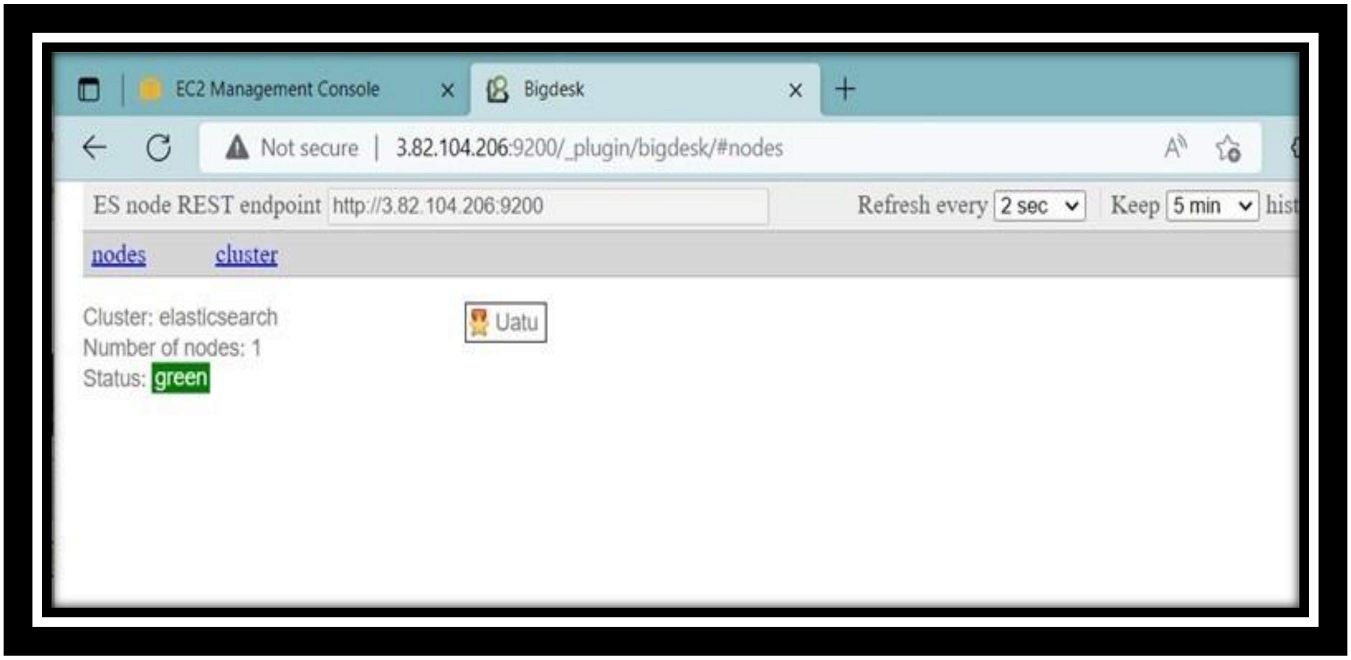
Elasticsearch

http://3.82.104.206:9200/

elasticsearch cluster health: green

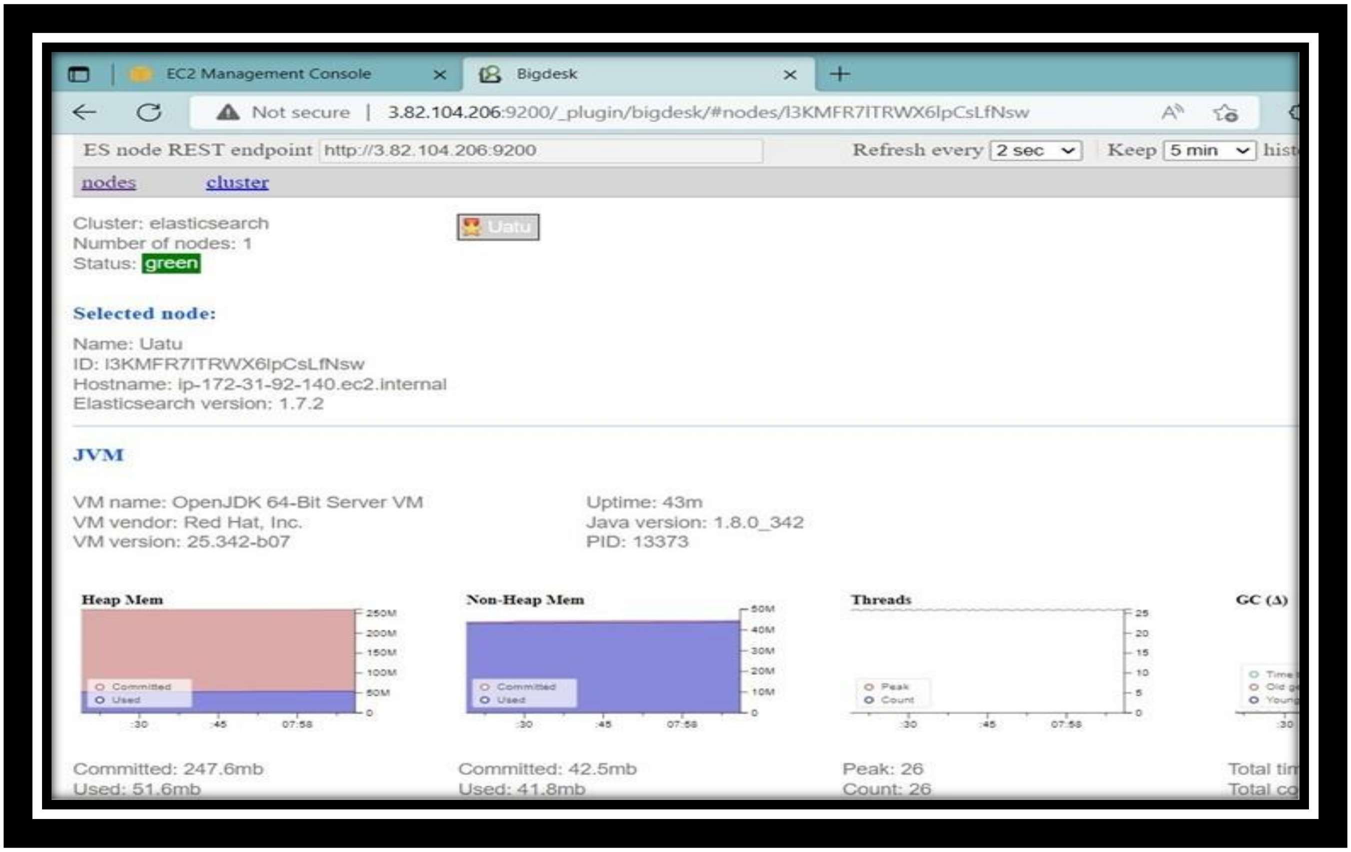
Cluster Overview

Uatu



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

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 hist

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

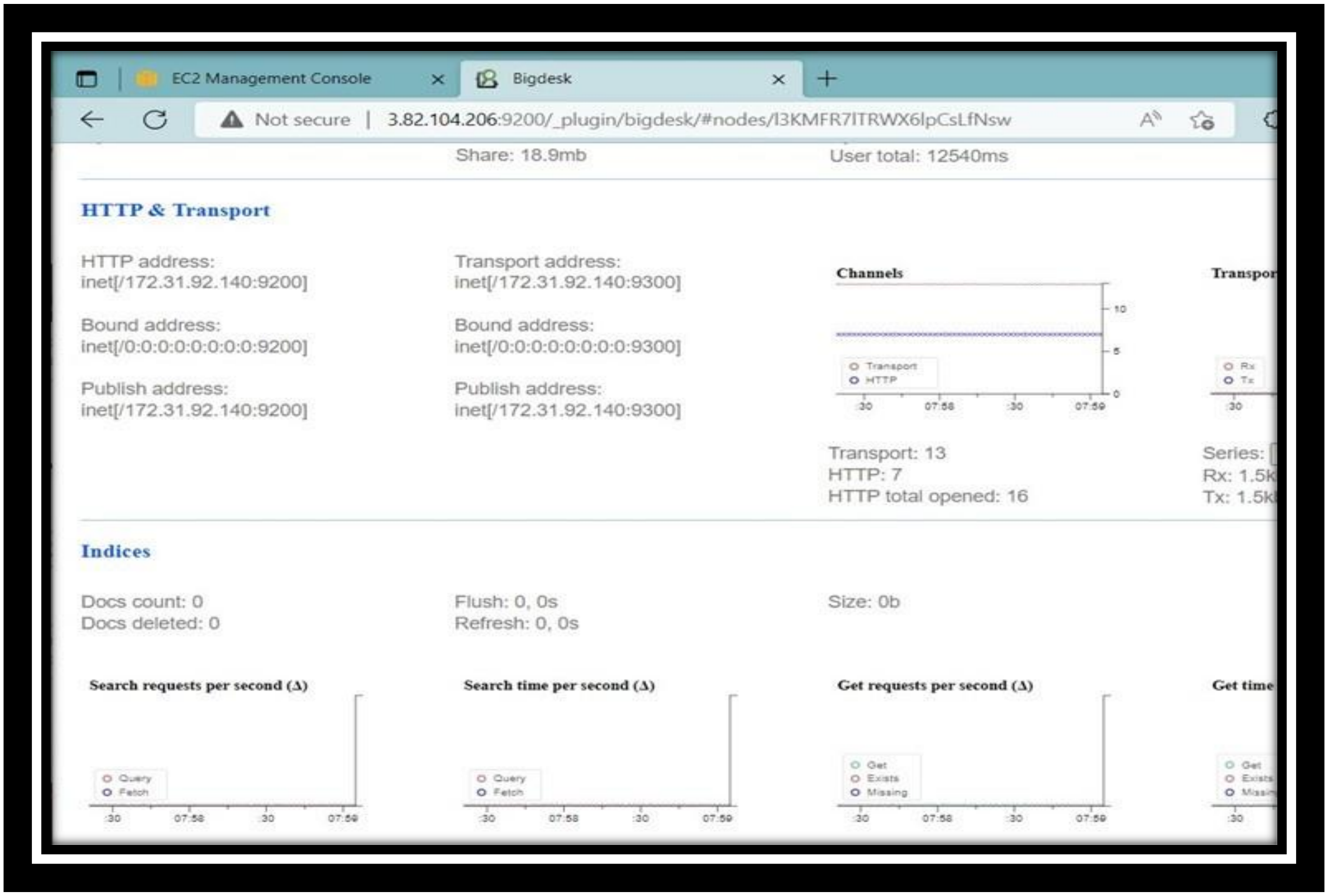
Uptime: 43m
Java version: 1.8.0_342
PID: 13373

Committed: 247.6mb
Used: 51.6mb

Committed: 42.5mb
Used: 41.8mb

Peak: 26
Count: 26

Total tir
Total co



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]

Transport: 13
HTTP: 7
HTTP total opened: 16

Series: [
Rx: 1.5k
Tx: 1.5k

Indices

Docs count: 0
Docs deleted: 0

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

Size: 0b