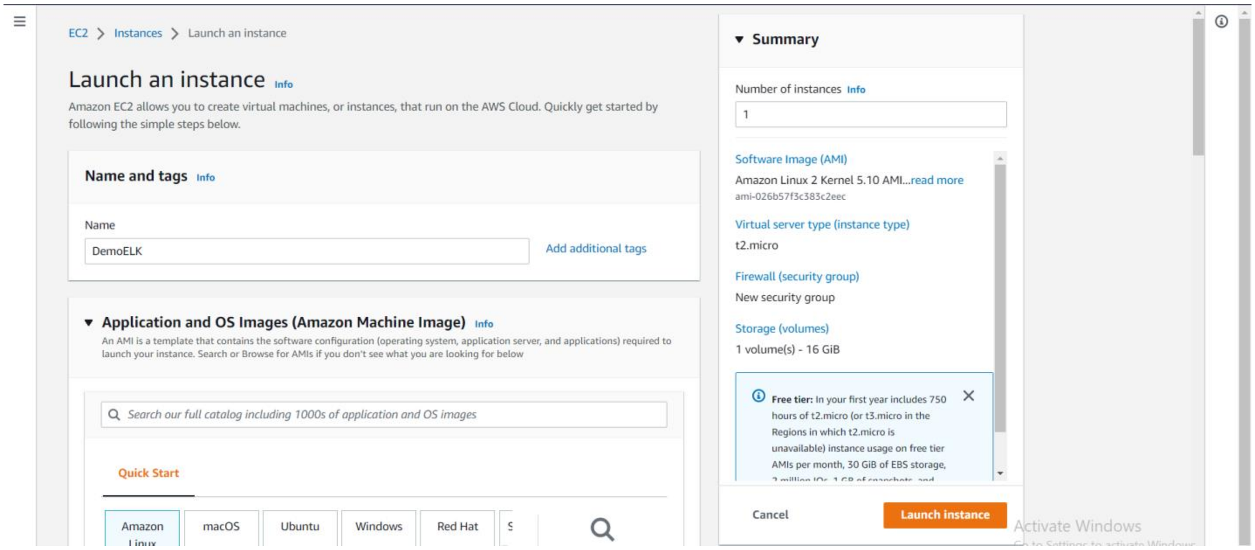
Output:

Deploying ELK Stack on Docker Container

First we need to 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

Quick Start

Amazon Linux | macOS | Ubuntu | Windows | Red Hat

Summary

Number of instances Info: 1

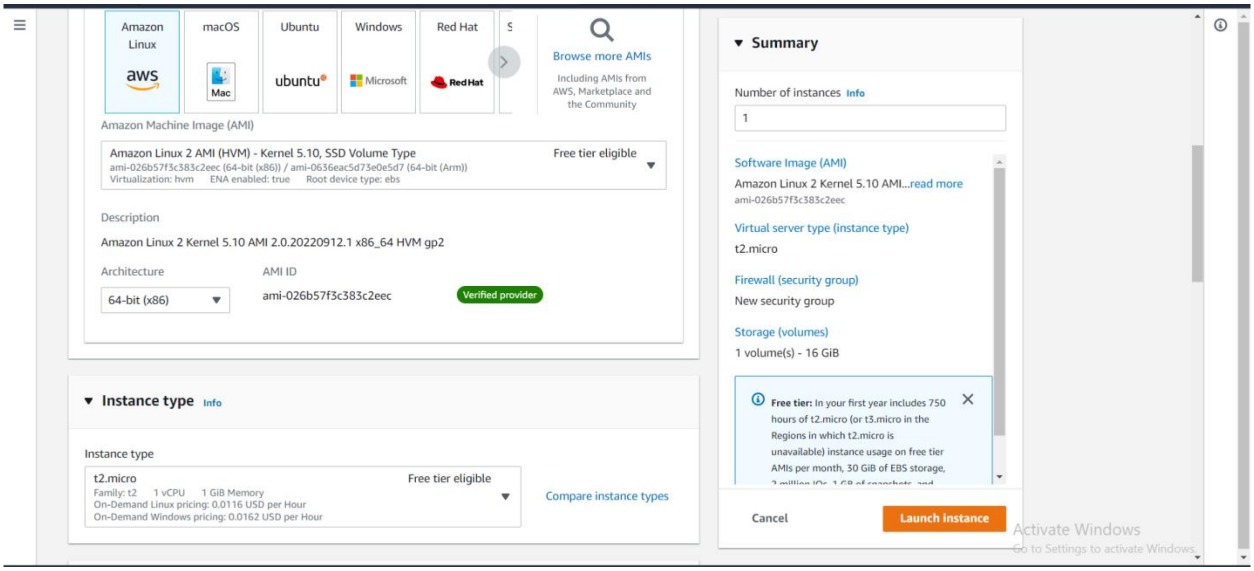
Software Image (AMI): Amazon Linux 2 Kernel 5.10 AMI...read more
ami-026b57f3c383c2eec

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 Linux | macOS | Ubuntu | Windows | Red Hat

Browse more AMIs
Including AMIs from AWS, Marketplace and the Community

Amazon Machine Image (AMI)

Amazon Linux 2 AMI (HVM) - Kernel 5.10, SSD Volume Type — Free tier eligible
ami-026b57f3c383c2eec (64-bit (x86)) / ami-0636eac5d73e0e5d7 (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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ami-026b57f3c383c2eec

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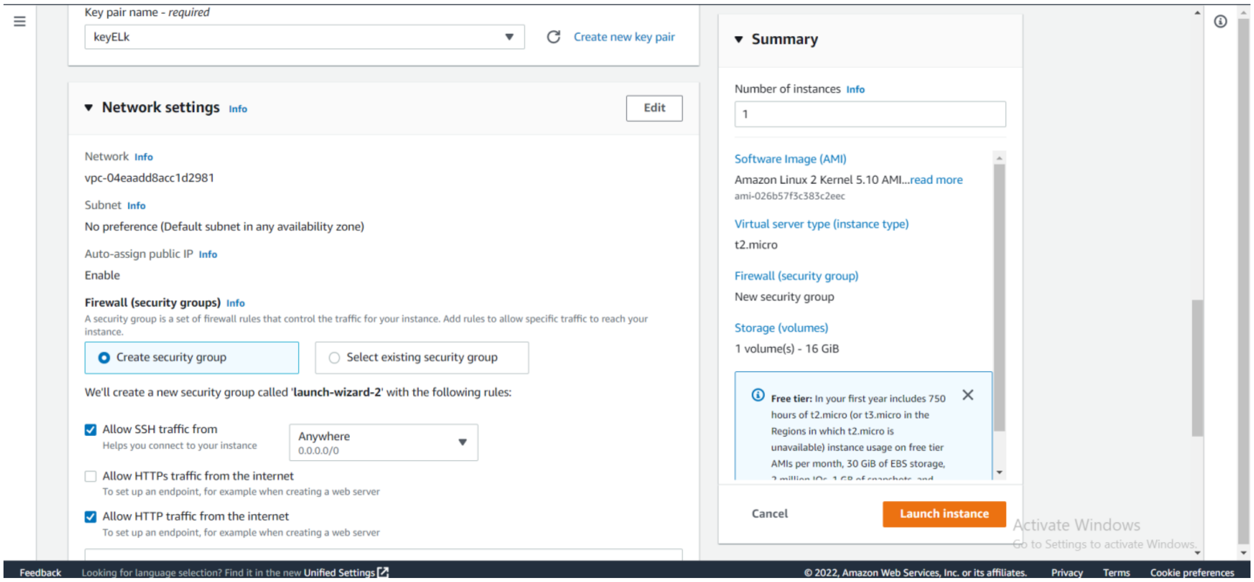


