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<b>Course/Section: CPE31S24</b>	<b>Date Submitted: 30/10/2022</b>
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### Midterm Skills Exam: Install, Configure, and Manage Log Monitoring tools

#### 1. Objectives

Create and design a workflow that installs, configure and manage enterprise availability, performance and log monitoring tools using Ansible as an Infrastructure as Code (IaC) tool.

#### 2. Instructions

1. Create a repository in your GitHub account and label it CPE\_MIDEXAM\_SURNAME.
2. Clone the repository and do the following:
  - 2.1. Create an Ansible playbook that does the following with an input of a config.yaml file and arranged Inventory file:
  - 2.2. Install and configure Elastic Stack in separate hosts (Elastic Search, Kibana, Logstash) • Install Nagios in one host
  - 2.3. Install Grafana, Prometheus and Influxdb in separate hosts (Influxdb, Grafana, Prometheus)
  - 2.4. Install Lamp Stack in separate hosts (Httpd + Php, Mariadb)
3. Document all your tasks using this document. Provide proofs of all the ansible playbooks codes and successful installations.
4. Document the push and commit from the local repository to GitHub.
5. Finally, paste also the link of your GitHub repository in the documentation.

#### 3. Output (screenshots and explanations)

**First, create repository for midexam.**

**Create a new repository**  
 A repository contains all project files, including the revision history. Already have a project repository elsewhere?  
[Import a repository.](#)


**Owner \*** **Repository name \***

 DavonnEscobilla / CPE\_MIDEXAM\_ESCOBILLA 

Great repository names are short and memorable. Need inspiration? How about [scaling-disco?](#)

**Description (optional)**

☒  **Public**  
 Anyone on the internet can see this repository. You choose who can commit.

☐  **Private**  
 You choose who can see and commit to this repository.

Next step is to clone the repository into the managed node.

```
davonn@workstation:~$ git clone git@github.com:DavonnEscobilla/CPE_MIDEXAM_ESCOBILLA.git
Cloning into 'CPE_MIDEXAM_ESCOBILLA'...
warning: You appear to have cloned an empty repository.
davonn@workstation:~$ ls
CPE232_Davonn      Downloads      Music          Templates
CPE232_Escobilla   Escobilla_Act10 nano.save      Videos
CPE_MIDEXAM_ESCOBILLA Escobilla_Act8Nagios Pictures
Desktop           Escobilla_Act9Prometheus Public
Documents         main.yml      snap
```

Now create the ansible.cfg and the inventory.

```
GNU nano 6.2 ansible.cfg *
[defaults]
inventory = inventory
private_key_file = ~/.ssh/
```

```
davonn@workstation: ~/CPE_MIDEXAM_ESCOBILLA
GNU nano 6.2 inventory
[elk_install]
192.168.56.105
[elk_installCent]
192.168.56.103

# Ubuntu
[nagios]
192.168.56.105

[grafana]
192.168.56.105
192.168.56.103

[prometheus]
192.168.56.105
192.168.56.103

[influxdb]
192.168.56.105
192.168.56.103

[lampstack]
192.168.56.105
192.168.56.103
```

Create the playbook to implement installation on each control nodes with config.yaml.



davonn@workstation: ~/CPE\_MIDEXAM\_ESCOBILLA

GNU nano 6.2

config.yaml

```
---  
  
- hosts: all  
  become: true  
  pre_tasks:  
  
    - name: update repository index (Ubuntu)  
      tags: always  
      apt:  
        update_cache: yes  
        changed_when: false  
        when: ansible_distribution == "Ubuntu"  
  
    - name: update repository index (CentOS)  
      tags: always  
      dnf:  
        update_cache: yes  
        changed_when: false  
        when: ansible_distribution == "CentOS"  
  
- hosts: all  
  become: true  
  roles:  
    - elk_install  
    - elk_installCent
```

```

davonn@workstation: ~/CPE_MIDEXAM_ESCOBILLA
GNU nano 6.2 config.yaml
- name: update repository index (Ubuntu)
  tags: always
  apt:
    update_cache: yes
    changed_when: false
    when: ansible_distribution == "Ubuntu"

- name: update repository index (CentOS)
  tags: always
  dnf:
    update_cache: yes
    changed_when: false
    when: ansible_distribution == "CentOS"

- hosts: all
  become: true
  roles:
    - elk_install
    - elk_installCent
    - nagios
    - grafana
    - prometheus
    - influxdb
    - lampstack

Create a directory for roles as well as the task and configure main.yml on each.
```

```
davonn@workstation:~/CPE_MIDEXAM_ESCOBILLA$ tree
```

```
.
├── ansible.cfg
├── config.yaml
├── inventory
├── roles
│   ├── elk_install
│   │   └── tasks
│   │       └── main.yml
│   ├── elk_installCentOS
│   │   └── tasks
│   │       └── main.yml
│   ├── grafana
│   │   └── tasks
│   │       └── main.yml
│   ├── influxdb
│   │   └── tasks
│   │       └── main.yml
│   ├── lampstack
│   │   └── tasks
│   │       └── main.yml
│   ├── nagios
│   │   └── tasks
│   │       └── main.yml
│   └── prometheus
│       └── tasks
│           └── main.yml
```

```
15 directories, 10 files
```

First configure the elk installation main.yml

```
davonn@workstation: ~/CPE_MIDEXAM_ESCOBILLA/roles/...
GNU nano 6.2 main.yml
- name: Install ELK Dependencies (Ubuntu)
  apt:
    name:
      - openjdk-11-jdk
      - apt-transport-https
      - curl
      - gpgv
      - gpgsm
      - gnupg-l10n
      - gnupg
      - dirmngr
    state: latest

- name: Get PGP Key Ubuntu
  apt_key:
    url: https://artifacts.elastic.co/GPG-KEY-elasticsearch
    state: present

- name: Install Elasticsearch repository into sources list (Ubuntu)
  apt_repository:
    repo: deb https://artifacts.elastic.co/packages/7.x/apt stable main
    state: present

- name: Install Elasticsearch Ubuntu
  apt:
```



davonn@workstation: ~/CPE\_MIDEXAM\_ESCOBILLA/roles/...



