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About Project

Telefónica Spain is the leading telecommunications company in Spain, offering voice, data, television, and Internet access to consumers and businesses.
Telefónica Spain achieves a 20% increase in customer usage when it deploys a modern data platform from Cloudera.

Challenges

- To handle more than ten billion records a day, the cost was impractical with techniques other than a big data platform
- To gain more customer insight, the organization needed the ability to analyze a wider volume of data, and do so in real time.
- Virtually, all data is received in real time, or almost real time, and volumes are very high because we have almost 40 million connections

Solution

* Modern Data Platform: Cloudera Enterprise
* Workloads: Operational Database
* Key Components: Apache Hive, Apache Flume, Apache HBase, Apache Kafka, Apache Spark, Apache Sqoop, Cloudera Manager
* Databases: MongoDB.

Result

- 20 percent increase in customer usage, Real-time customer insights and the delivery of more customized experiences
- 39 percent decrease in in-store stock of mobile devices, and a 17 percent increase in store sales
- Double-digit decrease in customer churn rate

Capacity Planning

Total data(Yearly)

Genrated data per day = 200 GB

Yearly Data = 200*365 = 73000 GB = 73 TB

Total data (RF) = 73000GB * 3 = 219000 GB=219 TB

10% Overhead space needed = 219 + 21.9(10% overhead)

