Vagrant up

After all VMs are up

On the Jenkins/Pipeline machine:

vagrant ssh pipelines:

sudo passwd jenkins

enter password jenkins

then change to jenkins user with su – Jenkins

once you are on the jenkins user execute ssh vagrant@containers.do1.exam password vagrant to create known hosts file .

On Jenkins web:

http://192.168.111.100:8080/manage/configure  
Add **SSH remote hosts**

**Hostname: containers.do1.exam**

**Port:22  
Credentials : vagrant**

On the containers/docker VM :

Change generator/storage/client paths in their respective folders:

cd /tmp/exam/storage

sudo nano Dockerfile and change line 3 to ADD ./storage/sql/init.sql /docker-entrypoint-initdb.d/init.sql

cd /tmp/exam/generator

sudo nano Dockerfile and change line 5 to COPY ./generator/code/\* /app/

cd /tmp/exam/client

sudo nano Dockerfile and change line 3 to COPY ./client/code/\* /app/

sudo git add .

sudo git commit -m "Dockerfile changes"

sudo git push -o repo.private=false <http://vagrant:vagrant@192.168.111.101:3000/vagrant/exam>

Build the application.

It won’t work the first time:

Go to <http://192.168.111.101:3000/vagrant/exam/src/branch/main/client/code/app.py>

Edit : db\_pass = os.getenv('DB\_PASS', 'ExamP$$w0rd') to db\_pass = os.getenv('DB\_PASS', 'ExamPassword')

Also the same on <http://192.168.111.101:3000/vagrant/exam/src/branch/main/generator/code/app.py>

Commit, the app will build itself and info will show on the web.

Monitoring VM doesn’t need changes but we must install MetricBeat on Pipelines and Containers VMs :

First on Containers VM :

Vagrant ssh pipelines

cp /vagrant/install-metricbeat-docker.sh /home/vagrant

Script results in the below screenshot:

Text

Description automatically generated

cd /home/vagrant if in you are in another directory

./install-metricbeat-docker.sh   
this script includes the metric beat index

Then on Pipelines VM:

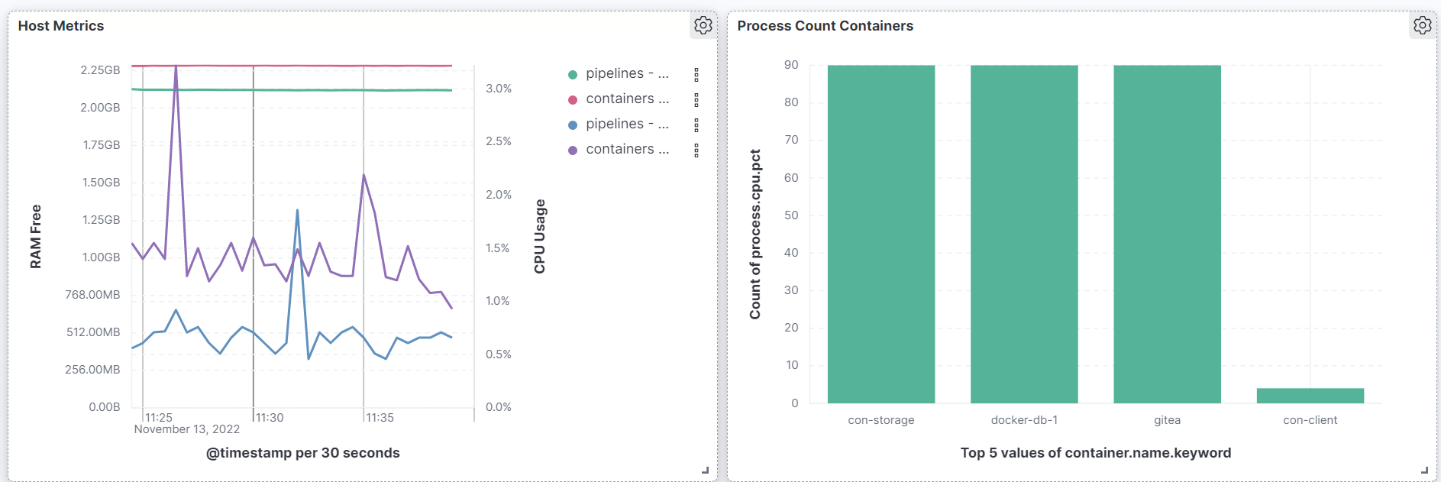
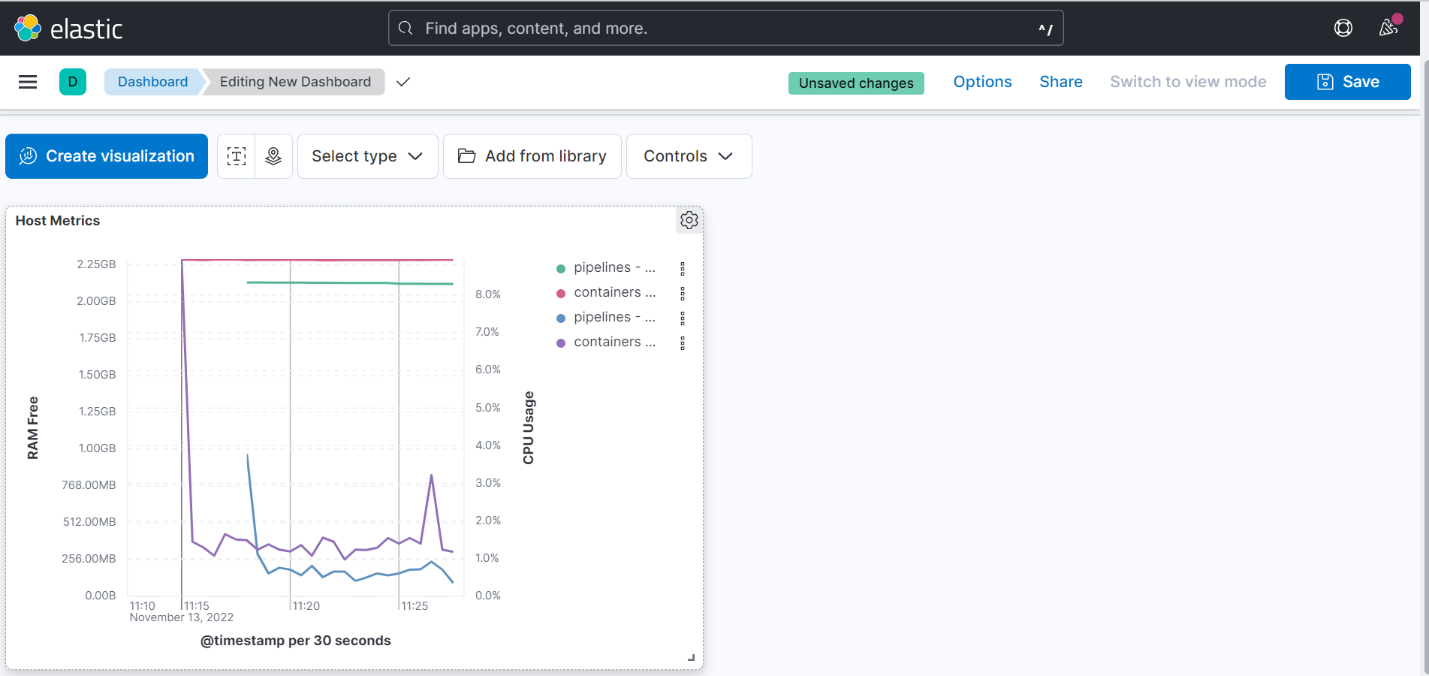
vagrant ssh pipelines

cp /vagrant/install-metricbeat-jenkins.sh /home/vagrant

cd in /home/vagrant if you are in another directory

./install-metricbeat-jenkins.sh

On the monitoring machine build a dashboard for CPU and RAM usage by going into Kibana -->Analytics-->dashboard -->Create dashboard --> Create visualisation --> Drag and Drop the needed specs. :  
  
Screenshots of the monitoring Dashboard:



Jenkins Screenshots:

Table

Description automatically generated

Text

Description automatically generatedGraphical user interface, text, application, email

Description automatically generatedText

Description automatically generatedText, application

Description automatically generatedText, application

Description automatically generated

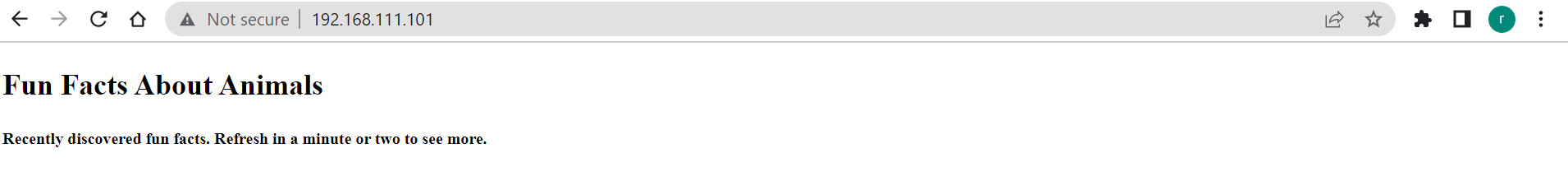
Graphical user interface, text, application, email

Description automatically generated

Docker:

Graphical user interface

Description automatically generated with medium confidence



A picture containing shape

Description automatically generated

Graphical user interface

Description automatically generated with medium confidence