GNU nano 6.2

main.yml

```
  name: elasticsearch
  state: latest
  update_cache: yes

- name: Configure Elasticsearch change cluster name (Ubuntu)
  lineinfile:
    dest: /etc/elasticsearch/elasticsearch.yml
    line: "cluster.name: demo-elk"
    state: present

- name: Configure Elasticsearch give cluster descriptive name (Ubuntu)
  lineinfile:
    dest: /etc/elasticsearch/elasticsearch.yml
    line: "node.name: elk-1"
    state: present

- name: Configure Elasticsearch Add network.host (Ubuntu)
  lineinfile:
    dest: /etc/elasticsearch/elasticsearch.yml
    line: "network.host: 0.0.0.0"
    state: present

- name: Configure Elasticsearch Add http.port (Ubuntu)
  lineinfile:
    dest: /etc/elasticsearch/elasticsearch.yml
```



```
davonn@workstation: ~/CPE_MIDEXAM_ESCOBILLA/roles/...
GNU nano 6.2 main.yml
lineinfile:
  dest: /etc/kibana/kibana.yml
  line: 'server.name: "demo-kibana"'
  state: present

- name: Configure Kibana Add elasticsearch.hosts (Ubuntu)
  lineinfile:
    dest: /etc/kibana/kibana.yml
    line: 'elasticsearch.hosts: ["http://0.0.0.0:9200"]'
    state: present

- name: Run daemon-reload for kibana (Ubuntu)
  systemd: daemon_reload=yes

- name: Enable service Kibana (Ubuntu)
  systemd:
    name: kibana
    enabled: yes

- name: Start Elasticsearch service
  shell: systemctl start elasticsearch

- name: Start Kibana
  shell: systemctl start kibana
```

Next is configure the main.yml elk installation on CentOS.

```
davonn@workstation: ~/CPE_MIDEXAM_ESCOBILLA/roles/...
GNU nano 6.2 main.yml
--
- name: Install ELK Dependencies (CentOS)
  yum:
    name:
      - java-11-openjdk
      - curl
      - gnupg
    state: latest

- name: Install elasticsearch rpm key (CentOS)
  rpm_key:
    key: https://artifacts.elastic.co/GPG-KEY-elasticsearch
    state: present
  become: true

- name: install elasticsearch 7.x rpm repository
  yum_repository:
    name: Elastic_7.X_repo
    baseurl: https://artifacts.elastic.co/packages/7.x/yum
    gpgcheck: true
    gpgkey: https://artifacts.elastic.co/GPG-KEY-elasticsearch
    description: Elastic 7.X Repo
  become: true

- name: Install elasticsearch (CentOS)
```

```
davonn@workstation: ~/CPE_MIDEXAM_ESCOBILLA/roles/...
GNU nano 6.2 main.yml
- name: Install elasticsearch (CentOS)
  yum:
    name: elasticsearch
    state: latest
    update_cache: yes

- name: Configure Elasticsearch change cluster name (CentOS)
  lineinfile:
    dest: /etc/elasticsearch/elasticsearch.yml
    line: "cluster.name: demo-elk"
    state: present

- name: Configure Elasticsearch give cluster descriptive name (CentOS)
  lineinfile:
    dest: /etc/elasticsearch/elasticsearch.yml
    line: "node.name: elk-1"
    state: present

- name: Configure Elasticsearch Add network.host (CentOS)
  lineinfile:
    dest: /etc/elasticsearch/elasticsearch.yml
    line: "network.host: 0.0.0.0"
    state: present

- name: Configure Elasticsearch Add http.port (CentOS)
```

```
davonn@workstation: ~/CPE_MIDEXAM_ESCOBILLA/roles/...
GNU nano 6.2 main.yml
lineinfile:
  dest: /etc/kibana/kibana.yml
  line: 'server.name: "demo-kibana"'
  state: present

- name: Configure Kibana Add elasticsearch.hosts for (CentOS)
  lineinfile:
    dest: /etc/kibana/kibana.yml
    line: 'elasticsearch.hosts: ["http://0.0.0.0:9200"]'
    state: present

- name: Run daemon-reload for kibana for (CentOS)
  systemd: daemon_reload=yes

- name: Enable service Kibana for (CentOS)
  systemd:
    name: kibana
    enabled: yes

- name: Start Elasticsearch for (CentOS)
  shell: systemctl start elasticsearch

- name: Start Kibana for (CentOS)
  shell: systemctl start kibana
```

Next step, configure the main.yml for grafana.

```
davonn@workstation: ~/CPE_MIDEXAM_ESCOBILLA/roles/...
GNU nano 6.2 main.yml
--
- name: Install Grafana Package in (Ubuntu)
  shell: wget -q -O - https://packages.grafana.com/gpg.key | sudo apt-key add >
  when: ansible_distribution == "Ubuntu"

- name: read the Grafana Package (Ubuntu)
  apt:
    upgrade: dist
    update_cache: yes
    changed_when: false
  when: ansible_distribution == "Ubuntu"

- name: Install Grafana in (Ubuntu)
  apt:
    name: grafana
    state: present
  when: ansible_distribution == "Ubuntu"

- name: Downlod package Grafana in (CentOS)
  get_url:
    url: https://dl.grafana.com/enterprise/release/grafana-enterprise-9.2.2-1.>
    dest: /tmp/grafana-enterprise-9.2.2-1.x86_64.rpm
  when: ansible_distribution == "CentOS"
```

```
davonn@workstation: ~/CPE_MIDEXAM_ESCOBILLA/roles/...
GNU nano 6.2 main.yml
when: ansible_distribution == "Ubuntu"

- name: Install Grafana in (Ubuntu)
  apt:
    name: grafana
    state: present
  when: ansible_distribution == "Ubuntu"

- name: Download package Grafana in (CentOS)
  get_url:
    url: https://dl.grafana.com/enterprise/release/grafana-enterprise-9.2.2-1.x86_64.rpm
    dest: /tmp/grafana-enterprise-9.2.2-1.x86_64.rpm
  when: ansible_distribution == "CentOS"

- name: Install Grafana in (CentOS)
  yum:
    name: /tmp/grafana-enterprise-9.2.2-1.x86_64.rpm
    state: present
  when: ansible_distribution == "CentOS"

- name: Start Grafana Package
  service:
    name: grafana-server
    state: restarted
```