= 240.9 TB

Data at Rest =15.44 TB * 3 = 46.32 TB

Data including RF = 240.9 TB + 46.32 TB = 287.22 TB

30 % NON-DFS = 287.22 TB + 86.766 TB

= 373.386 TB = 374 TB

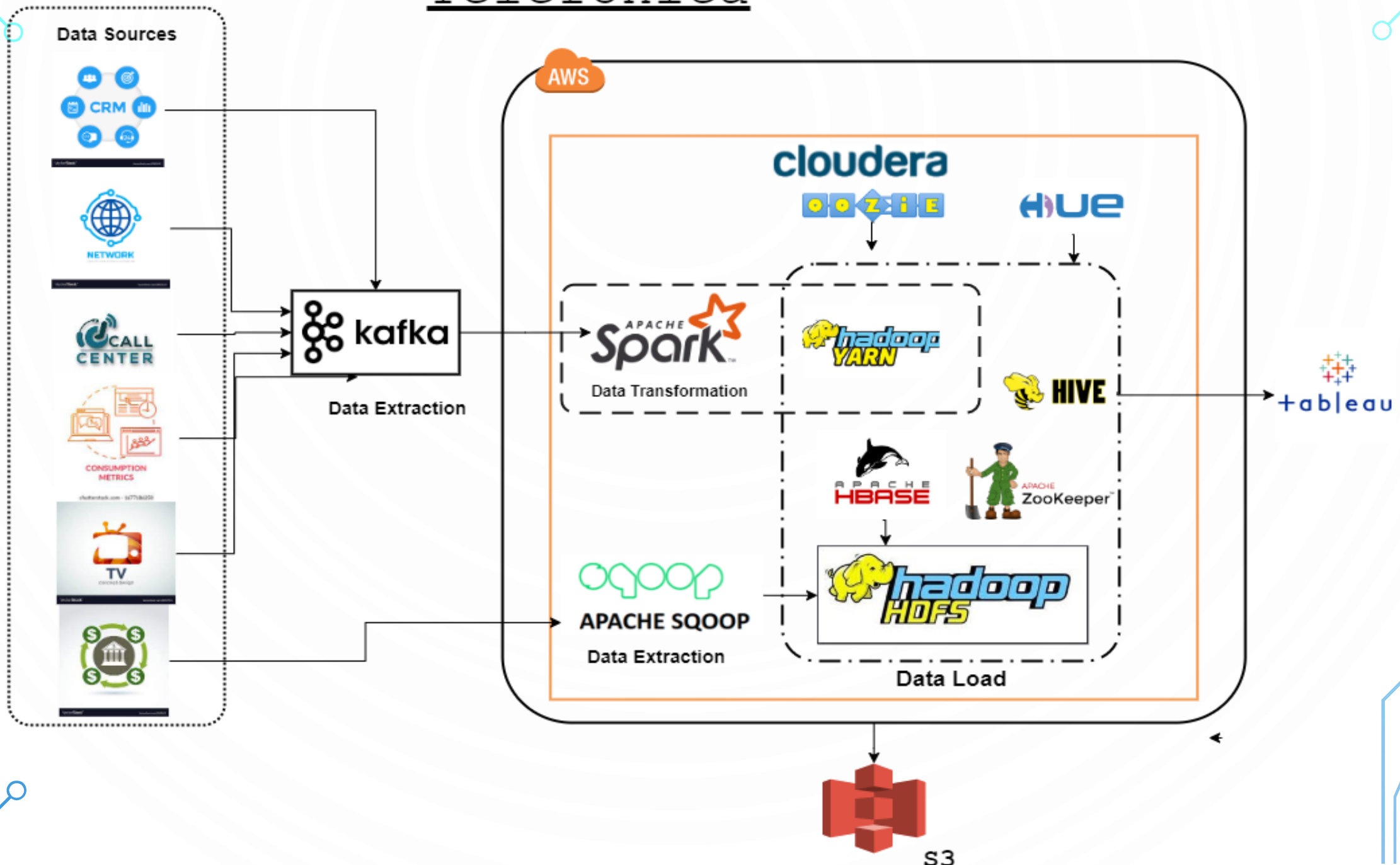
Cluster Planning

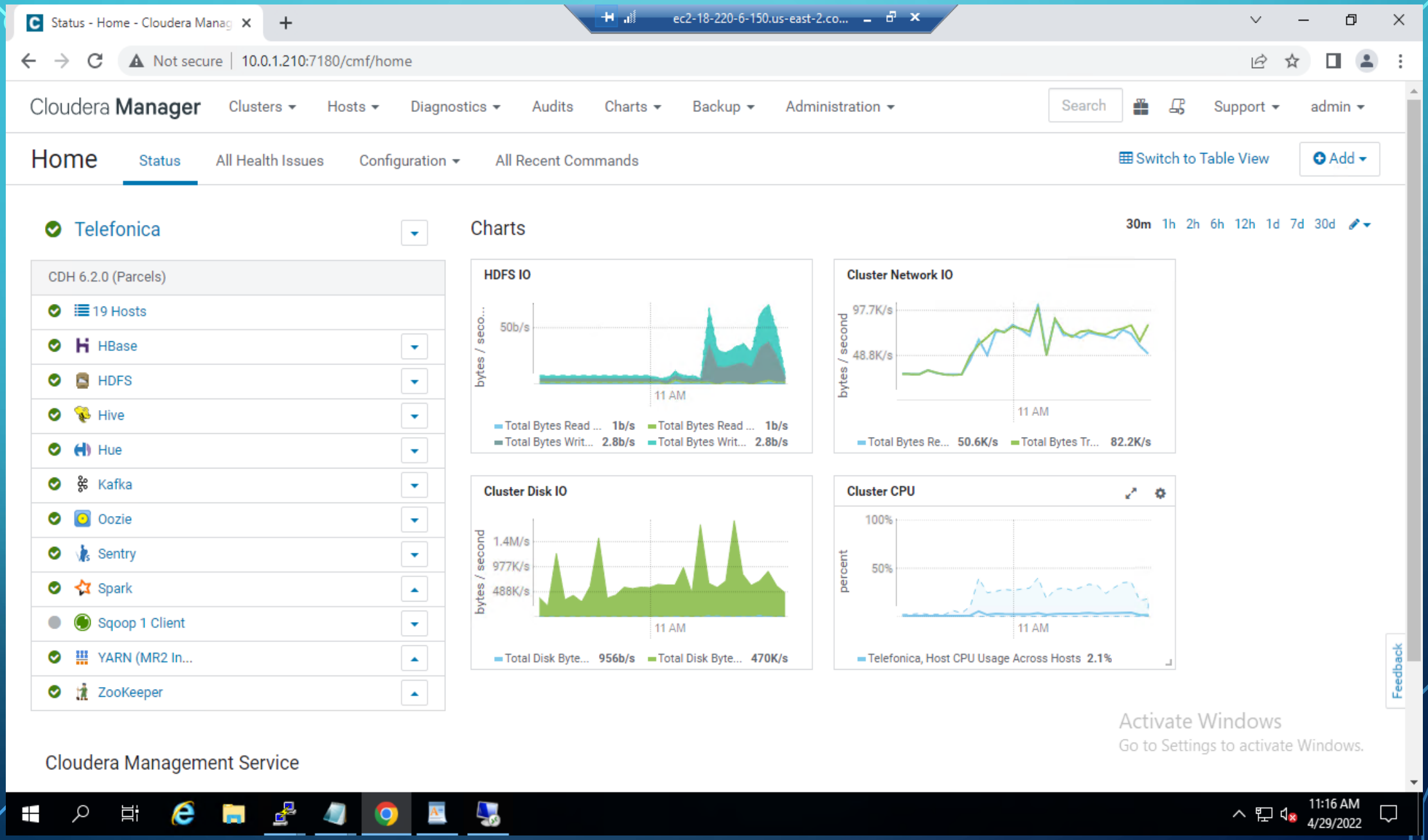
Spacification	Nodes	CPU GHz/node	Memory in (RAM)GB	Storage GB/TB	Instance Type
Slave Nodes	36	8	61	8 TB	D2.2xlarg
Master Nodes	03	36	60	8 TB	C4.8xlarge
Utility Nodes	02	08	61	8 TB	R3.2xlarge (mem. Opt)
Edge Nodes	02	16	64	8 TB	m4.4xlarge
Database	01	08	61	8 TB	r3.2xlarge
Active Directory	01	08	61	8 TB	r3.2xlarge
Kafka Broker	03	16	64	8 TB	m4.4xlarge

Versions

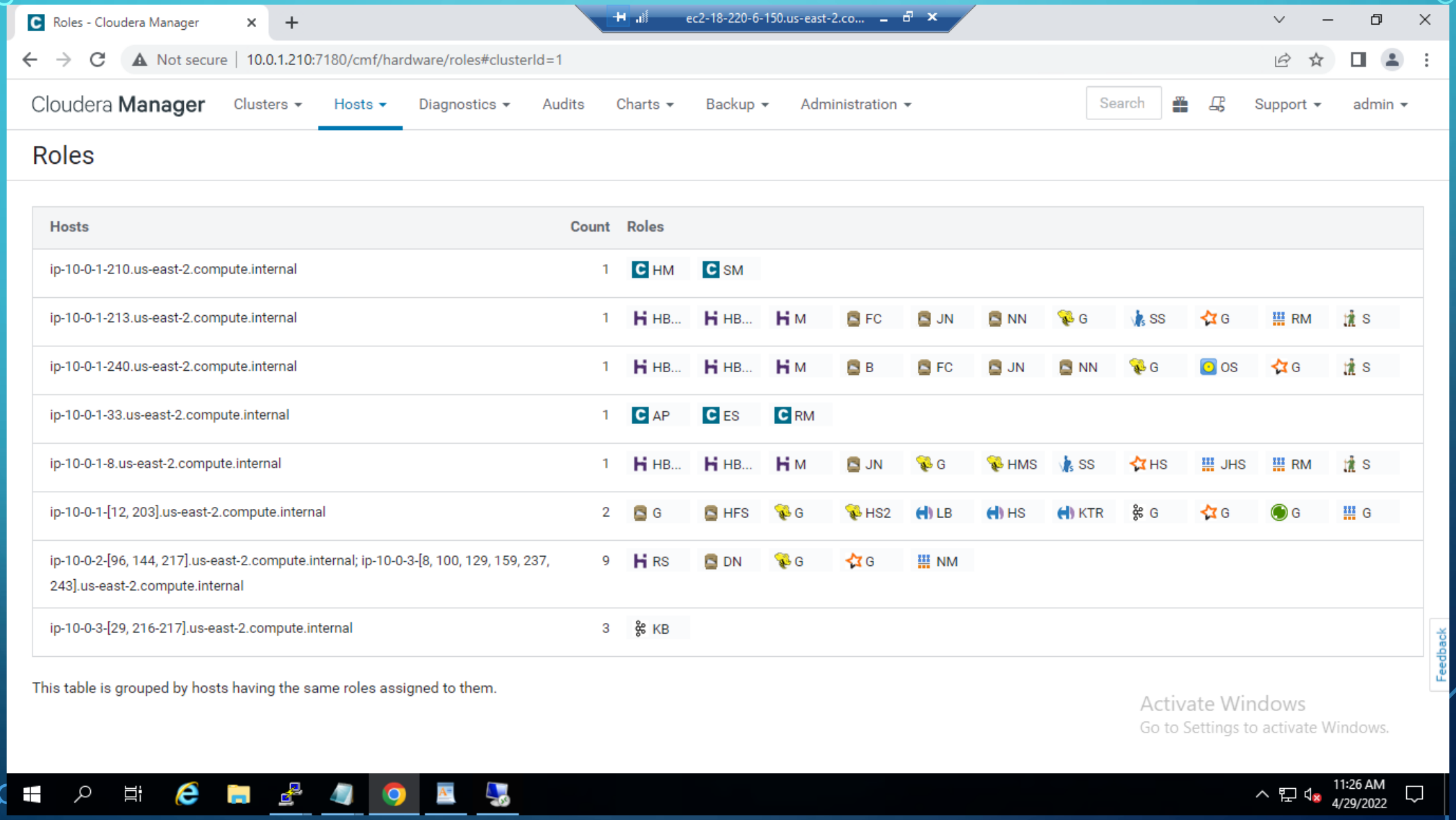
CDH	6.3.3
CM	5.16.2
CentOS	7
JDK (Oracle)	1.8.0
HADOOP (hdfs,yarn)	3.0.0
SPARK	2.4.0
HIVE	2.1.1
HUE	4.4.0
OOZIE	5.1.0
ZOOKEEPER	3.4.5
KAFKA	2.2.1
MYSQL	5.7.34
SENTRY	2.1.0
HBASE	2.1.4
SQOOP	1.4.7
FLUME	1.9.0

