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Activity 8: Install, Configure, and Manage Availability Monitoring tools

1. Objectives

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

2. Discussion

Availability monitoring is a type of monitoring tool that we use if the certain workload is up or reachable on our end. Site downtime can lead to loss of revenue, reputational damage and severe distress. Availability monitoring prevents adverse situations by checking the uptime of infrastructure components such as servers and apps and notifying the webmaster of problems before they impact on business.

3. Tasks

1. Create a playbook that installs Nagios in both Ubuntu and CentOS. Apply the concept of creating roles.
2. Describe how you did step 1. (Provide screenshots and explanations in your report. Make your report detailed such that it will look like a manual.)

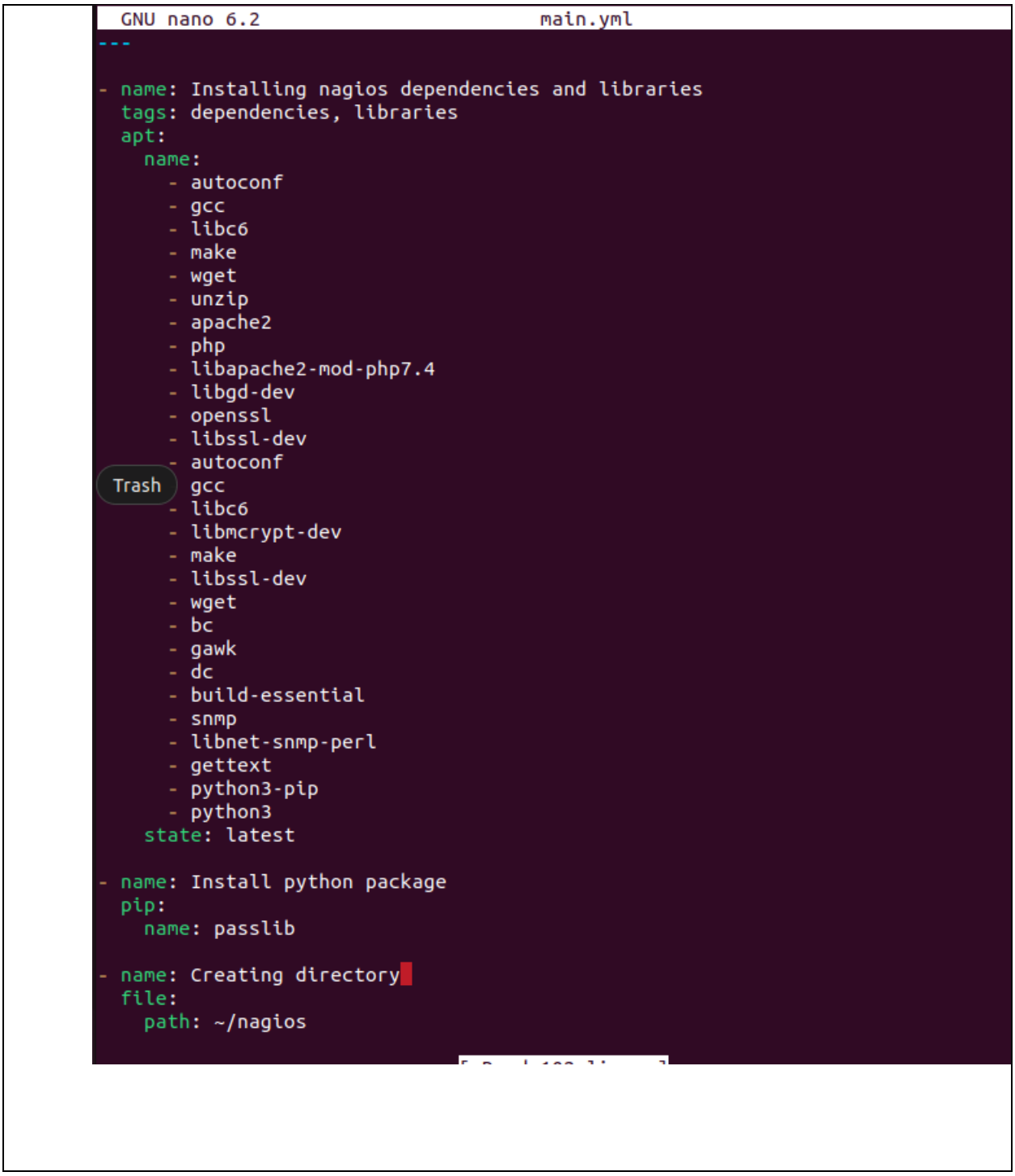
```
[auds@localhost ~]$ touch install_nagios.yml
[auds@localhost ~]$ ll
total 0
drwxr-xr-x. 2 auds auds 6 Sep 19 11:19 Desktop
drwxr-xr-x. 2 auds auds 6 Sep 19 11:19 Documents
drwxr-xr-x. 2 auds auds 6 Sep 19 11:19 Downloads
-rw-rw-r--. 1 auds auds 0 Sep 20 04:46 install_nagios.yml
drwxr-xr-x. 2 auds auds 6 Sep 19 11:19 Music
drwxr-xr-x. 2 auds auds 6 Sep 19 11:19 Pictures
drwxr-xr-x. 2 auds auds 6 Sep 19 11:19 Public
drwxr-xr-x. 2 auds auds 6 Sep 19 11:19 Templates
drwxr-xr-x. 2 auds auds 6 Sep 19 11:19 Videos
[auds@localhost ~]$
```

```
aud@rey:~/ansible$ touch install_nagios.yml
aud@rey:~/ansible$ ls
ansible.cfg    files              install_nagios.yml  PULAO  site.backup.yml
CPE232_PULAO   install_apache.yml  inventory           roles  site.yml
aud@rey:~/ansible$
```

