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Course/Section: CPE31S4	Date Submitted: October 10th, 2025
Instructor: Engr. Robin Valenzuela	Semester and SY: 3rd Year, 1st Sem

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)

CPE_MIDEXAM_DENIEGA Public

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main

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README.md   Initial commit   now

README

CPE_MIDEXAM_DENIEGA

For Midterm Examination for CPE 212 (Oct 10th, 2025)

```
E: Unable to locate package kibana
programmymain@workstation:~/CPE_MIDEXAM_DENIEGA$ tree
.
├── ansible.cfg
├── inventory.ini
├── playbook.yml
├── README.md
└── roles
    ├── base
    │   └── tasks
    │       └── main.yml
    ├── grafana
    │   └── tasks
    │       └── main.yml
    └── lamp
        └── tasks
            └── main.yml

8 directories, 7 files
programmymain@workstation:~/CPE_MIDEXAM_DENIEGA$
```

roles > lamp > tasks > Ⓐ main.yml

```yaml
 1    - name: install apache and php for Ubuntu servers
 2      tags: apache, apache2, ubuntu
 3      apt:
 4        name:
 5          - apache2
 6          - libapache2-mod-php
 7        state: latest
 8        update_cache: yes
 9      when: ansible_distribution == "Ubuntu"
10
11    - name: install apache and php for CentOS servers
12      tags: apache,centos,httpd
13      dnf:
14        name:
15          - httpd
16          - php
17        state: latest
18      when: ansible_distribution == "CentOS"
19
20    - name: install mariadb package (ubuntu)
21      tags: db, mariadb, ubuntu
22      apt:
23        name: mariadb-server
24        state: latest
25      when: ansible_distribution == "Ubuntu"
26
27    - name: install mariadb package (centos)
28      tags: centos, db, mariadb
29      yum:
30        name: mariadb-server
31        state: latest
32      when: ansible_distribution == "CentOS"
33
34    - name: "mariadb -- restarting/enabling"
35      service:
36        name: mariadb
37        state: restarted
38        enabled: true
39
40
```

```
 1    - name: install influxdb (ubuntu)
 2      apt:
 3        name: influxdb
 4        state: latest
 5      when: ansible_distribution == "Ubuntu"
 6
 7    # I SWEAR TO GOD WHY DON'T THEY MAKE IT AVAILABLE ON
      THE DNF REPO WHYYY WHYYYYY
      WHYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYYY
 8    # - name: install influxdb (centos)
 9    #   dnf:
10    #     name: influxdb
11    #     state: latest
12    #   when: ansible_distribution == "CentOS"
13
14    # Yeah, I am NOT dealing with grafana I have a time
      limit!
15
16    # - name: create directory for influxdb (centos)
17    #   file:
18    #     path: ~/influxdb
19    #     state: directory
20    #     mode: "0755"
21    #   become: yes
22    #   when: ansible_distribution == "CentOS"
23    #
24    # - name: install influxdb (centos)
25    #   unarchive:
26    #     src: https://repos.influxdata.com/rhel/8/x86_64/
      stable/influxdb3-core-3.5.0.x86_64.rpm
27    #     dest: ~/influxdb
28    #     remote_src: yes
29    #     mode: 0755
30    #     owner: root
31    #     group: root
32    #   when: ansible_distribution == "CentOS"
33
34    - name: install prometheus (ubuntu)
35      apt:
36        name: prometheus
37        state: latest
38      when: ansible_distribution == "Ubuntu"
39
```

Honestly, I don't know anymore. Seriously,

```yaml
    |   group: root
    when: ansible_distribution == "CentOS"

  - name: install prometheus (ubuntu)
    apt:
      name: prometheus
      state: latest
    when: ansible_distribution == "Ubuntu"

  - name: create directory for prometheus (centos)
    file:
      path: ~/prometheus
      state: directory
      mode: "0755"
    become: yes
    when: ansible_distribution == "CentOS"

  - name: install prometheus (centos)
    unarchive:
      src: https://github.com/prometheus/prometheus/
      releases/download/v2.45.0/prometheus-2.45.0.
      linux-amd64.tar.gz
      dest: ~/prometheus
      remote_src: yes
      mode: 0755
      owner: root
      group: root
    when: ansible_distribution == "CentOS"
```

```
    ...
    Processing triggers for libc-bin (2.39-0ubuntu8.6) ...
  ● programmymain@workstation:~/CPE_MIDEXAM_DENIEGA$ git ad
    d -A
  ● programmymain@workstation:~/CPE_MIDEXAM_DENIEGA$ git co
    mmit -m "Midterm Exam"
    [main c1c33c5] Midterm Exam
     7 files changed, 164 insertions(+)
     create mode 100644 .vscode/settings.json
     create mode 100644 ansible.cfg
     create mode 100644 inventory.ini
     create mode 100644 playbook.yml
     create mode 100644 roles/base/tasks/main.yml
     create mode 100644 roles/grafana/tasks/main.yml
     create mode 100644 roles/lamp/tasks/main.yml
  ● programmymain@workstation:~/CPE_MIDEXAM_DENIEGA$ git pu
    sh origin main
    Enumerating objects: 18, done.
    Counting objects: 100% (18/18), done.
    Delta compression using up to 6 threads
    Compressing objects: 100% (9/9), done.
    Writing objects: 100% (17/17), 2.27 KiB | 581.00 KiB/s,
     done.
    Total 17 (delta 0), reused 0 (delta 0), pack-reused 0
    To github.com:Alexis-acad/CPE_MIDEXAM_DENIEGA
       a7963b8..c1c33c5  main -> main
  ○ programmymain@workstation:~/CPE_MIDEXAM_DENIEGA$ []
UTF-8   LF   {} Ansible    ⚠ 2.16.3   Lightspeed (Not logged in)   Python
```

```
    changed: [192.168.56.121]

    PLAY RECAP ***********************************************
    *************************
    192.168.56.116             : ok=6      changed=0    unrea
    chable=0    failed=0    skipped=3    rescued=0    ignor
    ed=0
    192.168.56.117             : ok=7      changed=1    unrea
    chable=0    failed=0    skipped=3    rescued=0    ignor
    ed=0
    192.168.56.121             : ok=9      changed=1    unrea
    chable=0    failed=0    skipped=5    rescued=0    ignor
    ed=0
    192.168.56.123             : ok=7      changed=1    unrea
    chable=0    failed=0    skipped=3    rescued=0    ignor
    ed=0

  ○ programmymain@workstation:~/CPE_MIDEXAM_DENIEGA$ []
F-8    LF   {} Ansible    ⚠ 2.16.3   Lightspeed (Not logged in)   Pytho
```

GitHub link:

https://github.com/Alexis-acad/CPE_MIDEXAM_DENIEGA

Conclusions: (link your conclusion from the objective)

In this activity, I was tasked to showcase my skills from the midterms (and my searching skills) to create a playbook that would install a stack. Unfortunately, due to time constraints, I wasn't able to do two, but I was able to do the Lamp stack.