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Course/Section: CPE31S4 - CPE212	Date Submitted: 10/10/2025
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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 seperate 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)

```
skipping: [server1]
skipping: [server2]
ok: [CentOS]

TASK [Install Apache in Ubuntu (httpd)] ****************************************
skipping: [CentOS]
ok: [server2]
ok: [server1]

TASK [Install Apache in CentOS (httpd)] ****************************************
skipping: [server1]
skipping: [server2]
ok: [CentOS]

TASK [start httpd (CentOS)] ****************************************************
skipping: [server1]
skipping: [server2]
ok: [CentOS]

TASK [Allow port 9200 through the firewall] ***********************************
skipping: [server1]
skipping: [server2]
changed: [CentOS]

PLAY RECAP ********************************************************************
CentOS                     : ok=5    changed=1    unreachable=0    failed=0    s
kipped=2    rescued=0    ignored=0
server1                    : ok=3    changed=0    unreachable=0    failed=0    s
kipped=4    rescued=0    ignored=0
server2                    : ok=3    changed=0    unreachable=0    failed=0    s
kipped=4    rescued=0    ignored=0
```

test play of some installations (Httpd + Php, Mariadb) needed i tried different tasks for installation in each for ubuntu and centos.

```
PLAY [Install Nagios in Ubuntu] *******************************************

TASK [Gathering Facts] ****************************************************
ok: [server1]
ok: [server2]

TASK [Nagios : Install required dependencies on Ubuntu] *******************
changed: [server1]
changed: [server2]

TASK [Nagios : Download Nagios Core source code] *************************
changed: [server1]
changed: [server2]

TASK [Nagios : Extract Nagios source code] *******************************
changed: [server2]
changed: [server1]

TASK [Nagios : Download Nagios Plugins] **********************************
changed: [server2]
changed: [server1]

TASK [Nagios : Extract Nagios Plugins] **********************************
changed: [server1]
changed: [server2]

TASK [Nagios : Create Nagios group] *************************************
changed: [server1]
changed: [server2]

TASK [Nagios : Create Nagios user and group] ***************************
```

test run and downloads of Nagios and extracting all necessary downloads

```
PLAY [Install Elasticsearch (Ubuntu)] **************************************

TASK [Gathering Facts] ********************************************************
ok: [server2]
ok: [server1]

TASK [ElasticsearchUbuntu : Installing Java] **********************************
ok: [server1]
ok: [server2]

TASK [ElasticsearchUbuntu : Elastic Search Installation] *********************
ok: [server2]
ok: [server1]

TASK [ElasticsearchUbuntu : Starting Elastic Search] *************************
changed: [server1]
changed: [server2]
```

elastic search for ubuntu

```
PLAY [Install Elasticsearch (CentOS)] ****************************************

TASK [Gathering Facts] ********************************************************
ok: [CentOS]

TASK [Elasticsearch : Install Java] ******************************************
ok: [CentOS]

TASK [Elasticsearch : Install EPEL repository] *******************************
ok: [CentOS]

TASK [Elasticsearch : Install Elastic Search YUM repository] *****************
ok: [CentOS]

TASK [Elasticsearch : Install Elastic Search] ********************************
ok: [CentOS]

TASK [Elasticsearch : Start Elastic Search] **********************************
changed: [CentOS]

TASK [Elasticsearch : Allow port 9200 through the firewall] ******************
changed: [CentOS]
```

elasticsearch for CentOS with port allow through firewall that makes sure the
elasticsearch can pass through and run in centos

```
PLAY [Install Kibana (Ubuntu)] ******************************************

TASK [Gathering Facts] **************************************************
ok: [server2]
ok: [server1]

TASK [Kibana : Add GPG key for Elastic APT repository] *****************
ok: [server1]
ok: [server2]

TASK [Kibana : Add Kibana APT repository] *****************************
ok: [server1]
ok: [server2]

TASK [Kibana : Create directory for Kibana systemd override] **********
ok: [server2]
ok: [server1]

TASK [Kibana : Check if the directory was created] ********************
ok: [server1]
ok: [server2]

TASK [Kibana : debug] *************************************************
ok: [server1] => {
    "msg": "Directory exists: True"
}
ok: [server2] => {
    "msg": "Directory exists: True"
}
```

downloads for kibana for ubuntu

```
Magboo@LocalMachine: ~/CPE_MIDEXAM_MAGBOO

PLAY [Install Kibana (CentOS)] ***********************************************

TASK [Gathering Facts] ******************************************************
ok: [CentOS]

TASK [Kibana : Add GPG key for Elastic APT repository] **********************
skipping: [CentOS]

TASK [Kibana : Add Kibana APT repository] ***********************************
skipping: [CentOS]

TASK [Kibana : Create directory for Kibana systemd override] ***************
skipping: [CentOS]

TASK [Kibana : Check if the directory was created] *************************
ok: [CentOS]

TASK [Kibana : debug] *******************************************************
ok: [CentOS] => {
    "msg": "Directory exists: False"
}

TASK [Kibana : Create Kibana service override configuration] ***************
skipping: [CentOS]

TASK [Kibana : Configure Kibana (Setting OpenSSL Legacy Provider)] *********
skipping: [CentOS]

TASK [Kibana : Reload systemd] *********************************************
skipping: [CentOS]
```