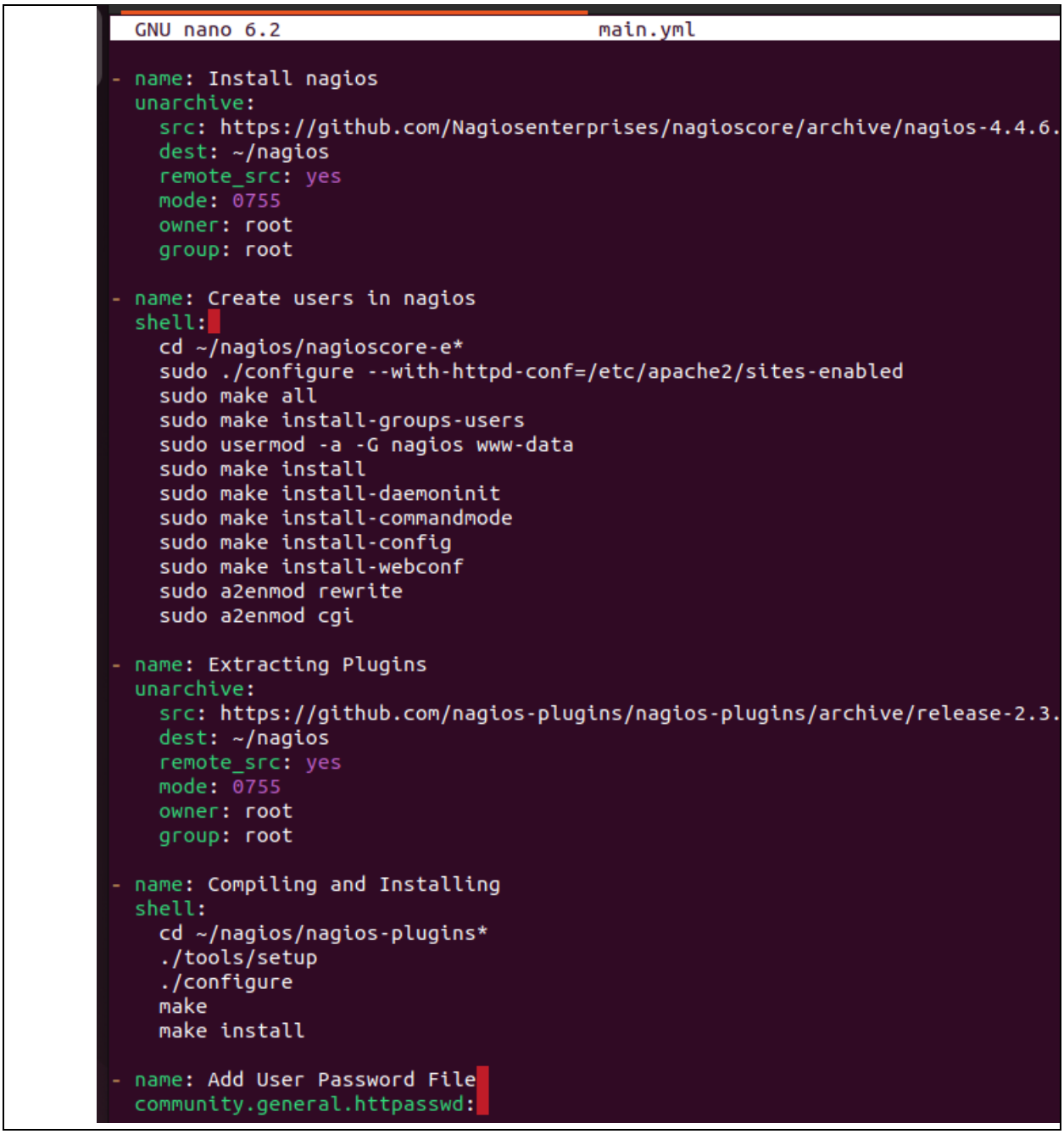
```
aud@rey:~/ansible/CPE232-ACT8$ tree
.
├── ansible.cfg
├── files
│   └── default_site.html
├── install_nagios.yml
├── inventory
└── roles
    ├── nagios_centos
    │   └── main.yml
    └── nagios_ubuntu
        └── main.yml
```