Key pair name - *required*

keyELk

Create new key pair

Network settings Info — Edit

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 — Anywhere 0.0.0.0/0
Helps you connect to your instance

□ 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

Summary

Number of instances Info
1

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

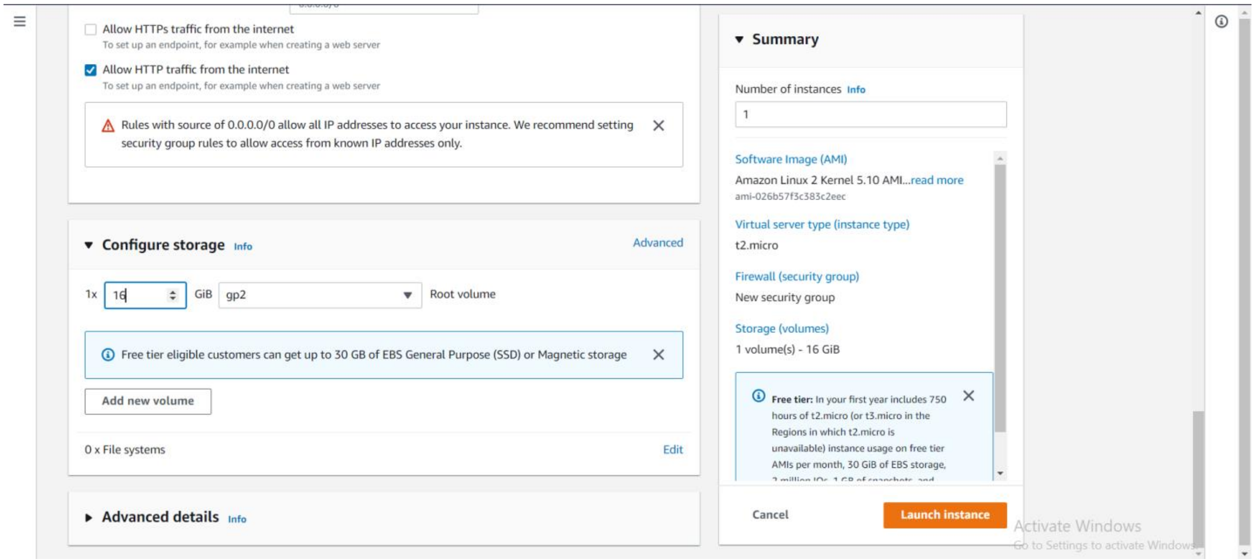
Virtual server type (instance type)
t2.micro

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,

Cancel
Launch instance
Activate Windows
Go to Settings to activate Windows
Feedback
Looking for language selection? Find it in the new Unified Settings
© 2022, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences



□ 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 — Advanced

1x 16 GiB gp2 Root volume

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

Add new volume

0 x File systems — Edit

Advanced details Info

Summary

Number of instances Info
1

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

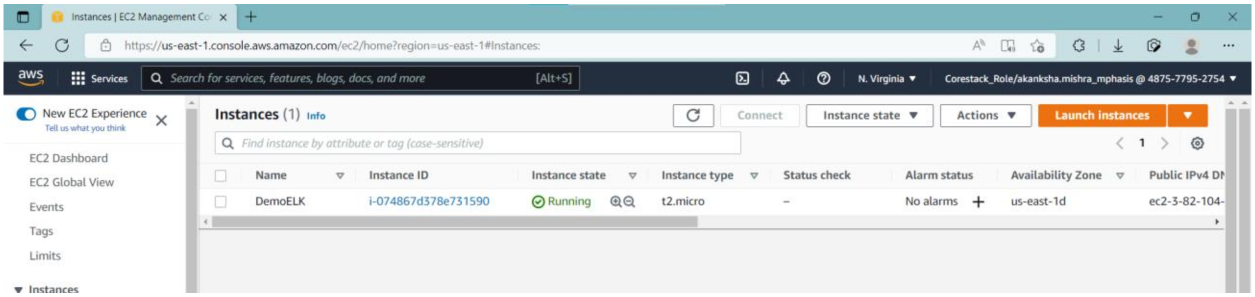
Virtual server type (instance type)
t2.micro

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,

Now connect to the instance using putty

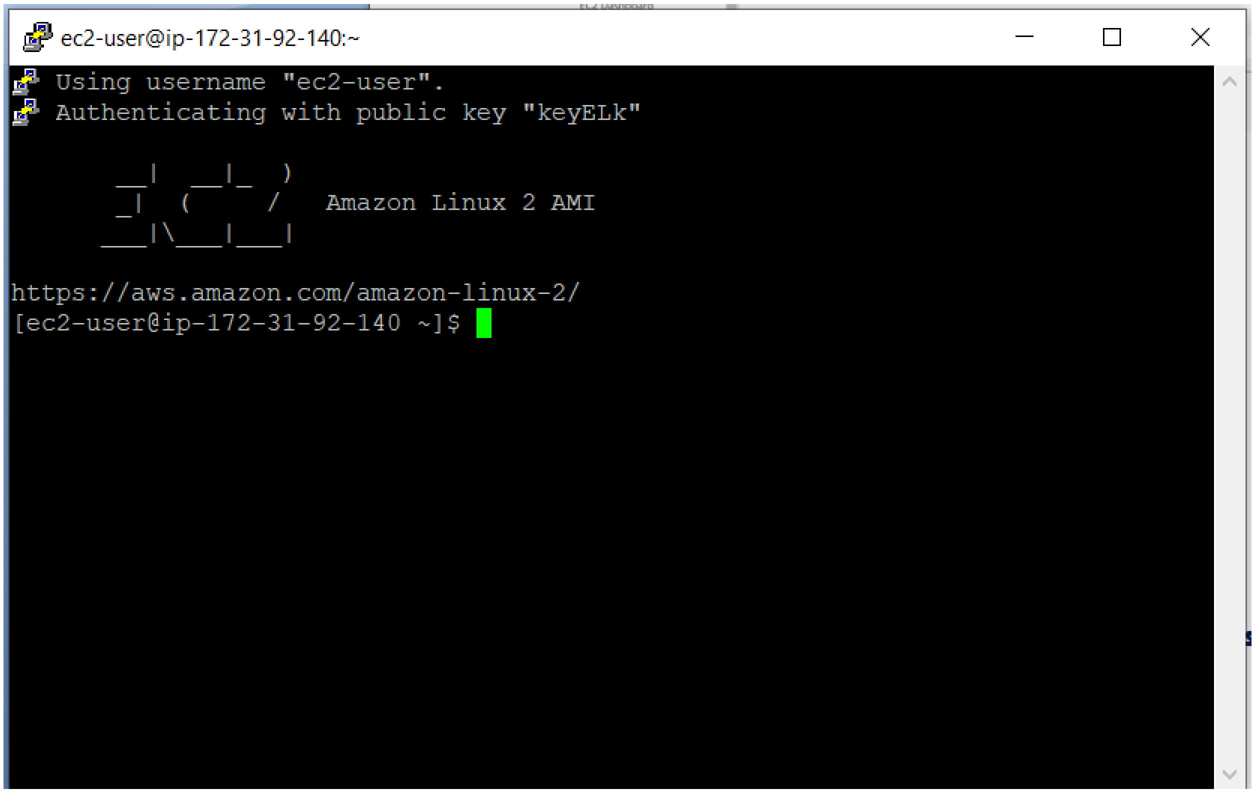


Instances | EC2 Management Co

https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Instances:

Instances (1) Info

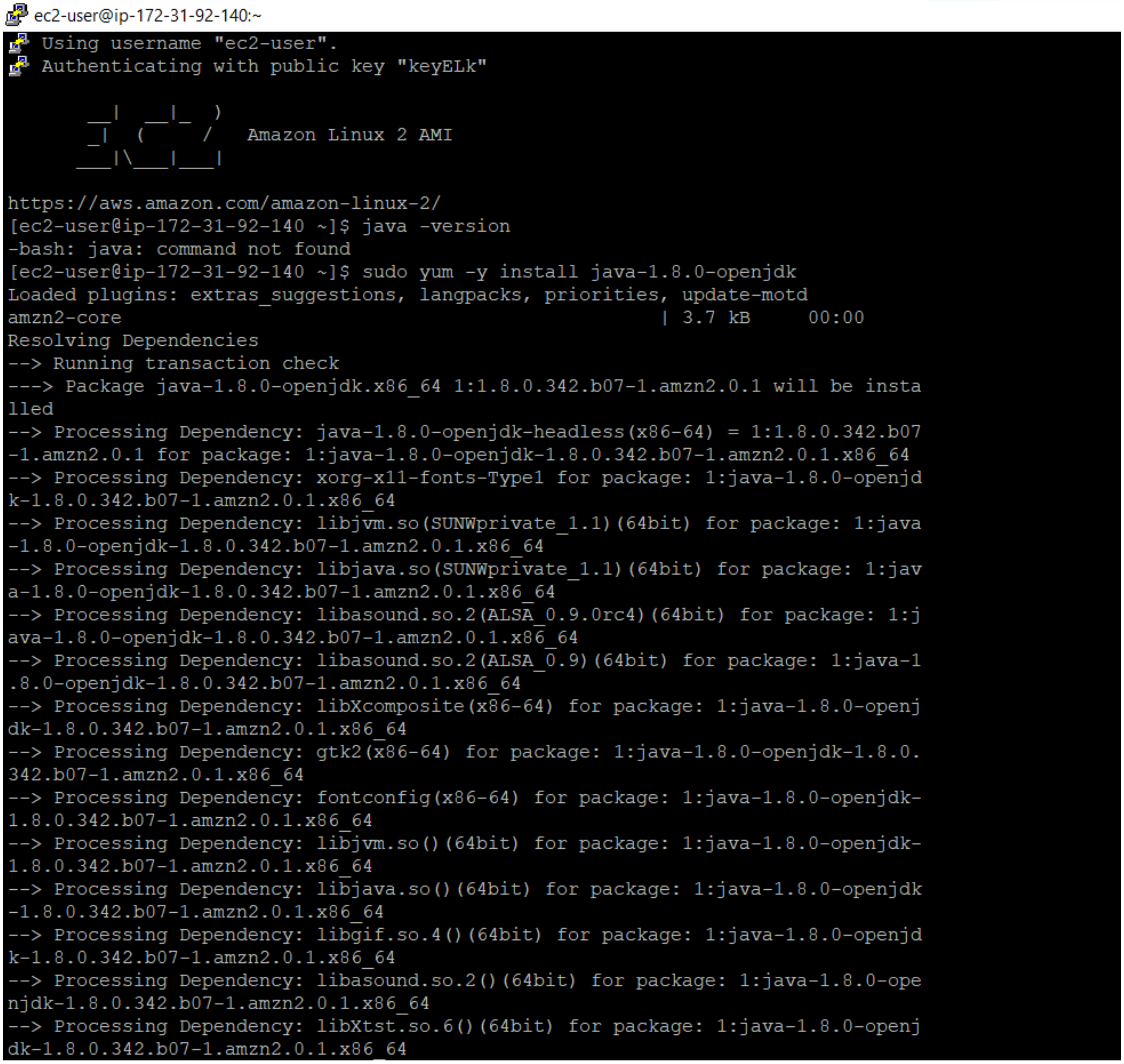
	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DI
□	DemoELK	i-074867d378e731590	✓ Running	t2.micro	–	No alarms +	us-east-1d	ec2-3-82-104-



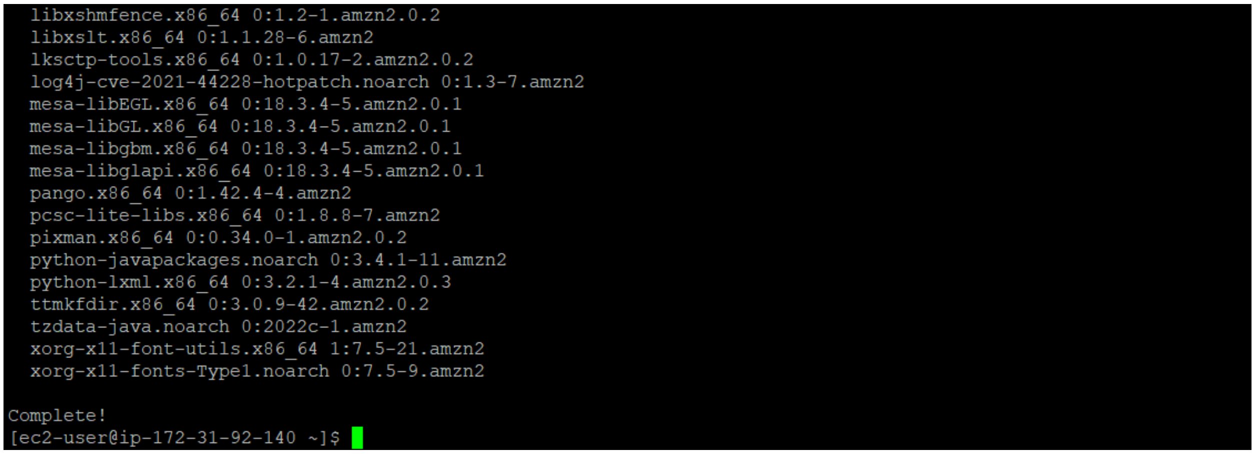
```
Using username "ec2-user".
Authenticating with public key "keyELk"

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

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

Now follow the following step

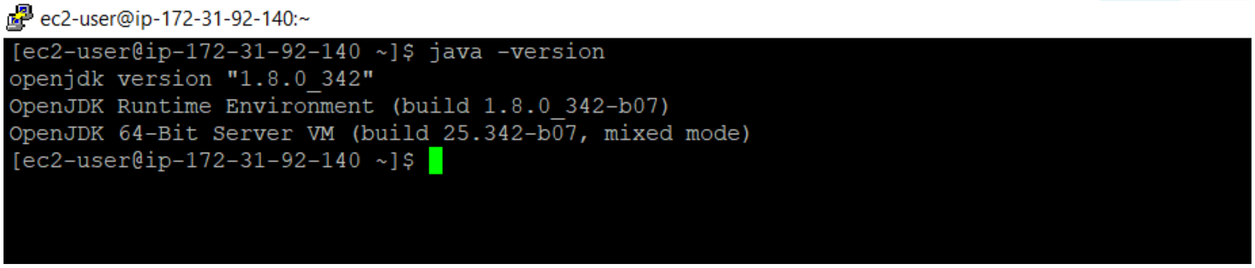
Step1: Install java and its Dependencies



