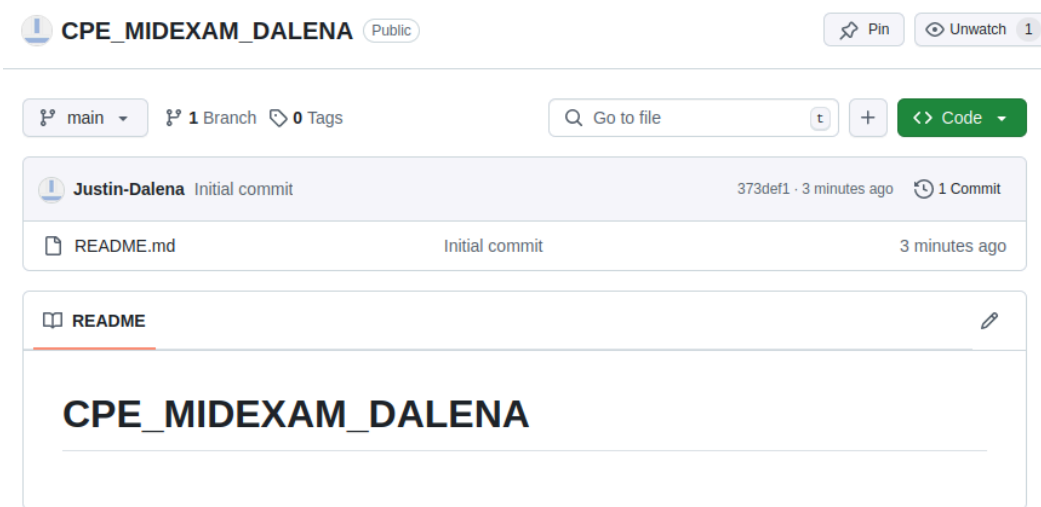


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<b>Course/Section: CPE31S21</b>	<b>Date Submitted: Nov. 8, 2024</b>
<b>Instructor: Engr. Robin Valenzuela</b>	<b>Semester and SY: 2024-25</b>
<b>Midterm Skills Exam: Install, Configure, and Manage Log Monitoring tools</b>	
<b>1. Objectives</b>	
Create 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.	
<b>2. Instructions</b>	
<ol style="list-style-type: none"> <li>1. Create a repository in your GitHub account and label it CPE_MIDEXAM_SURNAME.</li> <li>2. Clone the repository and do the following: <ol style="list-style-type: none"> <li>2.1. Create an Ansible playbook that does the following with an input of a config.yaml file and arranged Inventory file:</li> <li>2.2. Install and configure Elastic Stack in separate hosts (Elastic Search, Kibana, Logstash) • Install Nagios in one host</li> <li>2.3. Install Grafana,Prometheus and Influxdb in seperate hosts (Influxdb,Grafana,Prometheus)</li> <li>2.4. Install Lamp Stack in separate hosts (Httpd + Php,Mariadb)</li> </ol> </li> <li>3. Document all your tasks using this document. Provide proofs of all the ansible playbooks codes and successful installations.</li> <li>4. Document the push and commit from the local repository to GitHub.</li> <li>5. Finally, paste also the link of your GitHub repository in the documentation.</li> </ol>	
<b>3. Output</b> (screenshots and explanations)	
<p>Create a repository in your GitHub account and label it CPE_MIDEXAM_SURNAME.</p> 	

Create an Ansible playbook that does the following with an input of a config.yaml file and arranged Inventory file

## INVENTORY

this is the inventory i used in making this skills exam. I also applied roles for each servers so it is easier to handle when using ansible

```
GNU nano 2.9.3 inventory
[Ubuntu]
Server1 ansible_host=192.168.56.142 ansible_user=justin
[Centos]
Server2 ansible_host=192.168.56.149 ansible_user=jdalena

[ File 'inventory' is unwritable ]
^G Get Help  ^O Write Out ^W Where Is  ^K Cut Text  ^J Justify   ^C Cur Pos
^X Exit      ^R Read File ^\ Replace   ^U Uncut Text ^T To Spell  ^ Go To Line
```