Figures 1, 2, and 3: Making of the needed files and directories in order to effectively install the Nagios.

```
  GNU nano 6.2                    install_nagios.yml
---

- hosts: all
  become: true
  pre_tasks:

  - name: Installing dnf and epel-release
    yum:
      name:
        - epel-release
        - dnf
    when: ansible_distribution == "CentOS"

  - name: Update and Upgrade remote CentOS server
    dnf:
      update_cache: yes
      name: "*"
      state: latest
    when: ansible_distribution == "CentOS"

  - name: Dpkg fixing Ubuntu Servers
    shell:
      dpkg --configure -a
    when: ansible_distribution == "Ubuntu"

  - name: Update and Upgrade remote Ubuntu servers
    apt:
      update_cache: yes
      upgrade: yes
    when: ansible_distribution == "Ubuntu"

- hosts: web_servers
  become: true
  roles:
   - nagios_centos

- hosts: workstations
  become: true
  roles:
   - nagios_ubuntu
```


GNU nano 6.2 main.yml

- name: Installing nagios dependencies and libraries
tags: dependencies, libraries
apt:
name:
- autoconf
- gcc
- libc6
- make
- wget
- unzip
- apache2
- php
- libapache2-mod-php7.4
- libgd-dev
- openssl
- libssl-dev
- autoconf
Trash
- gcc
- libc6
- libmcrypt-dev
- make
- libssl-dev
- wget
- bc
- gawk
- dc
- build-essential
- snmp
- libnet-snmp-perl
- gettext
- python3-pip
- python3
state: latest
- name: Install python package
pip:
name: passlib
- name: Creating directory
file:
path: ~/nagios


GNU nano 6.2 main.yml
- name: Install nagios
unarchive:
src: https://github.com/Nagiosenterprises/nagioscore/archive/nagios-4.4.6.
dest: ~/nagios
remote_src: yes
mode: 0755
owner: root
group: root
- name: Create users in nagios
shell:
cd ~/nagios/nagioscore-e*
sudo ./configure --with-httpd-conf=/etc/apache2/sites-enabled
sudo make all
sudo make install-groups-users
sudo usermod -a -G nagios www-data
sudo make install
sudo make install-daemoninit
sudo make install-commandmode
sudo make install-config
sudo make install-webconf
sudo a2enmod rewrite
sudo a2enmod cgi
- name: Extracting Plugins
unarchive:
src: https://github.com/nagios-plugins/nagios-plugins/archive/release-2.3.
dest: ~/nagios
remote_src: yes
mode: 0755
owner: root
group: root
- name: Compiling and Installing
shell:
cd ~/nagios/nagios-plugins*
./tools/setup
./configure
make
make install
- name: Add User Password File
community.general.httpasswd:

```
    path: /usr/local/nagios/etc/htpasswd.users
    name: nagiosadmin
    password: nagiosadmin

- name: starting and enabling
  service:
    name: nagios
    state: restrated
    enabled: true

- name: httpd is started and enabled
  service:
    name: apache2
    state: restarted
    enabled: true
```