```
 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 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
```

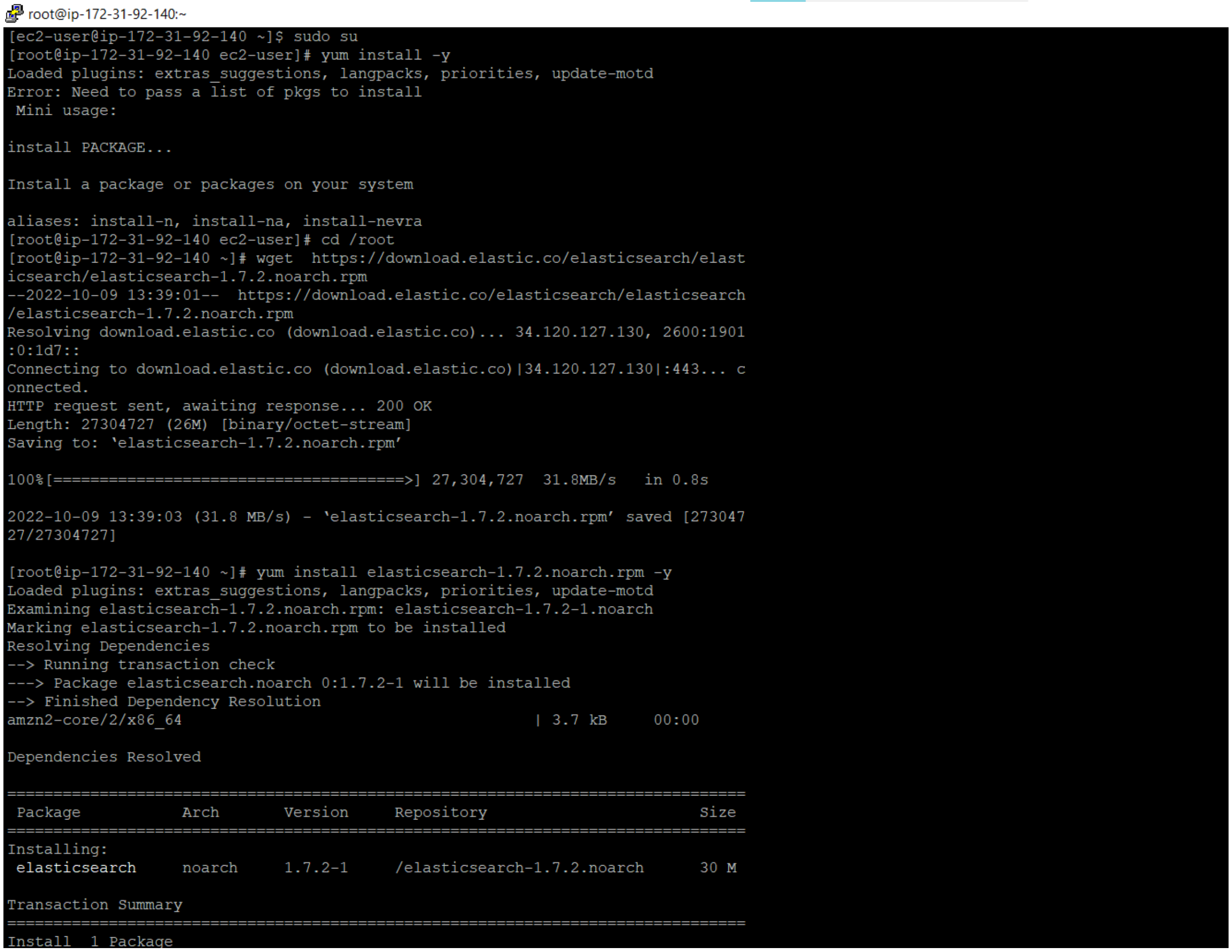


```
  libxshmfence.x86_64 0:1.2-1.amzn2.0.2
  libxslt.x86_64 0:1.1.28-6.amzn2
  lksctp-tools.x86_64 0:1.0.17-2.amzn2.0.2
  log4j-cve-2021-44228-hotpatch.noarch 0:1.3-7.amzn2
  mesa-libEGL.x86_64 0:18.3.4-5.amzn2.0.1
  mesa-libGL.x86_64 0:18.3.4-5.amzn2.0.1
  mesa-libgbm.x86_64 0:18.3.4-5.amzn2.0.1
  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 ~]$ 
```

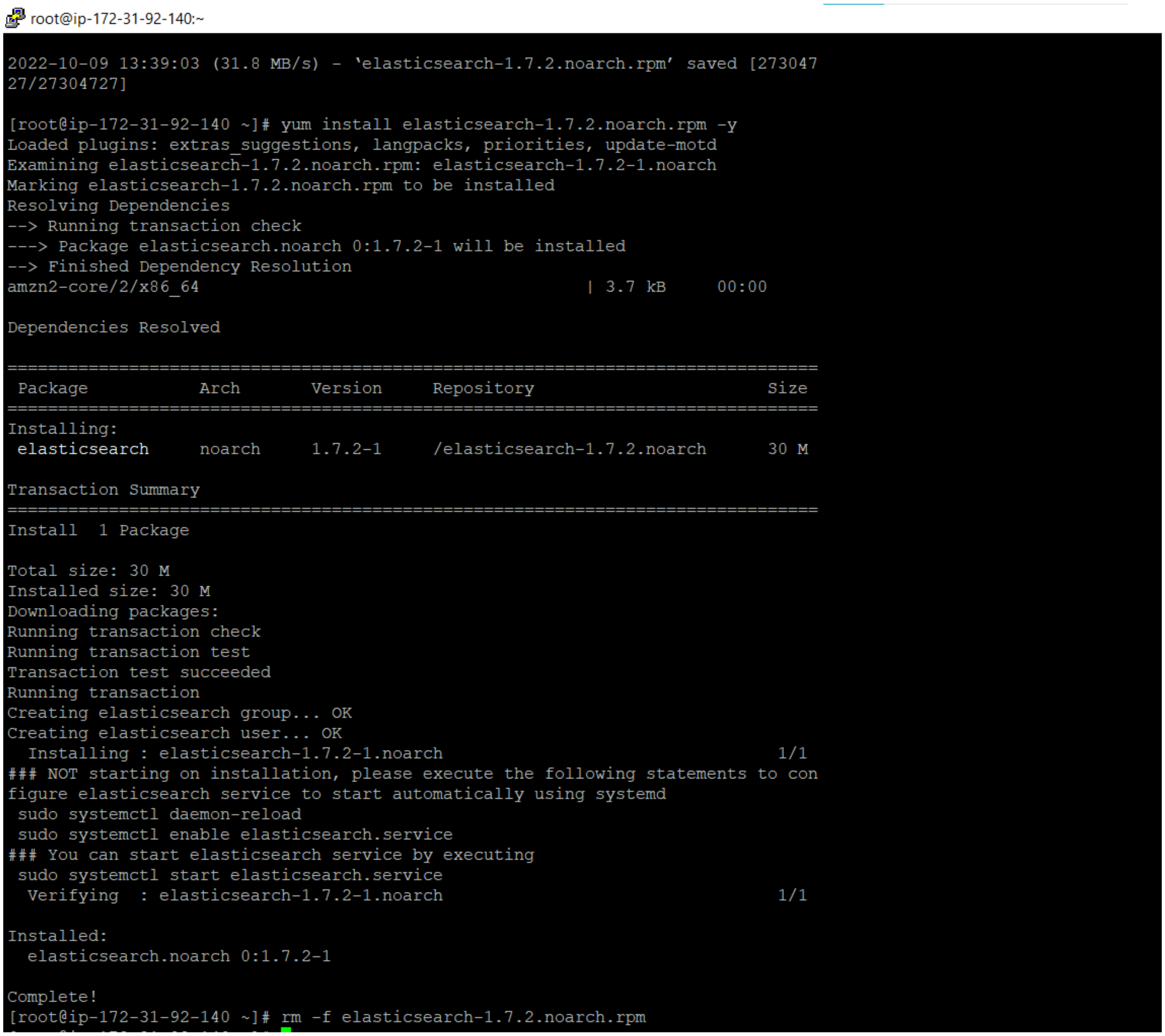