Next, configure main.yml of influxdb.

```
davonn@workstation: ~/CPE_MIDEXAM_ESCOBILLA/roles/i...
GNU nano 6.2 main.yml
---
- name: Download the Influxdb Package in (Ubuntu)
  shell: curl -sL https://repos.influxdata.com/influxdb.key | sudo apt-key add>
  when: ansible_distribution == "Ubuntu"

- name: Read the Influxdb Package in (Ubuntu)
  apt:
    upgrade: dist
    update_cache: yes
    changed_when: false
  when: ansible_distribution == "Ubuntu"

- name: Installing Package Influxdb in (Ubuntu)
  apt:
    name: influxdb
    state: present
  when: ansible_distribution == "Ubuntu"

- name: Download the Influxdb Package in (CentOS)
  get_url:
    url: https://repos.influxdata.com/rhel/8/x86_64/stable/influxdb-1.8.5.x86_64.rpm
    dest: /tmp/influxdb-1.8.5.x86_64.rpm
  when: ansible_distribution == "CentOS"
```

```
davonn@workstation: ~/CPE_MIDEXAM_ESCOBILLA/roles/i...
GNU nano 6.2 main.yml
when: ansible_distribution == "Ubuntu"

- name: Installing Package Influxdb in (Ubuntu)
  apt:
    name: influxdb
    state: present
  when: ansible_distribution == "Ubuntu"

- name: Download the Influxdb Package in (CentOS)
  get_url:
    url: https://repos.influxdata.com/rhel/8/x86_64/stable/influxdb-1.8.5.x86_64.rpm
    dest: /tmp/influxdb-1.8.5.x86_64.rpm
  when: ansible_distribution == "CentOS"

- name: Installing Package Influxdb in (CentOS)
  yum:
    name: /tmp/influxdb-1.8.5.x86_64.rpm
    state: present
  when: ansible_distribution == "CentOS"

- name: Starting Influxdb
  service:
    name: influxdb
    state: restarted
```

Next, configure the main.yml of lampstack.





davonn@workstation: ~/CPE\_MIDEXAM\_ESCOBILLA/roles/l...

GNU nano 6.2

main.yml

```
---
- name: install apache and php for (Ubuntu)
  tags: apache,apache2,ubuntu
  apt:
    name:
      - apache2
      - libapache2-mod-php
    state: latest
    when: ansible_distribution == "Ubuntu"

- name: install apache and php for (CentOS)
  tags: apache,centos,httpd
  dnf:
    name:
      - httpd
      - php
    state: latest
    when: ansible_distribution == "CentOS"

- name: start httpd (CentOS)
  tags: apache,centos,httpd
  service:
    name: httpd
    state: started
    enabled: true
```

```
davonn@workstation: ~/CPE_MIDEXAM_ESCOBILLA/roles/l...
GNU nano 6.2 main.yml
  name: httpd
  state: started
  enabled: true
  when: ansible_distribution == "CentOS"

- name: install mariadb package (CentOS)
  tags: centos,db,mariadb
  dnf:
    name: mariadb-server
    state: latest
  when: ansible_distribution == "CentOS"

- name: install mariadb package (Ubuntu)
  tags: db,mariadb,ubuntu
  apt:
    name: mariadb-server
    state: latest
  when: ansible_distribution == "Ubuntu"

- name: "Mariadb - Restarting/Enabling"
  service:
    name: mariadb
    state: restarted
    enabled: true
```

Next, configure the main.yml for nagios.

```
davonn@workstation: ~/CPE_MIDEXAM_ESCOBILLA/roles/...
GNU nano 6.2 main.yml
- name: Install nagios in Ubuntu
  apt:
    name:
      - nagios4
    state: latest
    update_cache: yes
  when: ansible_distribution == "Ubuntu"
```

Lastly, configure the main.yml for prometheus.

```
davonn@workstation: ~/CPE_MIDEXAM_ESCOBILLA/roles/.
GNU nano 6.2 main.yml
---
- name: Installation Prometheus (Ubuntu)
  tags: ubuntu, prometheus
  apt:
    name: prometheus
    state: latest
  when: ansible_distribution == "Ubuntu"

- name: Pre-req installation for (CentOS)
  tags: centos, snapd
  yum:
    name:
      - snapd
    state: latest
  when: ansible_distribution == "CentOS"

- name: Enabling snapd for (CentOS)
  tags: snapd, centos
  command: systemctl enable --now snapd.socket
  when: ansible_distribution == "CentOS"

- name: Installation of Prometheus (CentOS)
  tags: prometheus, centos
  command: snap install prometheus --classic
```

Now run the playbook in order to execute the tasks.

```
davonn@workstation: ~/CPE_MIDEXAM_ESCOBILLA

*
ok: [192.168.56.103]
ok: [192.168.56.105]

TASK [elk_install : Install ELK Dependencies (Ubuntu)] *****
*
[WARNING]: Updating cache and auto-installing missing dependency: python-apt
fatal: [192.168.56.105]: FAILED! => {"changed": false, "cmd": "apt-get update",
"msg": "[Errno 2] No such file or directory", "rc": 2}
ok: [192.168.56.103]

TASK [elk_install : Get PGP Key Ubuntu] *****
*
ok: [192.168.56.103]

TASK [elk_install : Install Elasticsearch repository into sources list (Ubuntu)
] ***
ok: [192.168.56.103]

TASK [elk_install : Install Elasticsearch Ubuntu] *****
*
ok: [192.168.56.103]

TASK [elk_install : Configure Elasticsearch change cluster name (Ubuntu)] *****
*
ok: [192.168.56.103]

TASK [elk_install : Configure Elasticsearch give cluster descriptive name (Ubuntu)
] ***
```

This error appeared since it is already installed on CentOS and is currently off. Also, I separated the installments for elk for Ubuntu and CentOS in a more organized manner.

```
ntu)] ***
ok: [192.168.56.103]

TASK [elk_install : Creating an empty file for startup-timeout.conf 2 of 2 (Ubuntu)] ***
changed: [192.168.56.103]

TASK [elk_install : Prevent systemd service start operation from timing out Ubuntu] ***
ok: [192.168.56.103]

TASK [elk_install : Run daemon-reload for elasticsearch Ubuntu] *****
*
ok: [192.168.56.103]

TASK [elk_install : Enable service Elasticsearch and ensure it is not masked (Ubuntu)] ***
ok: [192.168.56.103]

TASK [elk_install : ensure elasticsearch is running Ubuntu] *****
*
changed: [192.168.56.103]

TASK [elk_install : Install Logstash (Ubuntu)] *****
*
ok: [192.168.56.103]

TASK [elk_install : Run daemon-reload for logstash (Ubuntu)] *****
*
```

```
davonn@workstation: ~/CPE_MIDEXAM_ESCOBILLA

TASK [elk_install : Configure Kibana Add elasticsearch.hosts (Ubuntu)] *****
*
ok: [192.168.56.103]

TASK [elk_install : Run daemon-reload for kibana (Ubuntu)] *****
*
ok: [192.168.56.103]

TASK [elk_install : Enable service Kibana (Ubuntu)] *****
*
ok: [192.168.56.103]

TASK [elk_install : Start Elasticsearch service] *****
*
changed: [192.168.56.103]

TASK [elk_install : Start Kibana] *****
*
changed: [192.168.56.103]

PLAY RECAP *****
*
192.168.56.103      : ok=31    changed=4    unreachable=0    failed=0
skipped=1    rescued=0    ignored=0
192.168.56.105      : ok=3     changed=0    unreachable=0    failed=1
skipped=1    rescued=0    ignored=0

davonn@workstation:~/CPE_MIDEXAM_ESCOBILLA$
```