download kibana for Centos it has skipped because i do not have time anymore and i need to change the configurations that are for ubuntu to be used to centos

```
PLAY [Install Logstash (Ubuntu)] ***********************************************

TASK [Gathering Facts] *********************************************************
ok: [server1]
ok: [server2]

TASK [Logstash : Install dependencies] *****************************************
ok: [server1]
ok: [server2]

TASK [Logstash : Add Elastic APT repository key] *******************************
ok: [server2]
ok: [server1]

TASK [Logstash : Add Elastic APT repository] ***********************************
ok: [server2]
ok: [server1]

TASK [Logstash : Install Logstash] *********************************************
```
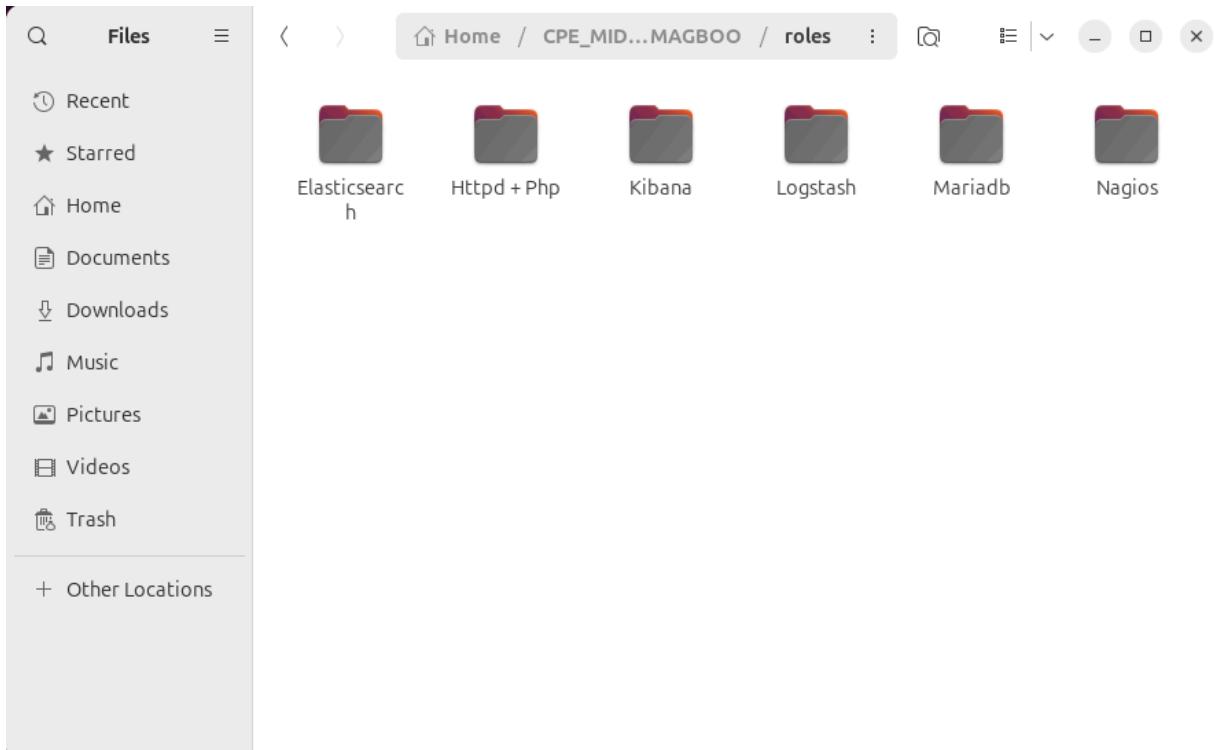
downloads for logstash it has certain downloads needed that come github repository and some necessary downloads

roles for each downloads separated inside is the codes each for CentOS and Ubuntu

GitHub link:

MagbooMattClemence/CPE_MIDEXAM_MAGBOO

Conclusions: (link your conclusion from the objective)

i downloaded certain installations for each the downloads needed though i am unable to configure some and start it within the code i am successful in downloading the tasks and through trial and error on configuring i am able to run the playbook needed with the tasks for roles i separated the downloads through roles with Nagios, Mariadb, Httpd + Php, ElasticSearch with separation for ubuntu and centos, kibana and logstash.