Telefonica

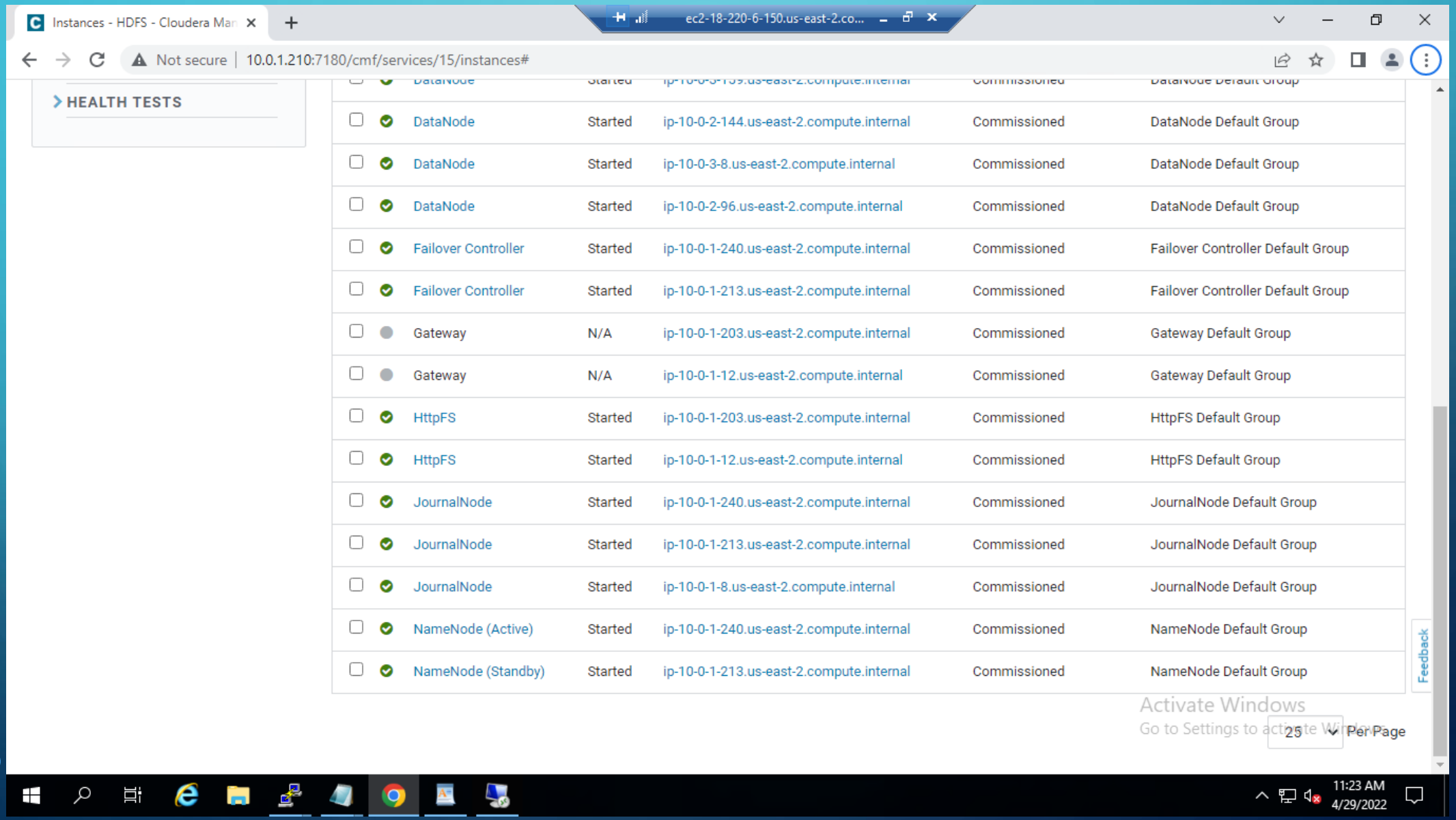

Data Sources
CRM
NETWORK
CALL CENTER
CONSUMPTION METRICS
TV
kafka
Data Extraction
AWS
cloudera
OOZIE
HUE
APACHE Spark
Data Transformation
hadoop YARN
HIVE
APACHE HBASE
APACHE ZooKeeper
APACHE SQOOP
Data Extraction
hadoop HDFS
Data Load
tableau
S3


Status - Home - Cloudera Manag
ec2-18-220-6-150.us-east-2.co...
Not secure | 10.0.1.210:7180/cmf/home
Cloudera Manager
Clusters
Hosts
Diagnostics
Audits
Charts
Backup
Administration
Search
Support
admin
Home
Status
All Health Issues
Configuration
All Recent Commands
Switch to Table View
Add
Telefonica
CDH 6.2.0 (Parcels)
19 Hosts
HBase
HDFS
Hive
Hue
Kafka
Oozie
Sentry
Spark
Sqoop 1 Client
YARN (MR2 In...
ZooKeeper
Charts
30m 1h 2h 6h 12h 1d 7d 30d
HDFS IO
bytes / seco...
50b/s
11 AM
Total Bytes Read ... 1b/s
Total Bytes Read ... 1b/s
Total Bytes Writ... 2.8b/s
Total Bytes Writ... 2.8b/s
Cluster Network IO
bytes / second
97.7K/s
48.8K/s
11 AM
Total Bytes Re... 50.6K/s
Total Bytes Tr... 82.2K/s
Cluster Disk IO
bytes / second
1.4M/s
977K/s
488K/s
11 AM
Total Disk Byte... 956b/s
Total Disk Byte... 470K/s
Cluster CPU
percent
100%
50%
11 AM
Telefonica, Host CPU Usage Across Hosts 2.1%
Feedback
Activate Windows
Go to Settings to activate Windows.
Cloudera Management Service
11:16 AM
4/29/2022