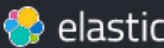
← → ↻ 🔍 192.168.56.103:9200

JSON Raw Data Headers

Save Copy Collapse All Expand All 🔍 Filter JSON


```
name: "elk-1"
cluster_name: "demo-elk"
cluster_uuid: "Ns9KarmeSUWLfGdkSLhXYQ"
version:
  number: "7.17.7"
  build_flavor: "default"
  build_type: "deb"
  build_hash: "78dcaaa8cee33438b91eca7f5c7f56a70fec9e80"
  build_date: "2022-10-17T15:29:54.167373105Z"
  build_snapshot: false
  lucene_version: "8.11.1"
  minimum_wire_compatibility_version: "6.8.0"
  minimum_index_compatibility_version: "6.0.0-beta1"
tagline: "You Know, for Search"
```

← → ↻ 🔍 192.168.56.103:5601/app/home#/

 elastic 🔍 🔄 ⚙️

☰ **D** Home

# Welcome home



## Enterprise Search

Create search experiences with a refined set of APIs and tools.

🖱️ 🗂️ 📁 📄 📂 📅 📆 📇 📈 📉 📊 📋 📌 📍 📎 📏 📐 📑 📒 📓 📔 📕 📖 📗 📙 📚 📛 📜 📝 📞 📟 📠 📡 📢 📣 📤 📥 📦 📧 📨 📩 📪 📫 📬 📭 📮 📯 📰 📱 📲 📳 📴 📵 📶 📷 📸 📹 📺 📻 📼 📽 📾 📿 📠 📡 📢 📣 📤 📥 📦 📧 📨 📩 📪 📫 📬 📭 📮 📯 📰 📱 📲 📳 📴 📵 📶 📷 📸 📹 📺 📻 📼 📽 📾 📿

⌨️ Riaht Ctrl

This is the execution of task elastic installment on ubuntu, plus the outputs.

```
davonn@workstation: ~/CPE_MIDEXAM_ESCOBILLA
OK: [192.168.56.105]

TASK [elk_installCentOS : Configure Elasticsearch Add http.port (CentOS)] *****
*
ok: [192.168.56.105]

TASK [elk_installCentOS : Configure Elasticsearch Add discovery.type (CentOS)]
***
ok: [192.168.56.105]

TASK [elk_installCentOS : Creating an empty file for startup-timeout.conf 1 of
2 (CentOS)] ***
ok: [192.168.56.105]

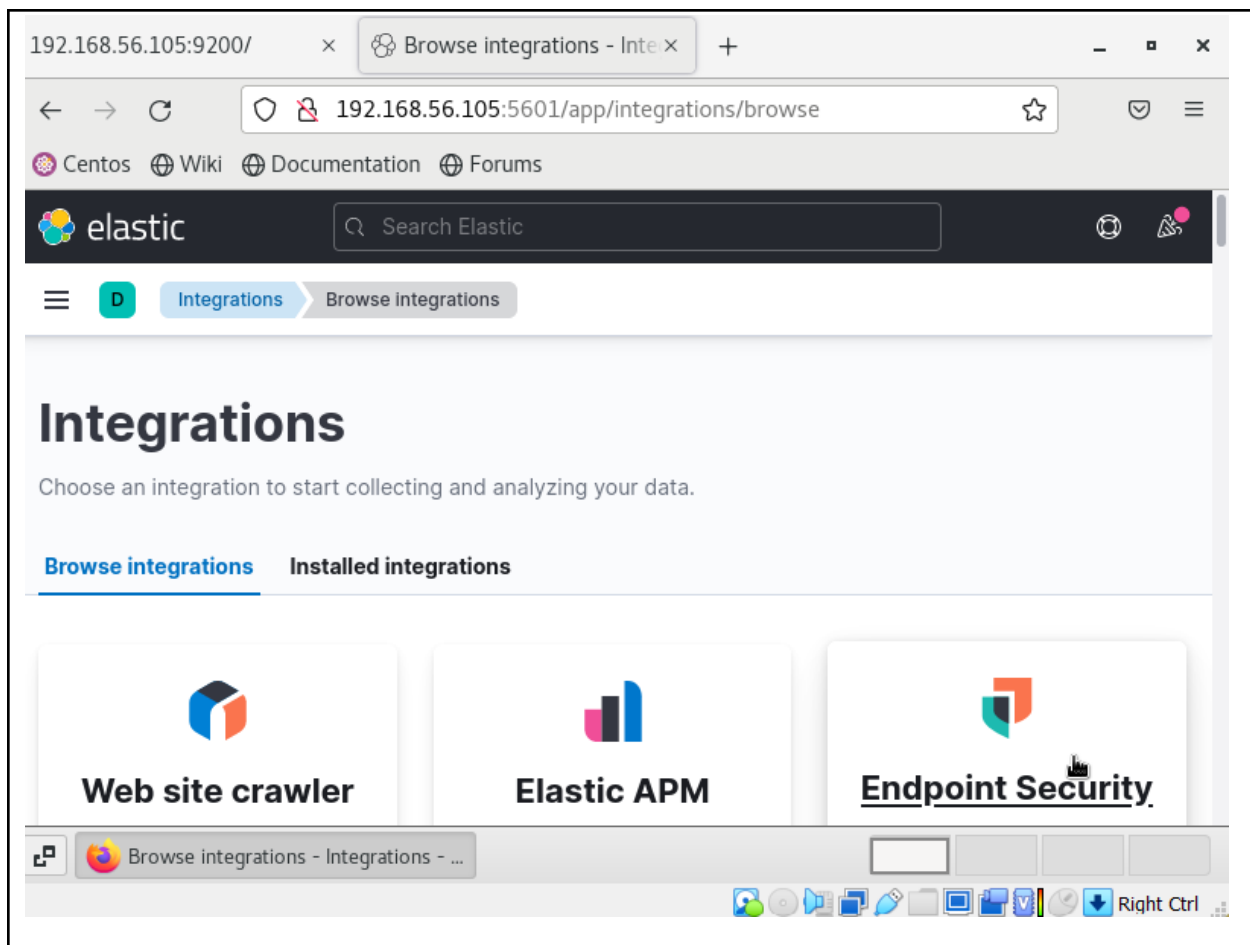
TASK [elk_installCentOS : Creating an empty file for startup-timeout.conf 2 of
2 (CentOS)] ***
changed: [192.168.56.105]

TASK [elk_installCentOS : Prevent systemd service start operation from timing o
ut (CentOS)] ***
changed: [192.168.56.105]

TASK [elk_installCentOS : Run daemon-reload for elasticsearch CentOS] *****
*
ok: [192.168.56.105]

TASK [elk_installCentOS : Enable service Elasticsearch and ensure it is not mas
ked CentOS] ***
ok: [192.168.56.105]
```