```
[ec2-user@ip-172-31-92-140 ~]$ java -version
openjdk version "1.8.0_342"
OpenJDK Runtime Environment (build 1.8.0_342-b07)
OpenJDK 64-Bit Server VM (build 25.342-b07, mixed mode)
[ec2-user@ip-172-31-92-140 ~]$
```

Step2: Install Elastic search on AWS Server



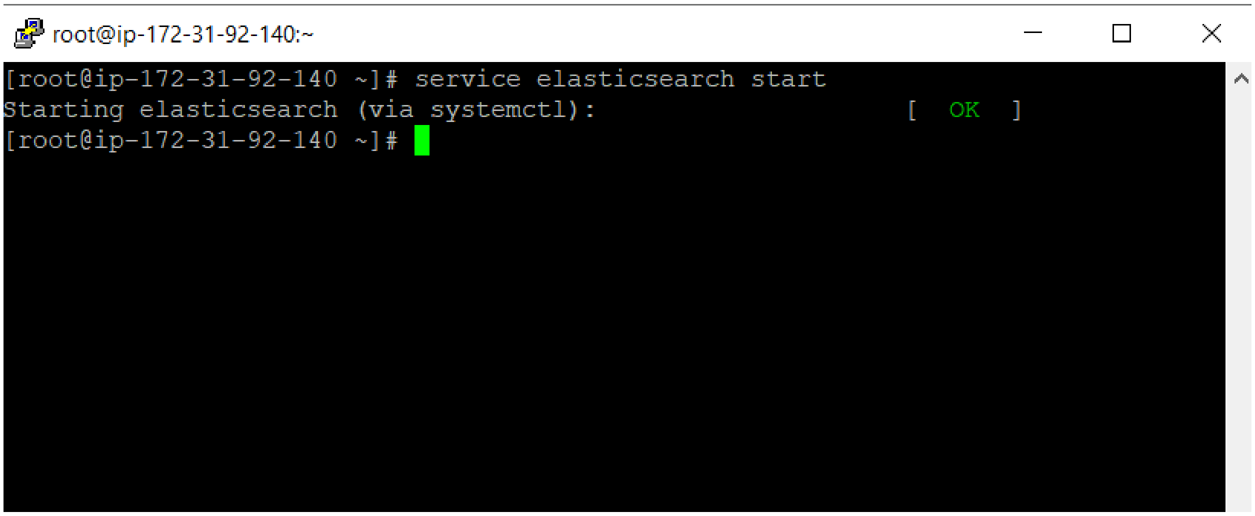
```
[ec2-user@ip-172-31-92-140 ~]$ sudo su
[root@ip-172-31-92-140 ec2-user]# yum install -y
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Error: Need to pass a list of pkgs to install
 Mini usage:

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
```



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

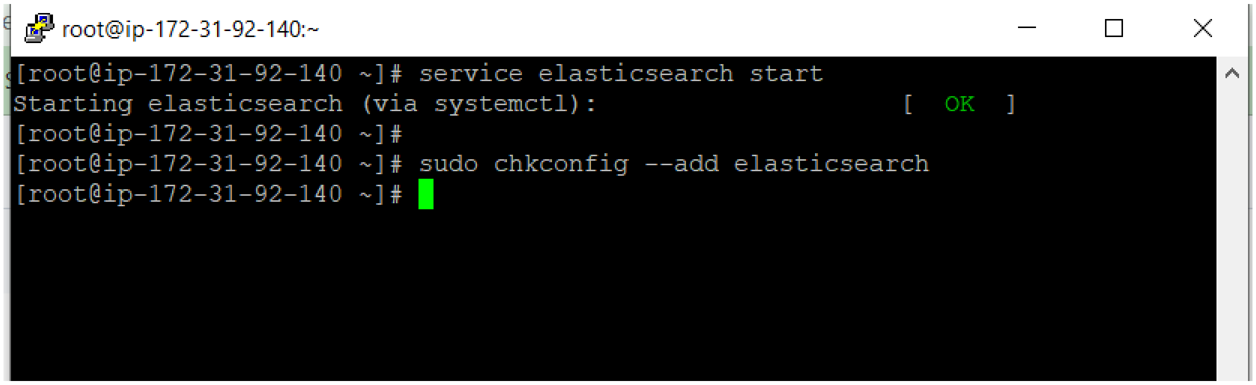
```
2022-10-09 13:39:03 (31.8 MB/s) - ‘elasticsearch-1.7.2.noarch.rpm’ saved [273047
27/27304727]

[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



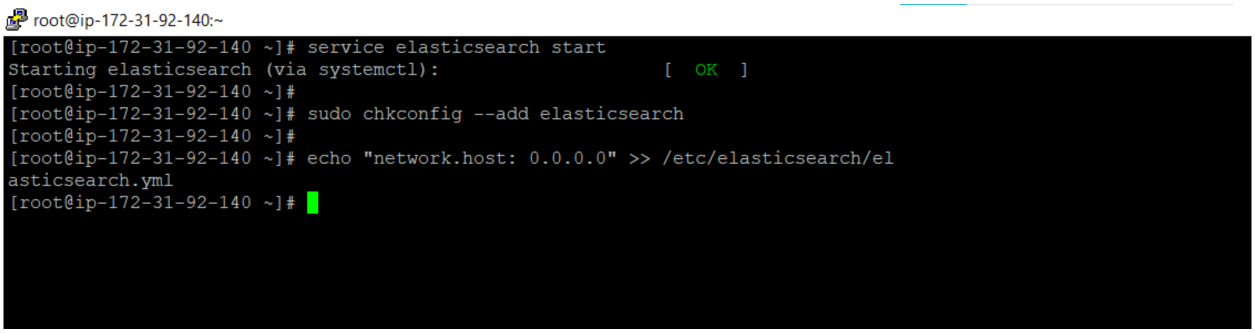
```
[root@ip-172-31-92-140 ~]# service elasticsearch start
Starting elasticsearch (via systemctl):                    [  OK  ]
[root@ip-172-31-92-140 ~]# 
```