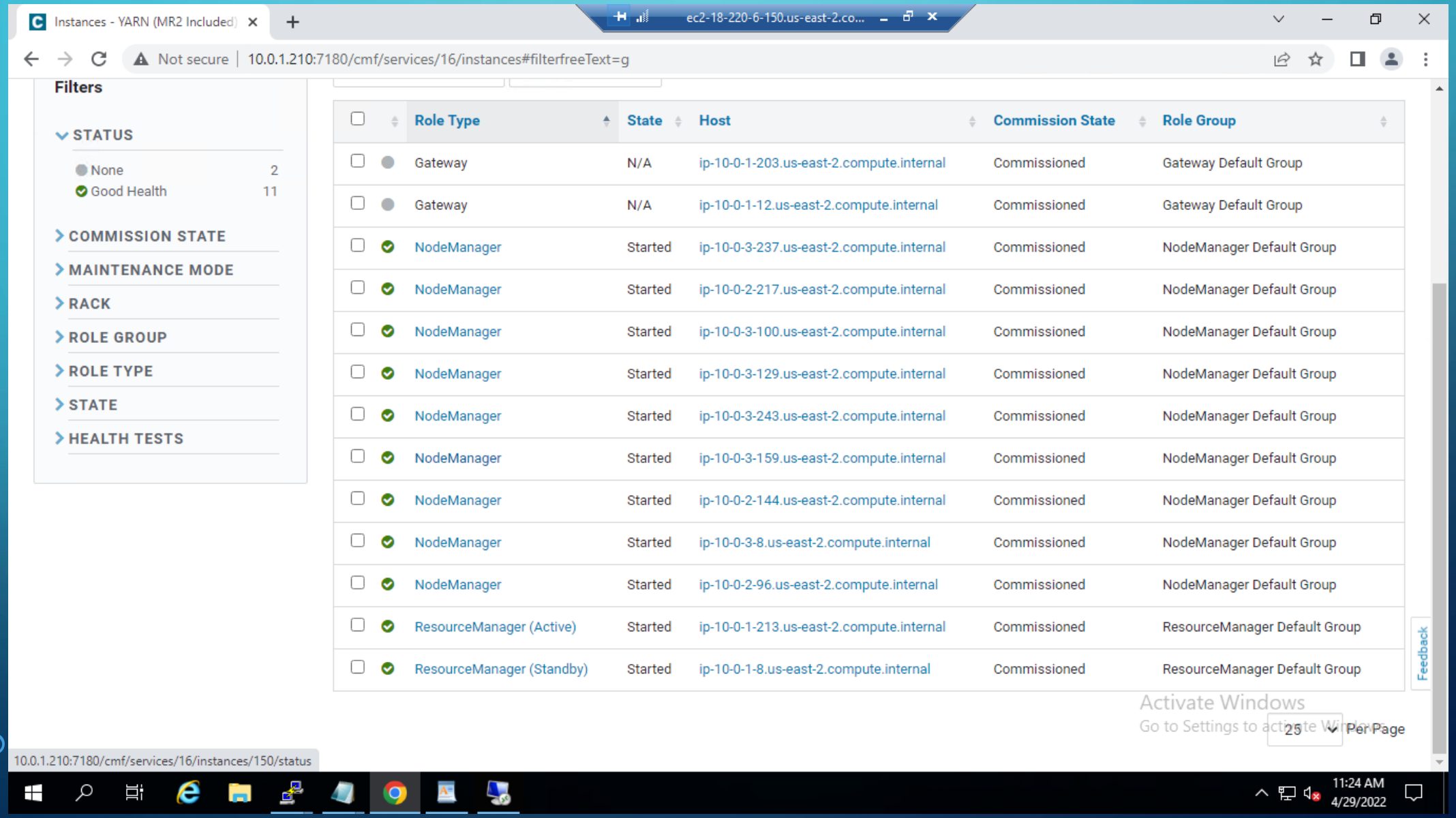
Roles


Roles - Cloudera Manager
ec2-18-220-6-150.us-east-2.co...
Not secure | 10.0.1.210:7180/cmf/hardware/roles#clusterId=1
Cloudera Manager
Clusters
Hosts
Diagnostics
Audits
Charts
Backup
Administration
Search
Support
admin
Roles
Hosts
Count
Roles
ip-10-0-1-210.us-east-2.compute.internal 1 HM SM
ip-10-0-1-213.us-east-2.compute.internal 1 HB... HB... M FC JN NN G SS G RM S
ip-10-0-1-240.us-east-2.compute.internal 1 HB... HB... M B FC JN NN G OS G S
ip-10-0-1-33.us-east-2.compute.internal 1 AP ES RM
ip-10-0-1-8.us-east-2.compute.internal 1 HB... HB... M JN G HMS SS HS JHS RM S
ip-10-0-1-[12, 203].us-east-2.compute.internal 2 G HFS G HS2 LB HS KTR G G G G
ip-10-0-2-[96, 144, 217].us-east-2.compute.internal; ip-10-0-3-[8, 100, 129, 159, 237, 243].us-east-2.compute.internal 9 RS DN G G NM
ip-10-0-3-[29, 216-217].us-east-2.compute.internal 3 KB
This table is grouped by hosts having the same roles assigned to them.
Feedback
Activate Windows
Go to Settings to activate Windows.
11:26 AM
4/29/2022