192.168.56.105:9200/ x New Tab x +

← → ↻ 192.168.56.105:9200 ☆

Centos Wiki Documentation Forums

JSON Raw Data Headers

Save Copy Collapse All Expand All Filter JSON

```
name: "elk-1"
cluster_name: "demo-elk"
cluster_uuid: "pg9oLja2QmW4_9skskLe0Q"
version:
  number: "7.17.7"
  build_flavor: "default"
  build_type: "rpm"
  build_hash: "78dcaaa8cee33438b91eca7f5c7f56a70fec9e80"
  build_date: "2022-10-17T15:29:54.167373105Z"
  build_snapshot: false
  lucene_version: "8.11.1"
  minimum_wire_compatibility_version: "6.8.0"
  minimum_index_compatibility_version: "6.0.0-beta1"
tagline: "You Know, for Search"
```

🏠 Mozilla Firefox

**ElasticSearch installation on CentOS execution success, plus the output on CentOS.**

```
davonn@workstation: ~/CPE_MIDEXAM_ESCOBILLA
skipping: [192.168.56.105]
ok: [192.168.56.103]

TASK [update repository index (CentOS)] *****
*
skipping: [192.168.56.103]
ok: [192.168.56.105]

PLAY [all] *****
*

TASK [Gathering Facts] *****
*
ok: [192.168.56.105]
ok: [192.168.56.103]

TASK [nagios : Install nagios in Ubuntu] *****
*
skipping: [192.168.56.105]
ok: [192.168.56.103]
```