Step4: Automatically Boot u on start



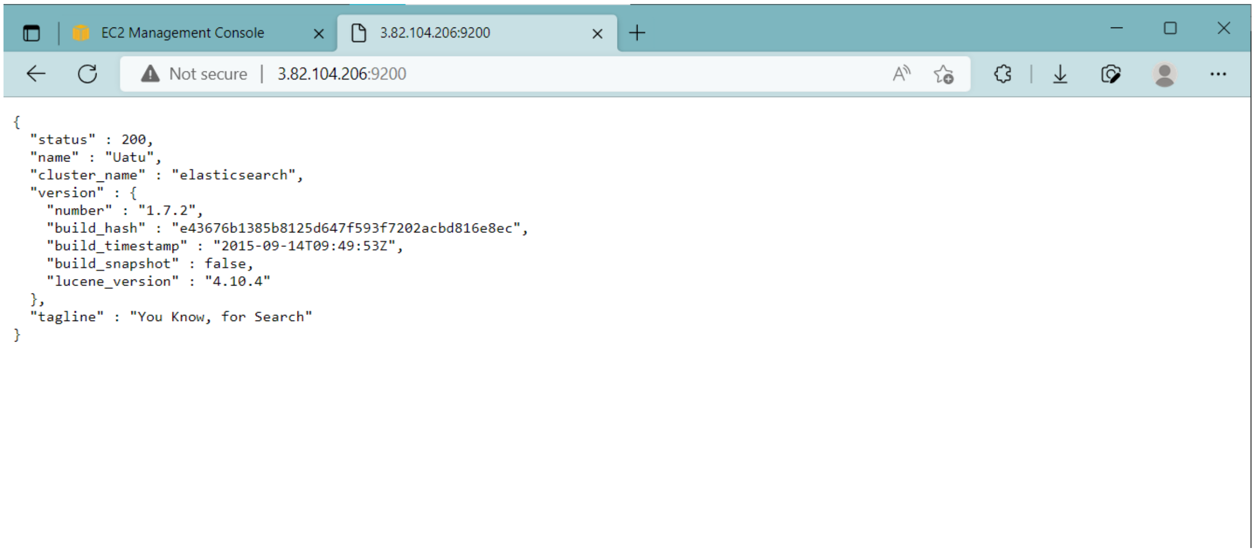
```
[root@ip-172-31-92-140 ~]# service elasticsearch start
Starting elasticsearch (via systemctl):                    [  OK  ]
[root@ip-172-31-92-140 ~]#
[root@ip-172-31-92-140 ~]# sudo chkconfig --add elasticsearch
[root@ip-172-31-92-140 ~]# 
```

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



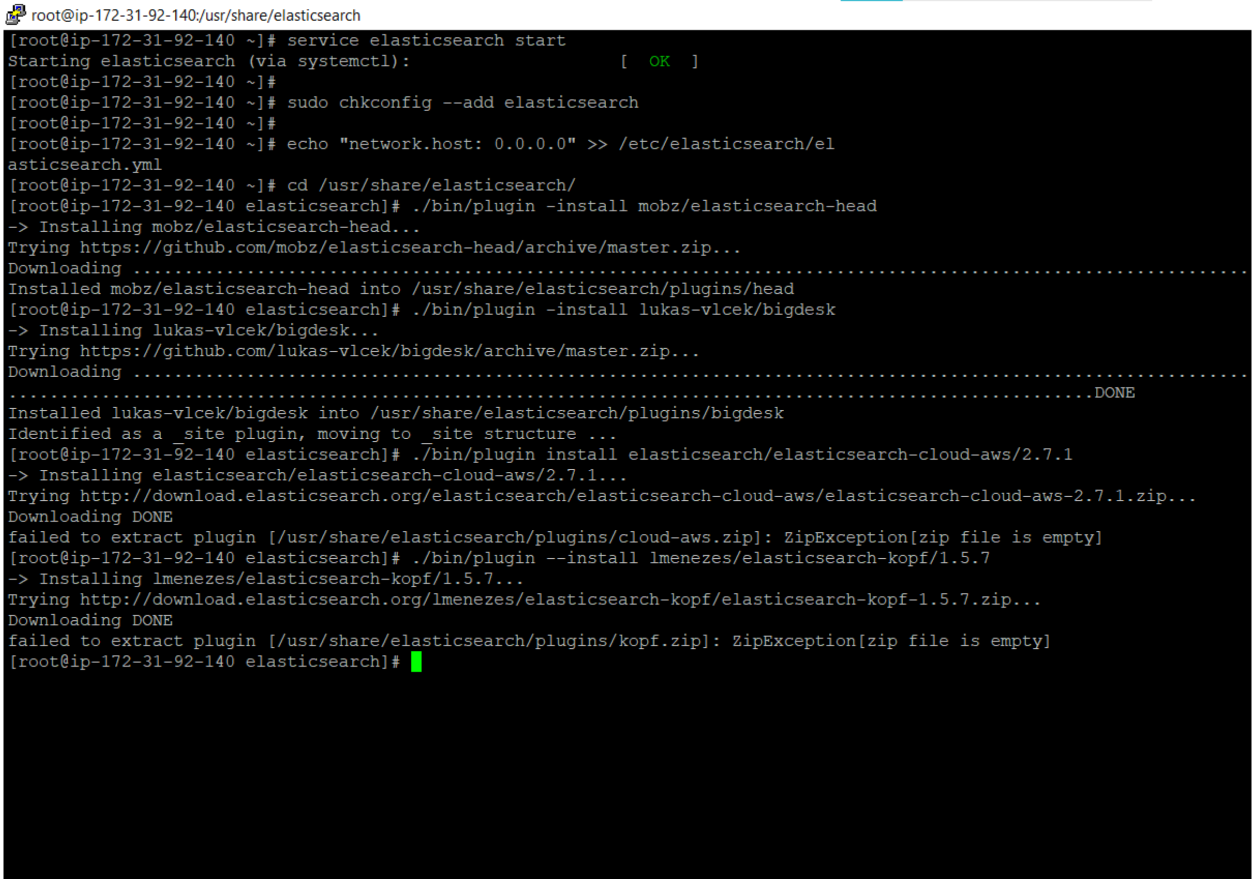
```
[root@ip-172-31-92-140 ~]# service elasticsearch start
Starting elasticsearch (via systemctl):                    [  OK  ]
[root@ip-172-31-92-140 ~]#
[root@ip-172-31-92-140 ~]# sudo chkconfig --add elasticsearch
[root@ip-172-31-92-140 ~]#
[root@ip-172-31-92-140 ~]# echo "network.host: 0.0.0.0" >>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

Checking Elastic Search



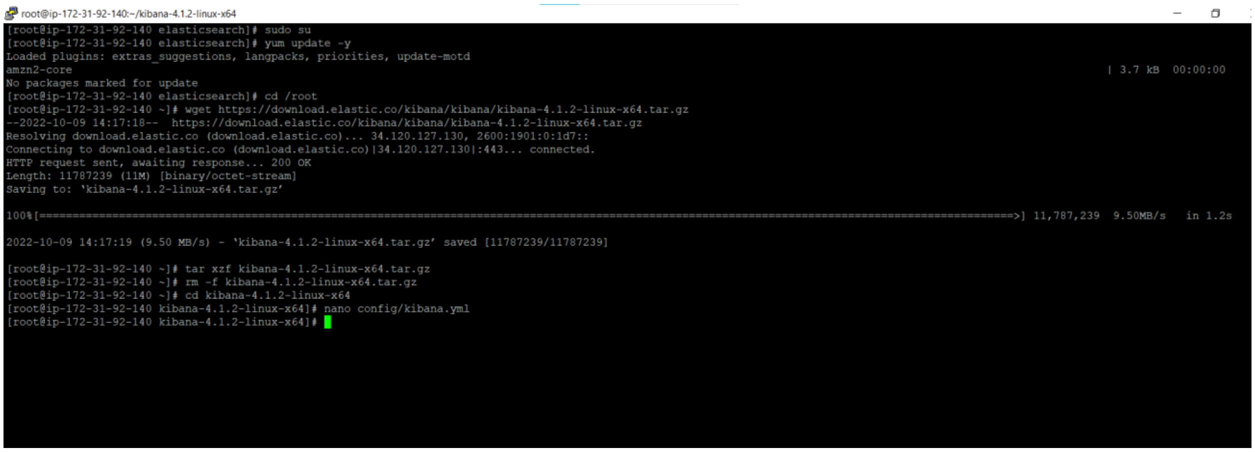
```
{
  "status" : 200,
  "name" : "Uatu",
  "cluster_name" : "elasticsearch",
  "version" : {
    "number" : "1.7.2",
    "build_hash" : "e43676b1385b8125d647f593f7202acbd816e8ec",
    "build_timestamp" : "2015-09-14T09:49:53Z",
    "build_snapshot" : false,
    "lucene_version" : "4.10.4"
  },
  "tagline"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