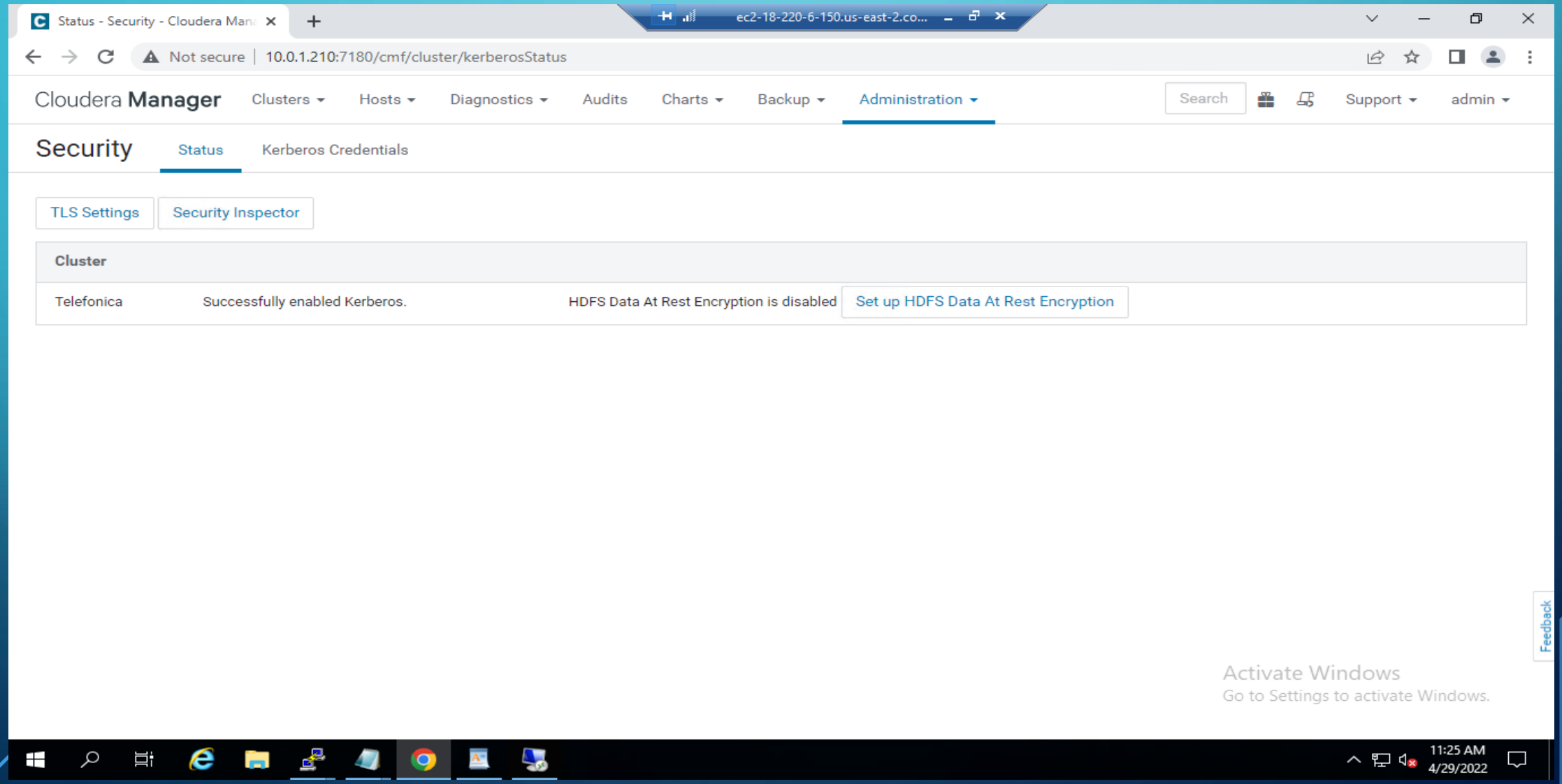
NameNode HA


Instances - HDFS - Cloudera Man
ec2-18-220-6-150.us-east-2.co...
Not secure | 10.0.1.210:7180/cmf/services/15/instances#
HEALTH TESTS
DataNode Started ip-10-0-2-144.us-east-2.compute.internal Commissioned DataNode Default Group
DataNode Started ip-10-0-3-8.us-east-2.compute.internal Commissioned DataNode Default Group
DataNode Started ip-10-0-2-96.us-east-2.compute.internal Commissioned DataNode Default Group
Failover Controller Started ip-10-0-1-240.us-east-2.compute.internal Commissioned Failover Controller Default Group
Failover Controller Started ip-10-0-1-213.us-east-2.compute.internal Commissioned Failover Controller Default Group
Gateway N/A ip-10-0-1-203.us-east-2.compute.internal Commissioned Gateway Default Group
Gateway N/A ip-10-0-1-12.us-east-2.compute.internal Commissioned Gateway Default Group
HttpFS Started ip-10-0-1-203.us-east-2.compute.internal Commissioned HttpFS Default Group
HttpFS Started ip-10-0-1-12.us-east-2.compute.internal Commissioned HttpFS Default Group
JournalNode Started ip-10-0-1-240.us-east-2.compute.internal Commissioned JournalNode Default Group
JournalNode Started ip-10-0-1-213.us-east-2.compute.internal Commissioned JournalNode Default Group
JournalNode Started ip-10-0-1-8.us-east-2.compute.internal Commissioned JournalNode Default Group
NameNode (Active) Started ip-10-0-1-240.us-east-2.compute.internal Commissioned NameNode Default Group
NameNode (Standby) Started ip-10-0-1-213.us-east-2.compute.internal Commissioned NameNode Default Group
Feedback
Activate Windows
Go to Settings to activate Windows.
25 Per Page
11:23 AM
4/29/2022