← → ↻ 🔍 192.168.56.103/nagios4/ 📌 ☰

# Nagios®

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# Nagios® Core™

Nagios® Core™  
Version 4.4.6  
April 28, 2020

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NAGIOS CORE

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## Reports

- Availability
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Nagios installation on Ubuntu and the output.

```
davonn@workstation: ~/CPE_MIDEXAM_ESCOBILLA

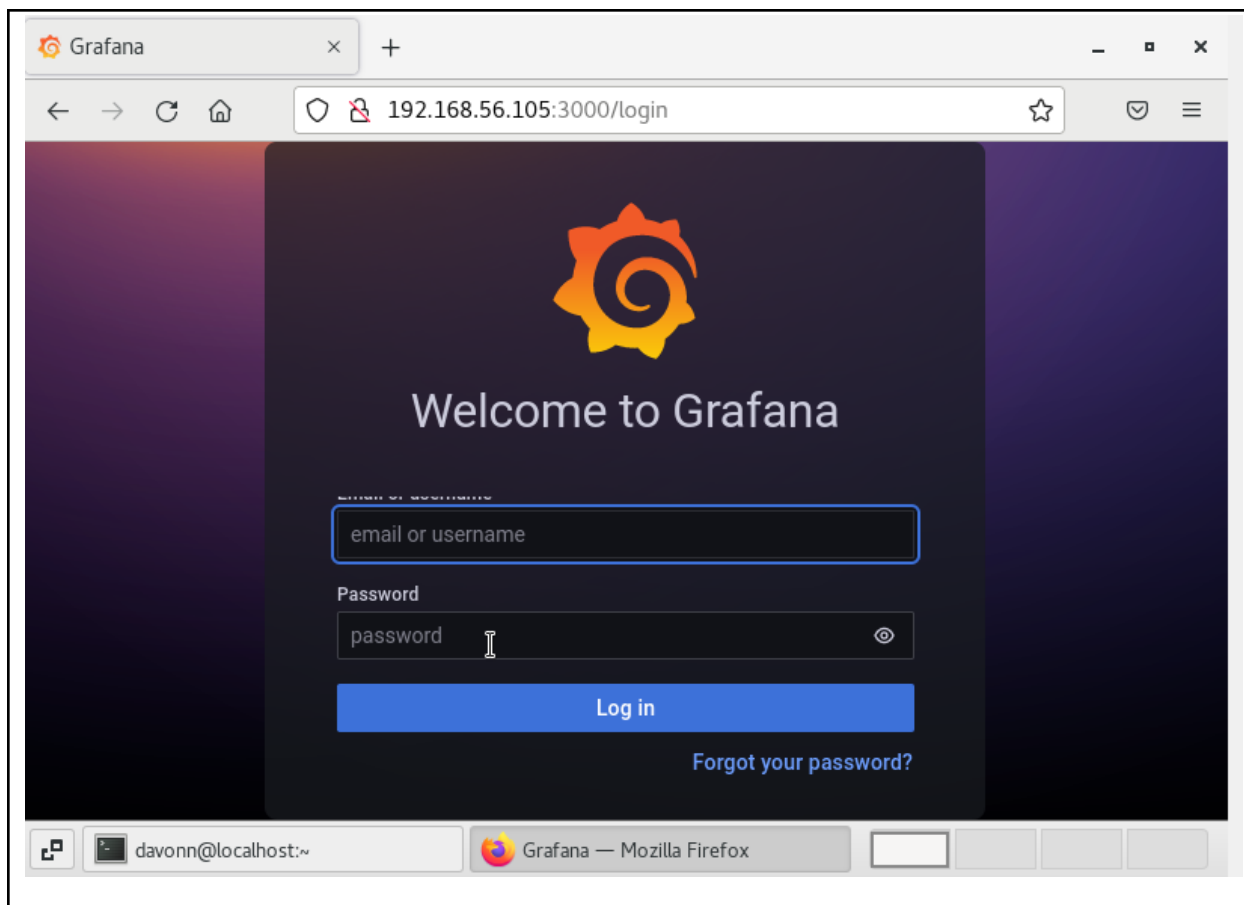
TASK [grafana : Install Grafana in (Ubuntu)] *****
*
skipping: [192.168.56.105]
changed: [192.168.56.103]

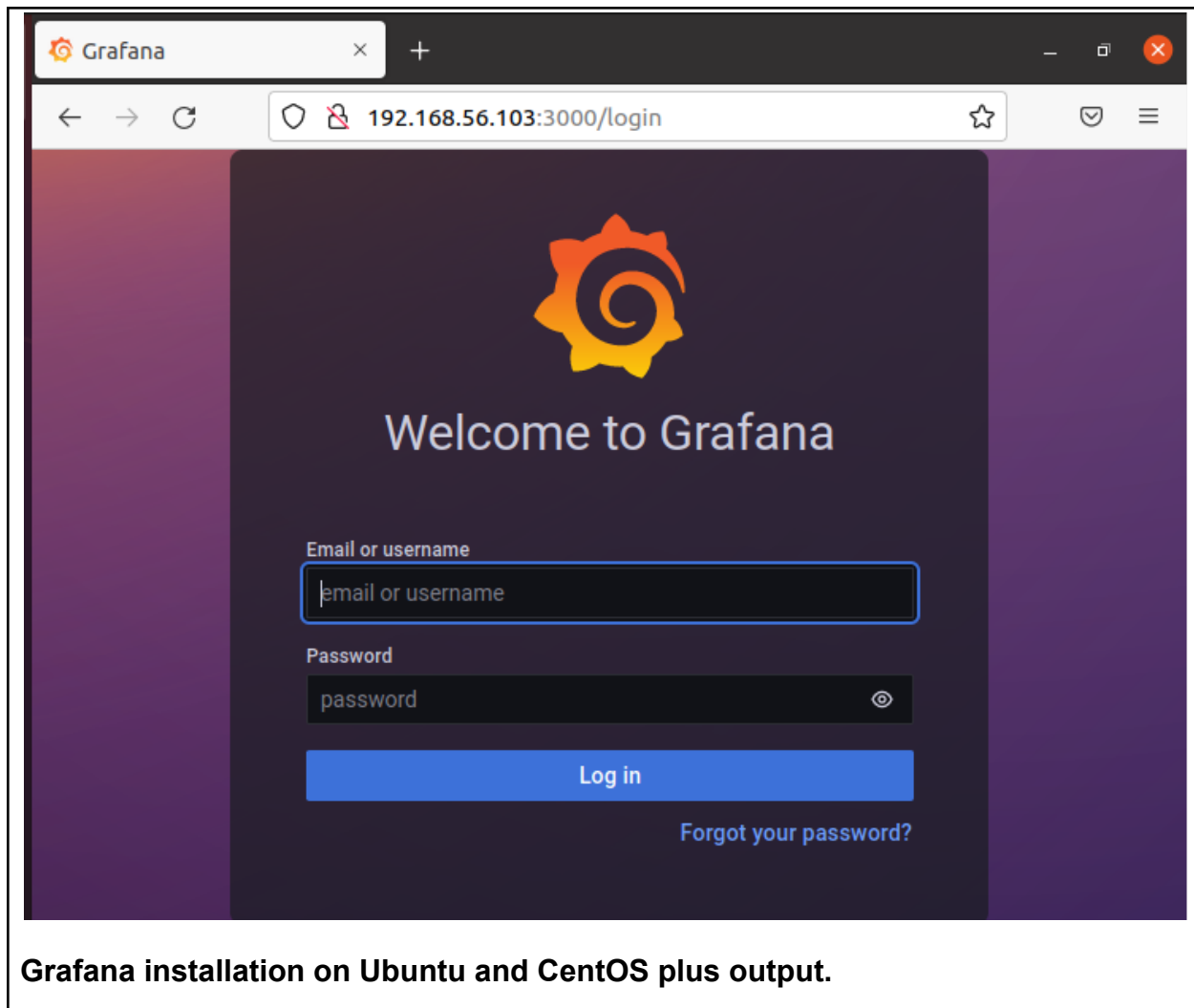
TASK [grafana : Downlod package Grafana in (CentOS)] *****
*
skipping: [192.168.56.103]
changed: [192.168.56.105]

TASK [grafana : Install Grafana in (CentOS)] *****
*
skipping: [192.168.56.103]
changed: [192.168.56.105]

TASK [grafana : Start Grafana Package] *****
*
changed: [192.168.56.103]
changed: [192.168.56.105]

PLAY RECAP *****
*
192.168.56.103      : ok=7    changed=3    unreachable=0    failed=0
skipped=3    rescued=0    ignored=0
192.168.56.105      : ok=6    changed=3    unreachable=0    failed=0
skipped=4    rescued=0    ignored=0
```





**Grafana installation on Ubuntu and CentOS plus output.**

```
davonn@workstation: ~/CPE_MIDEXAM_ESCOBILLA

TASK [prometheus : Installation Prometheus (Ubuntu)] *****
*
skipping: [192.168.56.105]
ok: [192.168.56.103]

TASK [prometheus : Pre-req installation for (CentOS)] *****
*
skipping: [192.168.56.103]
ok: [192.168.56.105]

TASK [prometheus : Enabling snapd for (CentOS)] *****
*
skipping: [192.168.56.103]
changed: [192.168.56.105]

TASK [prometheus : Installation of Prometheus (CentOS)] *****
*
skipping: [192.168.56.103]
changed: [192.168.56.105]

PLAY RECAP *****
*
192.168.56.103      : ok=4    changed=0    unreachable=0    failed=0
skipped=4    rescued=0    ignored=0
192.168.56.105      : ok=6    changed=2    unreachable=0    failed=0
skipped=2    rescued=0    ignored=0
```

Prometheus Time Series

←

→

↻

🛡️ 🔒 192.168.56.103:9090/graph

☆

🛡️

☰

Prometheus Alerts Graph Status ▾ Help

☐ Enable query history

Expression (press Shift+Enter for newlines)