## ANSIBLE PLAYBOOK

this is the ansible playbook code i made to install elasticsearch for my ubuntu server

```
GNU nano 2.9.3 config.yaml
--
- name: Configuring ElasticSearch
  hosts: Ubuntu
  user: justin
  become_method: sudo
  become: true
  gather_facts: false

  tags:
    - config
    - configure

  tasks:

    - name: update cache and ignore errors in case of problems
      become: yes
      apt: update_cache=yes
      ignore_errors: yes

    - name: install nginx
      become: yes
      apt:
        name: nginx
        purge: yes
        state: present

    - name: install java 11
      become: yes
      apt:
        name: openjdk-11-jdk
        purge: yes
        state: present

    - name: Set Java home
      shell: sudo echo "JAVA_HOME=/usr/lib/jvm/java-11-openjdk-amd64" >> /etc/environment

    - name: export Java home
      shell: export JAVA_HOME=/usr/lib/jvm/java-11-openjdk-amd64

    - name: Download ElasticSearch package
      shell: wget -qO - https://artifacts.elastic.co/GPG-KEY-elasticsearch | sudo apt-key add -

    - name: check package list

[ Read 57 lines ]
^G Get Help      ^O Write Out    ^W Where Is     ^K Cut Text     ^J Justify      ^C Cur Pos
^X Exit          ^R Read File    ^\ Replace      ^U Uncut Text   ^T To Spell     ^ Go To Line
```

## RESULT

the result of the ansible playbook shows that the installation of elasticsearch failed due to a wrong use of commands

```
key (name). Using last defined value only.

[WARNING]: While constructing a mapping from /home/justin/CPE_MIDEXAM_DALENA/config.yaml, line 27, column 7, found a duplicate dict
key (name). Using last defined value only.

[WARNING]: While constructing a mapping from /home/justin/CPE_MIDEXAM_DALENA/config.yaml, line 51, column 7, found a duplicate dict
key (name). Using last defined value only.

[WARNING]: Ignoring invalid attribute: purge

[WARNING]: Ignoring invalid attribute: state

PLAY [Configuring ElasticSearch] *****

TASK [update cache and ignore errors in case of problems] *****
fatal: [Server1]: FAILED! => {"changed": false, "msg": "Failed to update apt cache:"}
...ignoring

TASK [nginx] *****
ok: [Server1]

TASK [openjdk-11-jdk] *****
ok: [Server1]

TASK [Set Java home] *****
[WARNING]: Consider using 'become', 'become_method', and 'become_user' rather than running sudo

changed: [Server1]

TASK [export Java home] *****
changed: [Server1]

TASK [Download ElasticSearch package] *****
[WARNING]: Consider using the get_url or uri module rather than running wget. If you need to use command because get_url or uri is
insufficient you can add warn=False to this command task or set command_warnings=False in ansible.cfg to get rid of this message.

fatal: [Server1]: FAILED! => {"changed": true, "cmd": "wget -qO - https://artifacts.elastic.co/GPG-KEY-elasticsearch | sudo apt-key a
dd -", "delta": "0:00:20.004176", "end": "2024-11-08 09:20:30.803953", "msg": "non-zero return code", "rc": 2, "start": "2024-11-08 0
9:20:10.799777", "stderr": "Warning: apt-key output should not be parsed (stdout is not a terminal)\ngpg: no valid OpenPGP data found
.", "stderr_lines": ["Warning: apt-key output should not be parsed (stdout is not a terminal)", "gpg: no valid OpenPGP data found."],
"stdout": "", "stdout_lines": []}
to retry, use: --limit @/home/justin/CPE_MIDEXAM_DALENA/config.retry

PLAY RECAP *****
Server1 : ok=5 changed=2 unreachable=0 failed=1

justin@workstation:~/CPE_MIDEXAM_DALENA$ S
```

**GitHub link:**

[https://github.com/Justin-Dalena/CPE\\_MIDEXAM\\_DALENA.git](https://github.com/Justin-Dalena/CPE_MIDEXAM_DALENA.git)

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

In this skills exam we are tasked to install different types of softwares to our remote servers. I did not accomplish such a task since I don't have enough knowledge to do the tasks given. I tried multiple times of changing and trying different methods of installing the softwares like installing the necessary dependencies and missing files that are needed, but to my disappointment all of the efforts did not accomplish anything.