Step6:Install Plugins



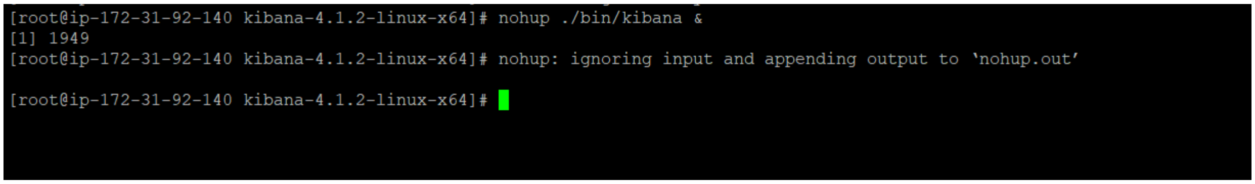
```
[root@ip-172-31-92-140 ~]# service elasticsearch start
Starting elasticsearch (via systemctl):                    [  OK  ]
[root@ip-172-31-92-140 ~]#
[root@ip-172-31-92-140 ~]# sudo chkconfig --add elasticsearch
[root@ip-172-31-92-140 ~]#
[root@ip-172-31-92-140 ~]# echo "network.host: 0.0.0.0" >>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

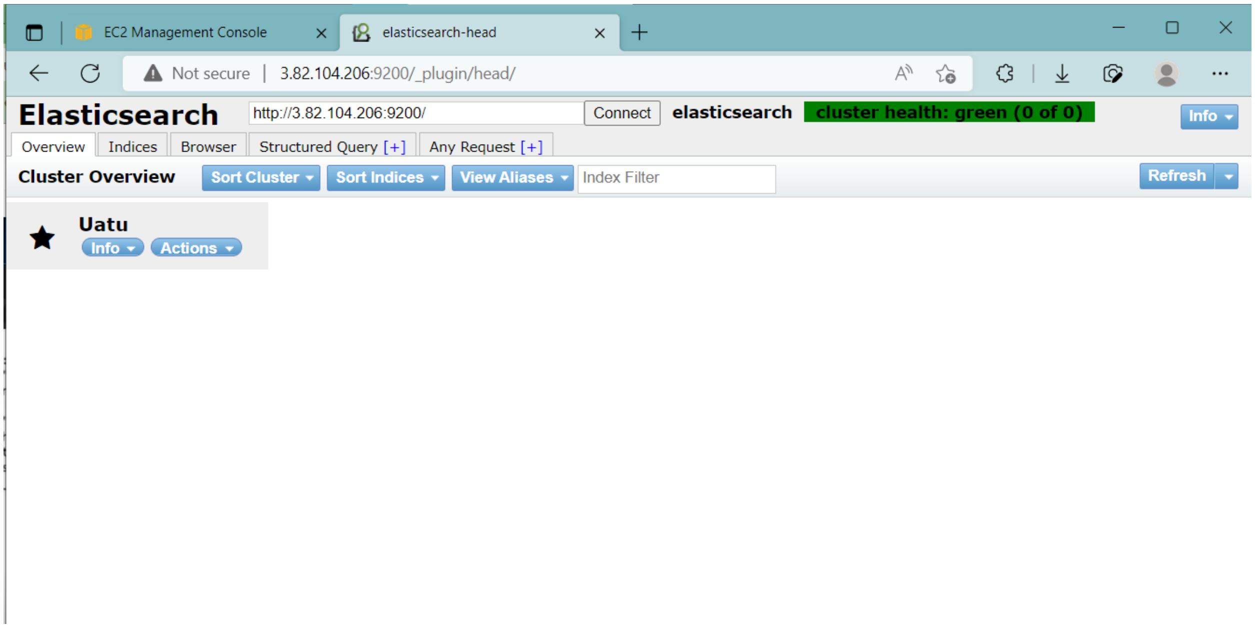


root@ip-172-31-92-140:~/kibana-4.1.2-linux-x64

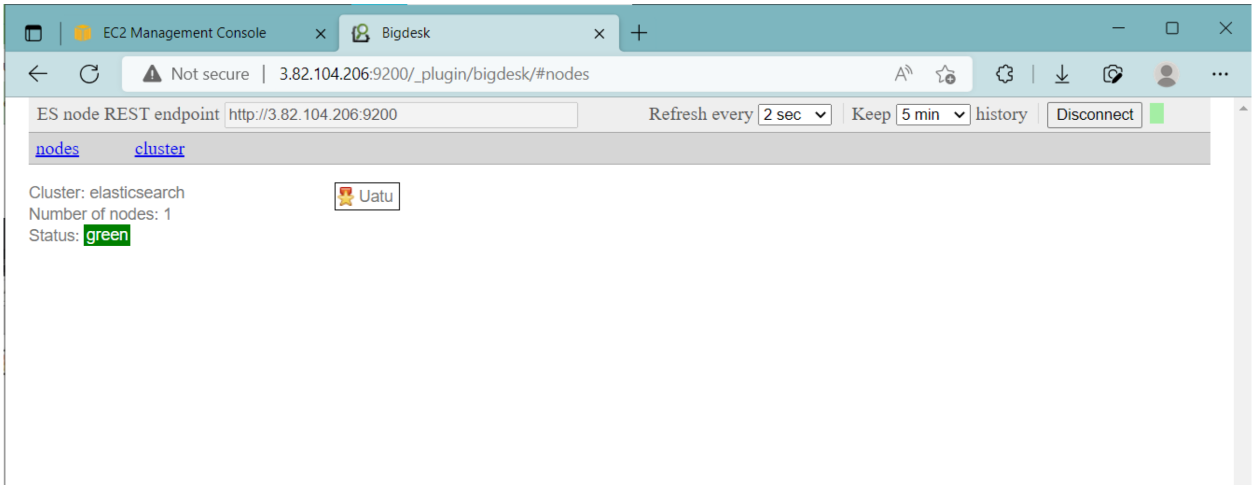
```
[root@ip-172-31-92-140 elasticsearch]# sudo su
[root@ip-172-31-92-140 elasticsearch]# yum update -y
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
amzn2-core                                                                                                                   | 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]#