Execute

- insert metric at cursor - ▾

Graph Console

⏮️

Moment

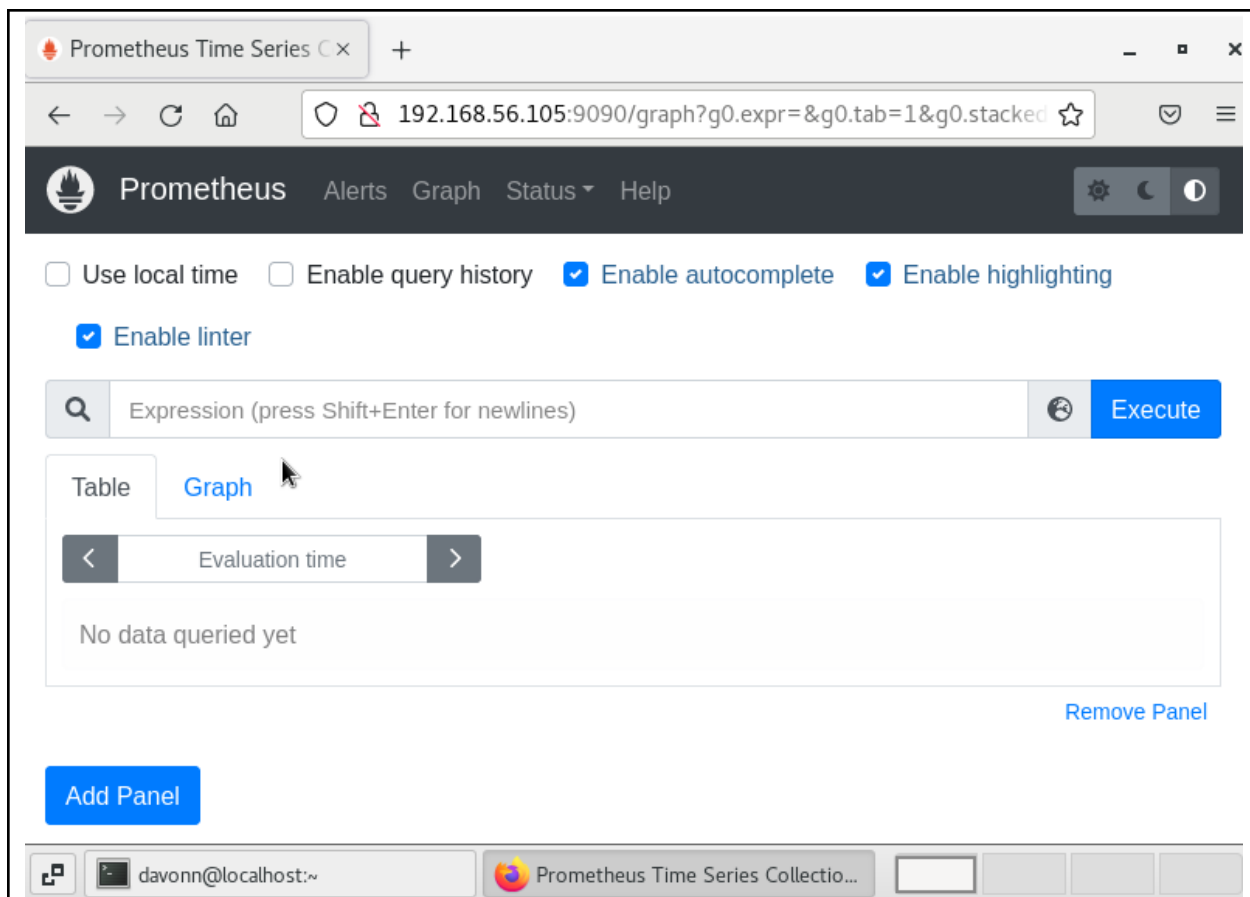
⏭️

Element	Value
no data	

Remove Graph

Add Graph





**Prometheus installation using the playbook and the output on Ubuntu and CentOS.**

```
davonn@workstation: ~/CPE_MIDEXAM_ESCOBILLA
skipping: [192.168.56.103]
ok: [192.168.56.103]

TASK [influxdb : Installing Package Influxdb in (Ubuntu)] *****
*
skipping: [192.168.56.103]
changed: [192.168.56.103]

TASK [influxdb : Download the Influxdb Package in (CentOS)] *****
*
skipping: [192.168.56.103]
changed: [192.168.56.105]

TASK [influxdb : Installing Package Influxdb in (CentOS)] *****
*
skipping: [192.168.56.103]
changed: [192.168.56.105]

TASK [influxdb : Starting Influxdb] *****
*
changed: [192.168.56.103]
changed: [192.168.56.105]

PLAY RECAP *****
*
192.168.56.103      : ok=7    changed=3    unreachable=0    failed=0
skipped=3    rescued=0    ignored=0
192.168.56.105      : ok=6    changed=3    unreachable=0    failed=0
skipped=4    rescued=0    ignored=0
```