- Final workplay in the ansible playbook in both main.yml and install_nagios.yml

3. Show an output of the installed Nagios for both Ubuntu and CentOS.

4. Output

```
aud@rey:~/ansible/CPE232-ACT8$ ansible-playbook --ask-become-pass install_nagios.ym
l
BECOME password:

PLAY [all] *********************************************************************

TASK [Gathering Facts] *********************************************************
fatal: [192.168.56.122]: UNREACHABLE! => {"changed": false, "msg": "Failed to conne
ct to the host via ssh: auds@192.168.56.122: Permission denied (publickey,password)
.", "unreachable": true}
ok: [192.168.56.128]

TASK [Installing dnf and epel-release] *****************************************
ok: [192.168.56.128]

TASK [Update and Upgrade remote CentOS server] *********************************
fatal: [192.168.56.128]: FAILED! => {"changed": false, "failures": [], "msg": "Unkn
own Error occured: Transaction check error:\n  installing package linux-firmware-20
200421-80.git78c0348.el7_9.noarch needs 92MB on the / filesystem\n  installing pack
age firefox-91.13.0-1.el7.centos.x86_64 needs 133MB on the / filesystem\n  installi
ng package iwl7260-firmware-25.30.13.0-80.el7_9.noarch needs 52MB on the / filesyst
em\n\nError Summary\n-------------\nDisk Requirements:\n   At least 133MB more spac
e needed on the / filesystem.\n", "rc": 1, "results": []}

PLAY RECAP *********************************************************************
192.168.56.122             : ok=0    changed=0    unreachable=1    failed=0    skip
ped=0    rescued=0    ignored=0
192.168.56.128             : ok=2    changed=0    unreachable=0    failed=1    skip
ped=0    rescued=0    ignored=0
```

```
aud@rey:~/ansible/CPE232-ACT8/roles/nagios_centos/tasks$ ansible-playbook --ask-bec
ome-pass main.yml
BECOME password:
[WARNING]: No inventory was parsed, only implicit localhost is available
[WARNING]: provided hosts list is empty, only localhost is available. Note that
the implicit localhost does not match 'all'
ERROR! 'apt' is not a valid attribute for a Play

The error appears to be in '/home/aud/ansible/CPE232-ACT8/roles/nagios_centos/tasks
/main.yml': line 3, column 3, but may
be elsewhere in the file depending on the exact syntax problem.

The offending line appears to be:


- name: Installing nagios dependencies and libraries
```

Reflections:

Answer the following:

1. What are the benefits of having an availability monitoring tool?

   The monitoring tool of Linus is the Nagios. The Nagios is an open source computer system monitoring tool is called Nagios. It was created to run on the Linux operating system and can keep an eye on computers running Windows, Linux, and Unix. The Nagios software performs routine checks on important application, network, and server resource metrics. Applications, networks, and infrastructures can all be tracked with Nagios. It keeps an eye on everything and reports any problems right away. In other words, it aids DevOps specialists in locating and fixing issues early on, before they may seriously harm the company. By using the Nagios, this will increase the server, services, process and application availability. It will also detect network, server, and protocol failures faster. In addition to that, it also detects failed servers, services, processes and batch jobs faster. Aside from the benefits, Nagios also features the centralized view of entire monitored IT infrastructure. Nagios also has detailed status information available through web interface.

Conclusions:

This activity was hard to do and had struggles in obtaining the correct code and for it to run. Despite not being able to run this activity, I have learned to cope up with the stress and frustrations in performing this activity and learned how to formulate my own codes in creating a working work play using ansible playbook. Through this, I have learned a lot in my mistakes and make sure to use these mistakes to be successful in my future activities.