```



Elasticsearch   http://3.82.104.206:9200/   Connect   elasticsearch   cluster health: green (0 of 0)

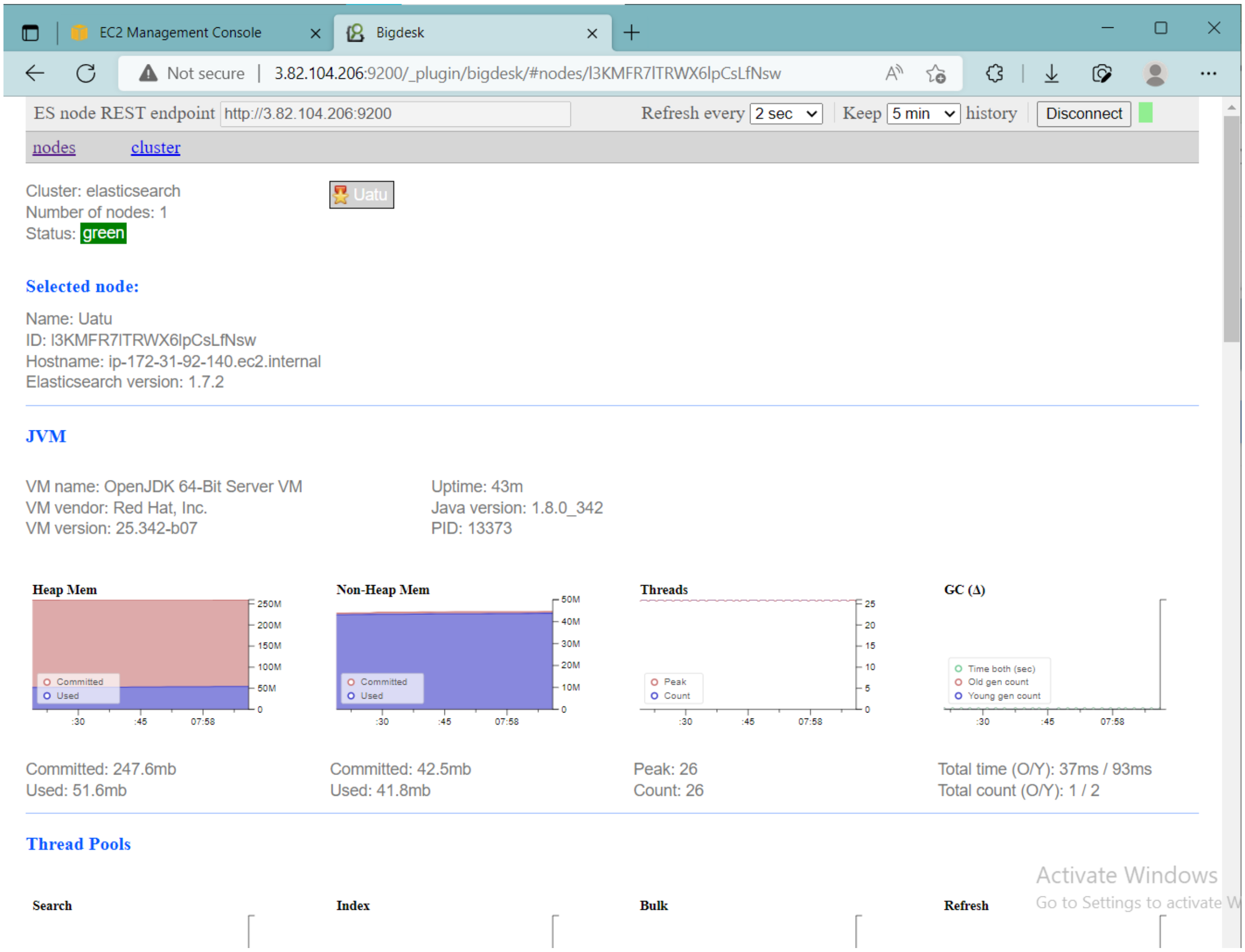


ES node REST endpoint http://3.82.104.206:9200 Refresh every 2 sec Keep 5 min history Disconnect

nodes cluster

Cluster: elasticsearch
Number of nodes: 1
Status: green

Uatu



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

nodes cluster

Cluster: elasticsearch
Number of nodes: 1
Status: green

Uatu

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

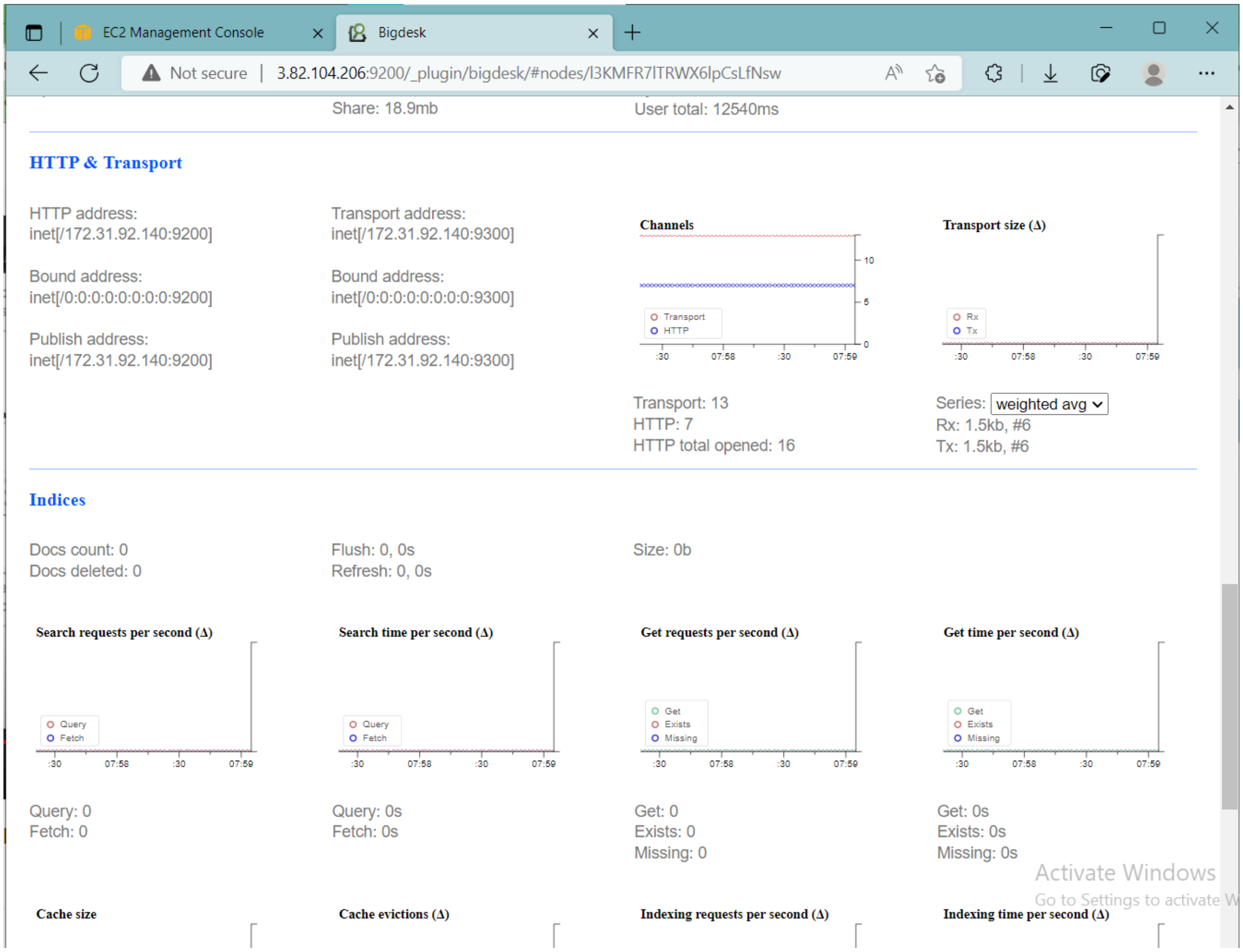
Committed: 247.6mb
Used: 51.6mb

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/l3KMFR7lTRWX6lpCsLfNsw

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)