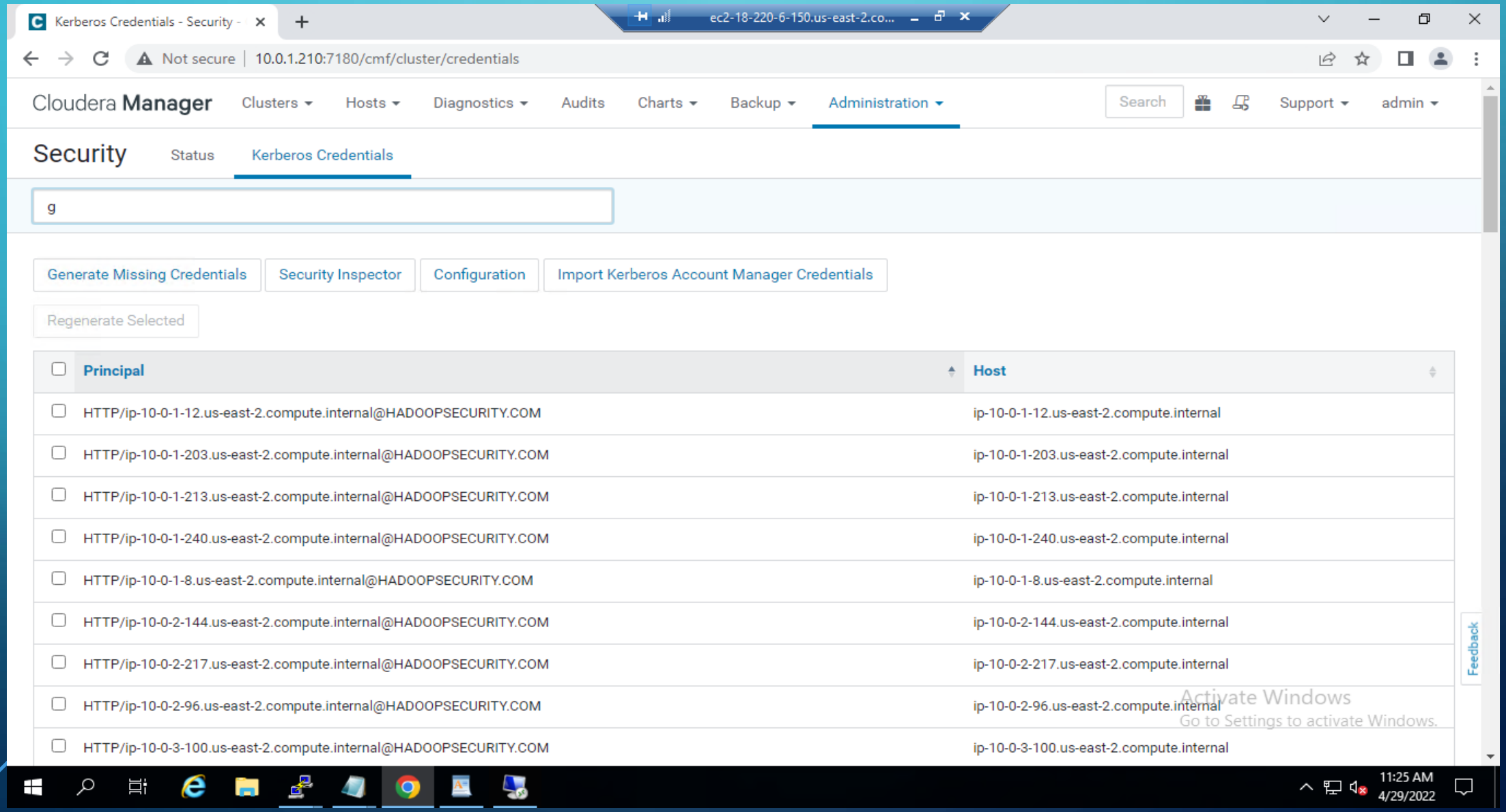
ResourceManager HA



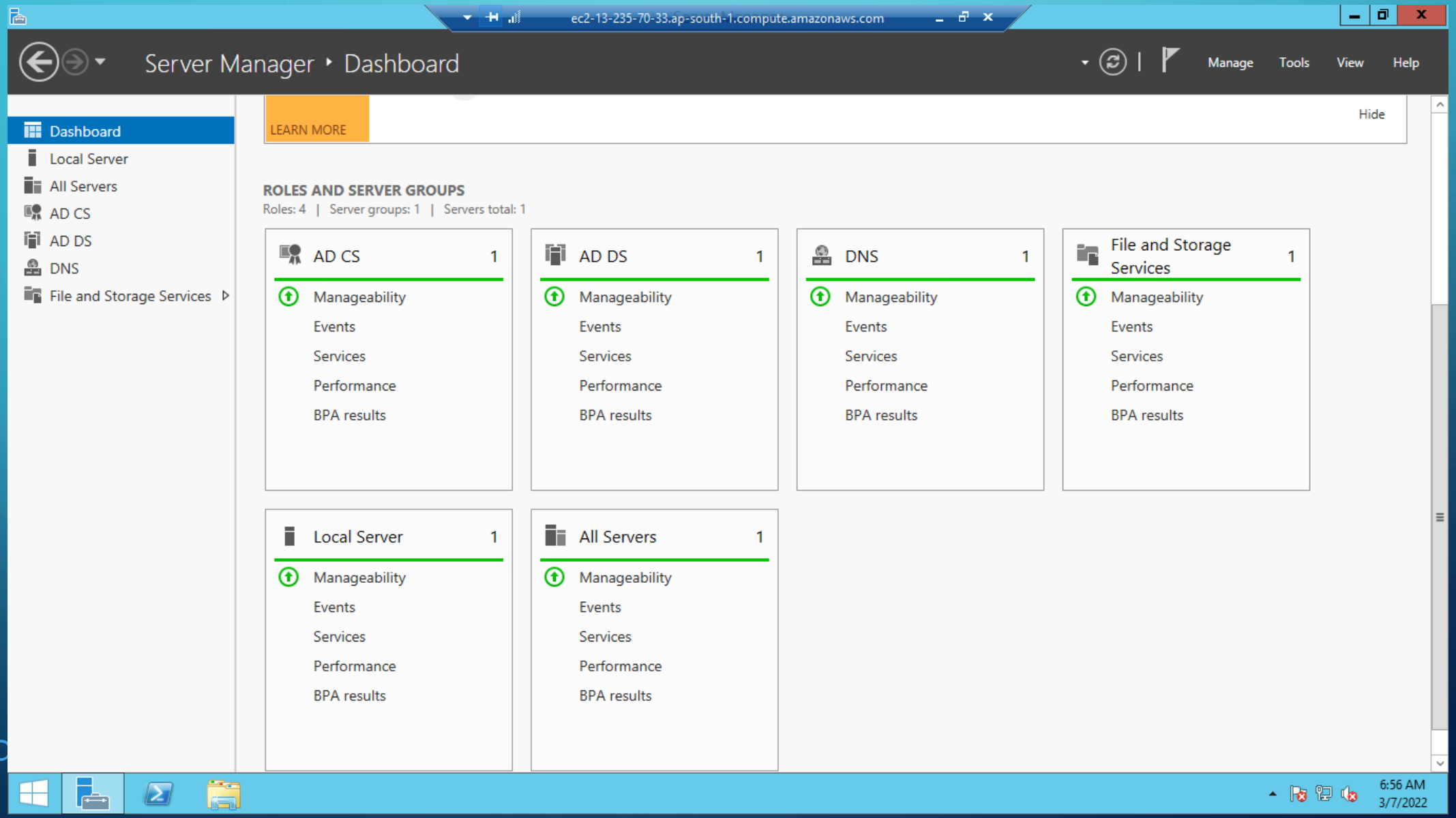
Security
Kerberos Enabled

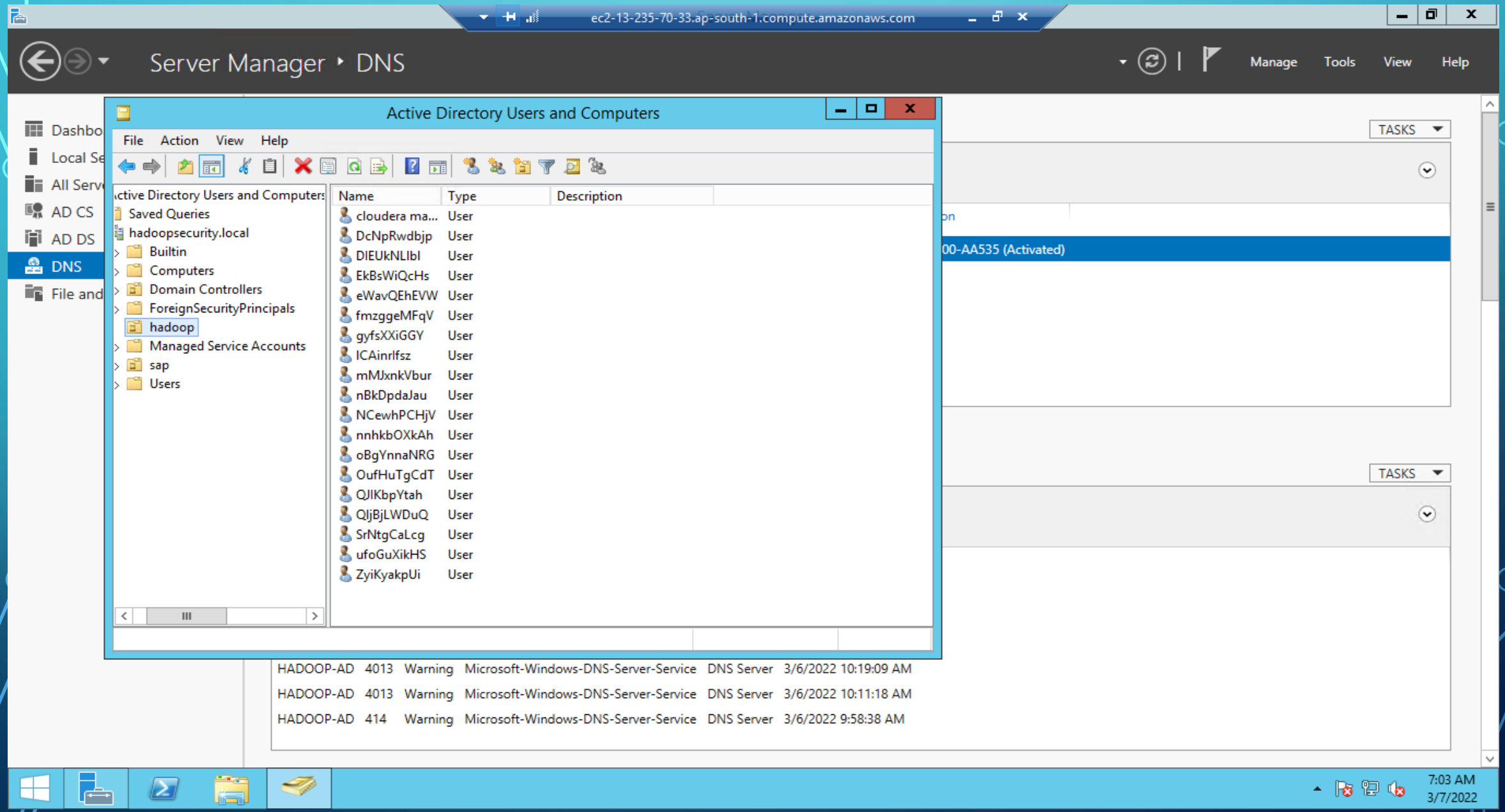


MIT

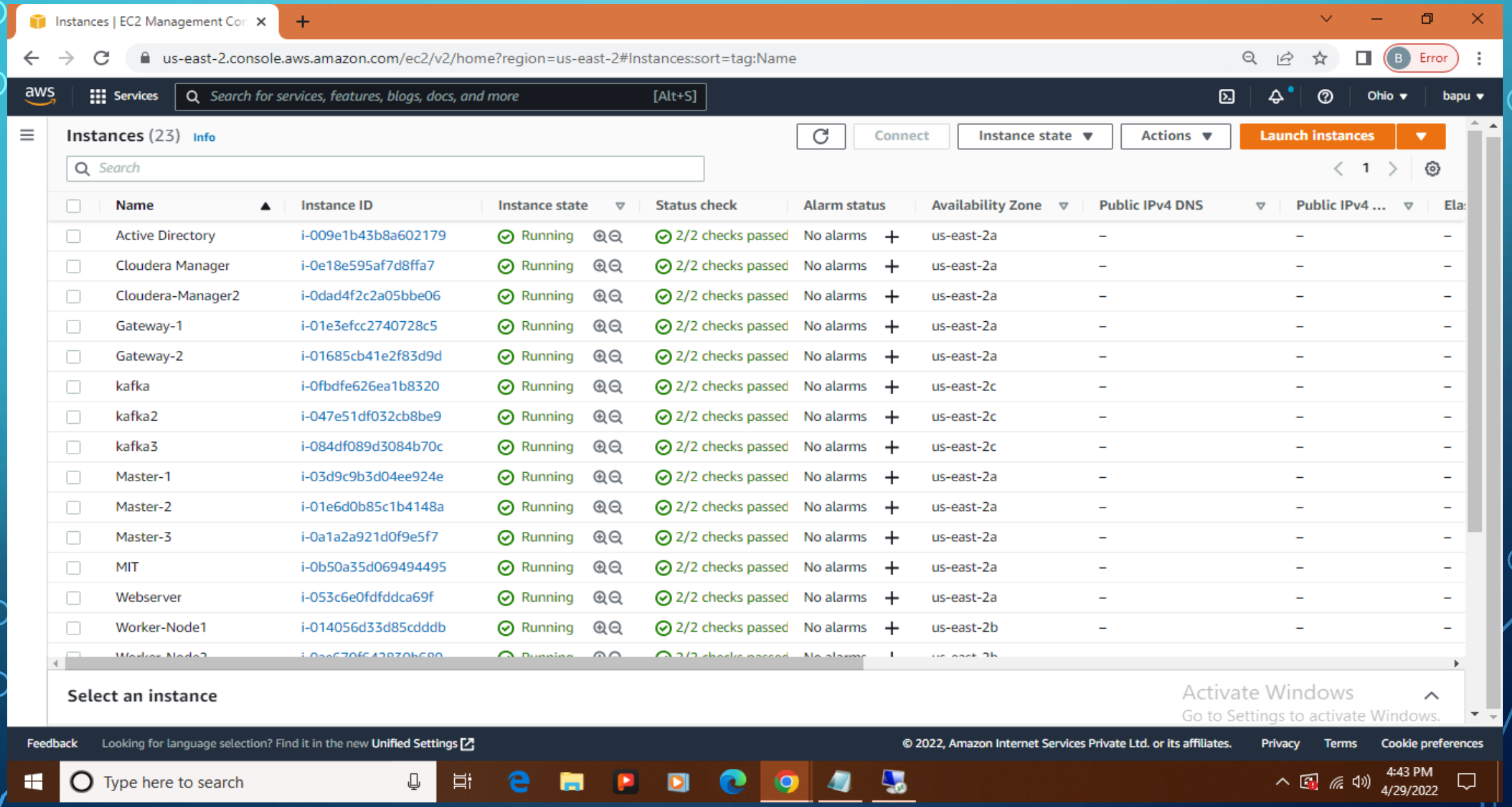

Kerberos Credentials - Security -
ec2-18-220-6-150.us-east-2.co...
Not secure | 10.0.1.210:7180/cmf/cluster/credentials
Cloudera Manager
Clusters
Hosts
Diagnostics
Audits
Charts
Backup
Administration
Search
Support
admin
Security
Status
Kerberos Credentials
g
Generate Missing Credentials
Security Inspector
Configuration
Import Kerberos Account Manager Credentials
Regenerate Selected
Principal
Host
HTTP/ip-10-0-1-12.us-east-2.compute.internal@HADOOPSECURITY.COM
ip-10-0-1-12.us-east-2.compute.internal
HTTP/ip-10-0-1-203.us-east-2.compute.internal@HADOOPSECURITY.COM
ip-10-0-1-203.us-east-2.compute.internal
HTTP/ip-10-0-1-213.us-east-2.compute.internal@HADOOPSECURITY.COM
ip-10-0-1-213.us-east-2.compute.internal
HTTP/ip-10-0-1-240.us-east-2.compute.internal@HADOOPSECURITY.COM
ip-10-0-1-240.us-east-2.compute.internal
HTTP/ip-10-0-1-8.us-east-2.compute.internal@HADOOPSECURITY.COM
ip-10-0-1-8.us-east-2.compute.internal
HTTP/ip-10-0-2-144.us-east-2.compute.internal@HADOOPSECURITY.COM
ip-10-0-2-144.us-east-2.compute.internal
HTTP/ip-10-0-2-217.us-east-2.compute.internal@HADOOPSECURITY.COM
ip-10-0-2-217.us-east-2.compute.internal
HTTP/ip-10-0-2-96.us-east-2.compute.internal@HADOOPSECURITY.COM
ip-10-0-2-96.us-east-2.compute.internal
HTTP/ip-10-0-3-100.us-east-2.compute.internal@HADOOPSECURITY.COM
ip-10-0-3-100.us-east-2.compute.internal
Feedback
Activate Windows
Go to Settings to activate Windows.
11:25 AM
4/29/2022