Execution of influxdb task on both CentOS and Ubuntu. No output since it is already in grafana.

```
davonn@workstation: ~/CPE_MIDEXAM_ESCOBILLA

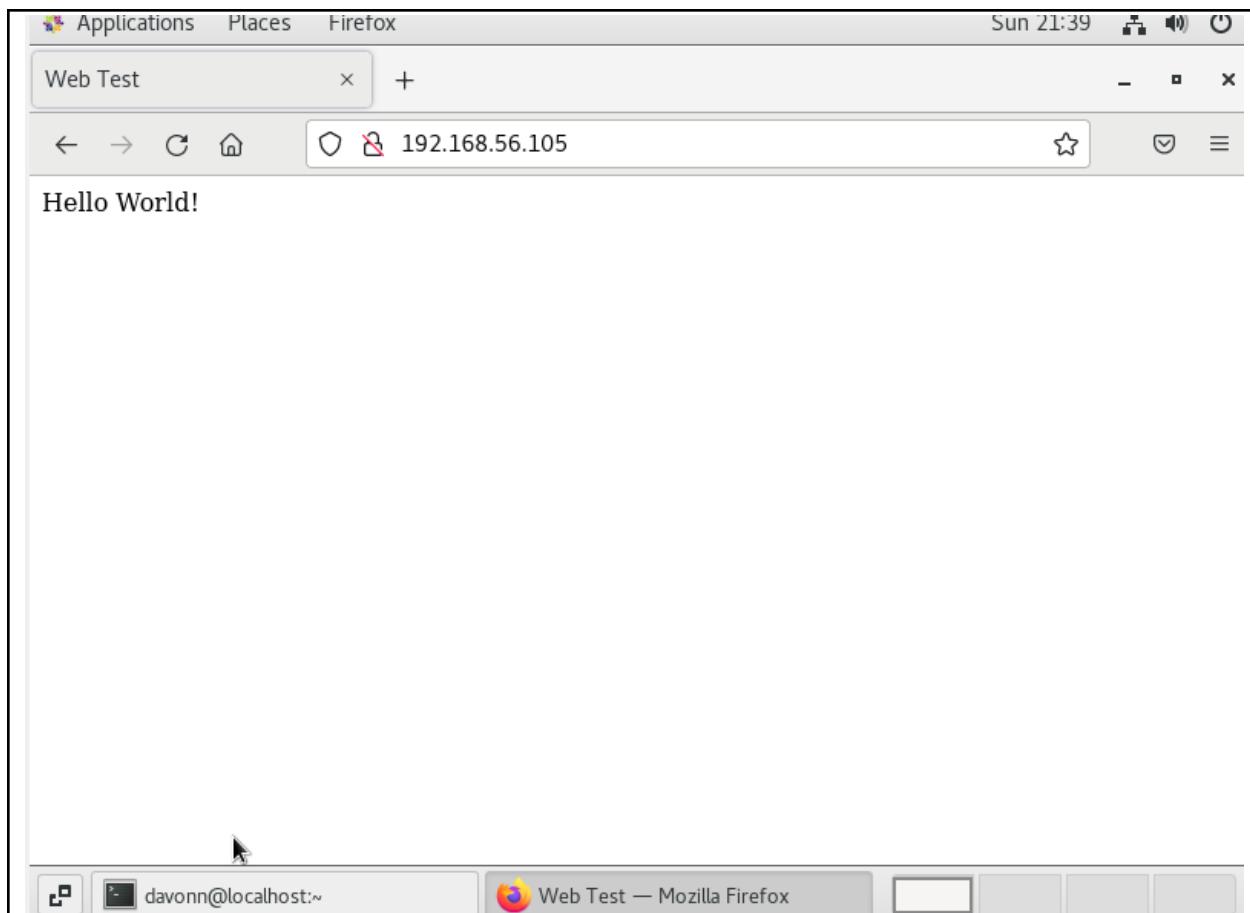
TASK [lampstack : start httpd (CentOS)] *****
*
skipping: [192.168.56.103]
changed: [192.168.56.105]

TASK [lampstack : install mariadb package (CentOS)] *****
*
skipping: [192.168.56.103]
ok: [192.168.56.105]

TASK [lampstack : install mariadb package (Ubuntu)] *****
*
skipping: [192.168.56.105]
changed: [192.168.56.103]

TASK [lampstack : Mariadb - Restarting/Enabling] *****
*
changed: [192.168.56.103]
changed: [192.168.56.105]

PLAY RECAP *****
*
192.168.56.103      : ok=6    changed=2    unreachable=0    failed=0
skipped=4    rescued=0    ignored=0
192.168.56.105      : ok=7    changed=2    unreachable=0    failed=0
skipped=3    rescued=0    ignored=0
```



```
davonn@server1:~$ mariadb --version
mariadb Ver 15.1 Distrib 10.3.34-MariaDB, for debian-linux-gnu (x86_64) using
readline 5.2
```

**Lampstack installation on CentOS and Ubuntu plus a mariadb version on Ubuntu. Below the task executions are the output.**

```
davonn@workstation: ~/CPE_MIDEXAM_ESCOBILLA
davonn@workstation:~/CPE_MIDEXAM_ESCOBILLA$ git add -A
davonn@workstation:~/CPE_MIDEXAM_ESCOBILLA$ git commit -m "Midterms"
[main (root-commit) e2ad6c3] Midterms
 10 files changed, 502 insertions(+)
 create mode 100644 ansible.cfg
 create mode 100644 config.yaml
 create mode 100644 inventory
 create mode 100644 roles/elk_install/tasks/main.yml
 create mode 100644 roles/elk_installCentOS/tasks/main.yml
 create mode 100644 roles/grafana/tasks/main.yml
 create mode 100644 roles/influxdb/tasks/main.yml
 create mode 100644 roles/lampstack/tasks/main.yml
 create mode 100644 roles/nagios/tasks/main.yml
 create mode 100644 roles/prometheus/tasks/main.yml
davonn@workstation:~/CPE_MIDEXAM_ESCOBILLA$ git push
Enumerating objects: 27, done.
Counting objects: 100% (27/27), done.
Compressing objects: 100% (13/13), done.
Writing objects: 100% (27/27), 4.26 KiB | 1.42 MiB/s, done.
Total 27 (delta 1), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), done.
To github.com:DavonnEscobilla/CPE_MIDEXAM_ESCOBILLA.git
 * [new branch]      main -> main
```

Finally perform the following commands in order to save the work on the repository.

GitHub link: [https://github.com/DavonnEscobilla/CPE\\_MIDEXAM\\_ESCOBILLA.git](https://github.com/DavonnEscobilla/CPE_MIDEXAM_ESCOBILLA.git)

**Conclusions:** (link your conclusion from the objective)

Upon creating the midterm examination, it is evident that the previous activity about roles and tools that can be used to enhance work efficiency helps me to have a successful run. Ansible playbooks are a very complex system unless you have managed the organization of each task in every role. The only problem that kept me in a difficult situation is the constant worry that the amount of installation process on the control nodes might cause crash errors on my pc since it is not optimized for running multiple virtual machines. So in order to remove this constant worry, I have come up with a solution of running each task one by one so that my computer can handle the load. I have managed to complete the activity without crashing on my end, overall having roles to set up the tasks can be a very helpful tool in order to identify the problem and

immediately solve it. It is a very challenging exam and I somehow enjoyed configuring these tasks.

## EVALUATION:

The image shows two side-by-side browser windows. The left window displays the ARIS Student Portal for a student named Davonn Panganiban. The right window shows a Google Form titled 'T.I.P. Faculty Performance Evaluation by the Students (1st Semester, S.Y. 2022-2023, Modular Group 4-part 2)'.

**ARIS Student Portal Details:**

- URL: [webqc2.tip.edu.ph/porta](http://webqc2.tip.edu.ph/porta)
- Navigation: HOME / MY RESUME / PARENT / CLASSMATES / LOGOUT
- Profile Information:
  - First Semester (2022-2023) [Change]
  - NAME: ESCOBILLA, DAVONN PANGANIBAN
  - PROGRAM: BSCPE (2018)
  - YEAR LEVEL: 3rd Year
  - ALLOWABLE UNITS TO ENROLL: 23.0 UNITS
  - FULLY VACCINATED

**T.I.P. Faculty Performance Evaluation Form Details:**

- Title: T.I.P. Faculty Performance Evaluation by the Students (1st Semester, S.Y. 2022-2023, Modular Group 4-part 2)
- Status: Your response has been recorded.
- Actions: [Edit your response](#), [Submit another response](#)
- Footer: This form was created inside of Technological Institute of the Philippines. [Report Abuse](#)
- Platform: Google Forms