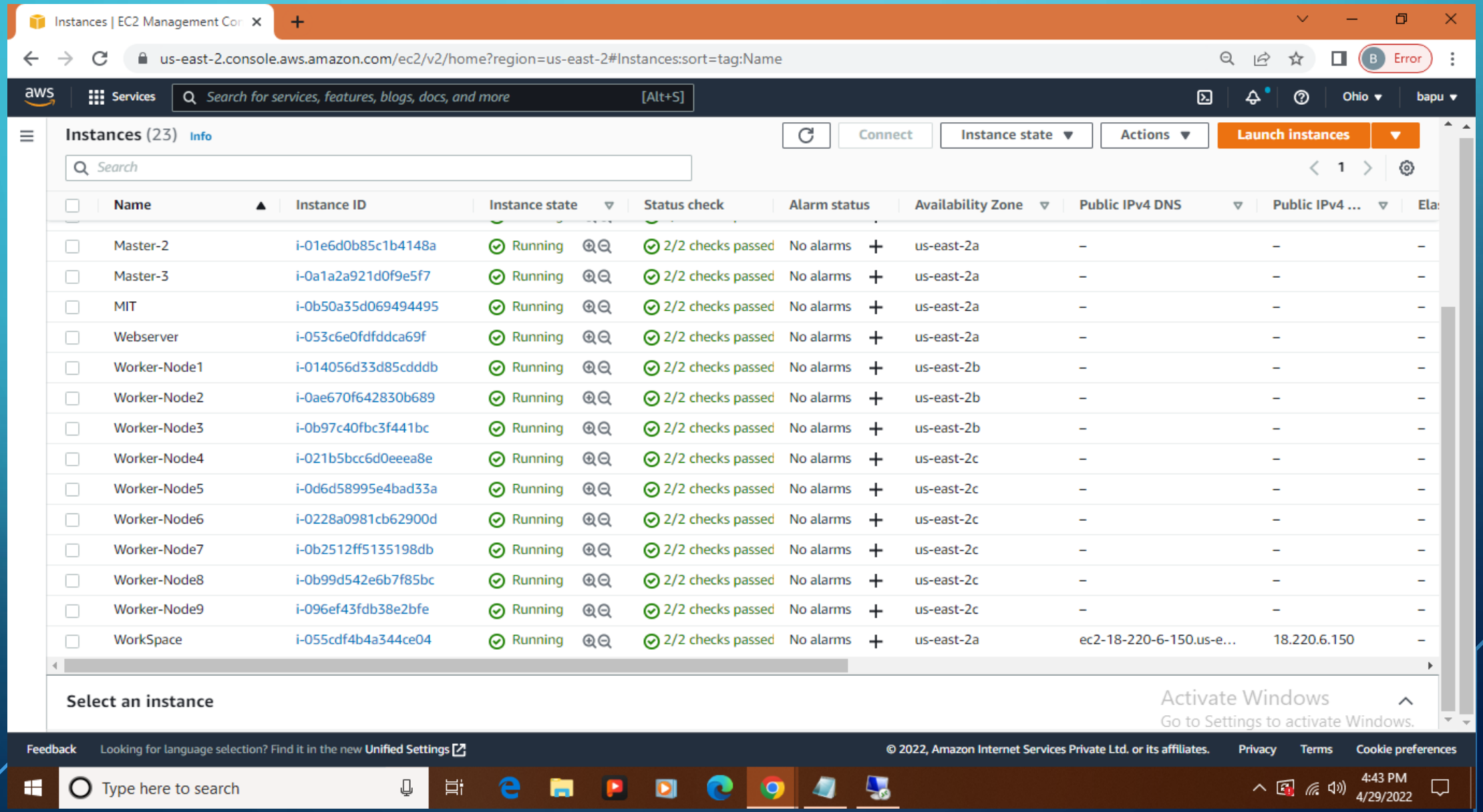
Active Directory




ec2-13-235-70-33.ap-south-1.compute.amazonaws.com
Server Manager ▸ DNS
Manage
Tools
View
Help
Active Directory Users and Computers
File
Action
View
Help
Active Directory Users and Computers
Saved Queries
hadoopsecurity.local
Builtin
Computers
Domain Controllers
ForeignSecurityPrincipals
hadoop
Managed Service Accounts
sap
Users
Name
Type
Description
cloudera ma... User
DcNpRwdbjp User
DlEUkNLlbl User
EkBsWiQcHs User
eWavQEhEVW User
fmzggeMFqV User
gyfsXXiGGY User
ICAinrlfsz User
mMJxnkVbur User
nBkDpdaJau User
NCewhPCHjV User
nnhkbOXkAh User
oBgYnnaNRG User
OufHuTgCdT User
QJlKbpYtah User
QljBjLWDuQ User
SrNtgCaLcg User
ufoGuXikHS User
ZyiKyakpUi User
TASKS
00-AA535 (Activated)
TASKS
HADOOP-AD 4013 Warning Microsoft-Windows-DNS-Server-Service DNS Server 3/6/2022 10:19:09 AM
HADOOP-AD 4013 Warning Microsoft-Windows-DNS-Server-Service DNS Server 3/6/2022 10:11:18 AM
HADOOP-AD 414 Warning Microsoft-Windows-DNS-Server-Service DNS Server 3/6/2022 9:58:38 AM
7:03 AM
3/7/2022

AWS Instance




Instances | EC2 Management Co
us-east-2.console.aws.amazon.com/ec2/v2/home?region=us-east-2#Instances:sort=tag:Name
Error
aws
Services
Search for services, features, blogs, docs, and more
[Alt+S]
Ohio
bapu
Instances (23) Info
Connect
Instance state
Actions
Launch instances
Search
1
Name
Instance ID
Instance state
Status check
Alarm status
Availability Zone
Public IPv4 DNS
Public IPv4 ...
Master-2 i-01e6d0b85c1b4148a Running 2/2 checks passed No alarms us-east-2a – –
Master-3 i-0a1a2a921d0f9e5f7 Running 2/2 checks passed No alarms us-east-2a – –
MIT i-0b50a35d069494495 Running 2/2 checks passed No alarms us-east-2a – –
Webserver i-053c6e0fdfddca69f Running 2/2 checks passed No alarms us-east-2a – –
Worker-Node1 i-014056d33d85cdddb Running 2/2 checks passed No alarms us-east-2b – –
Worker-Node2 i-0ae670f642830b689 Running 2/2 checks passed No alarms us-east-2b – –
Worker-Node3 i-0b97c40fbc3f441bc Running 2/2 checks passed No alarms us-east-2b – –
Worker-Node4 i-021b5bcc6d0eeea8e Running 2/2 checks passed No alarms us-east-2c – –
Worker-Node5 i-0d6d58995e4bad33a Running 2/2 checks passed No alarms us-east-2c – –
Worker-Node6 i-0228a0981cb62900d Running 2/2 checks passed No alarms us-east-2c – –
Worker-Node7 i-0b2512ff5135198db Running 2/2 checks passed No alarms us-east-2c – –
Worker-Node8 i-0b99d542e6b7f85bc Running 2/2 checks passed No alarms us-east-2c – –
Worker-Node9 i-096ef43fdb38e2bfe Running 2/2 checks passed No alarms us-east-2c – –
WorkSpace i-055cdf4b4a344ce04 Running 2/2 checks passed No alarms us-east-2a ec2-18-220-6-150.us-e... 18.220.6.150 –
Select an instance
Activate Windows
Go to Settings to activate Windows.
Feedback
Looking for language selection? Find it in the new Unified Settings
© 2022, Amazon Internet Services Private Ltd. or its affiliates.
Privacy
Terms
Cookie preferences
Type here to search
4:43 PM
4/29/2022