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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.

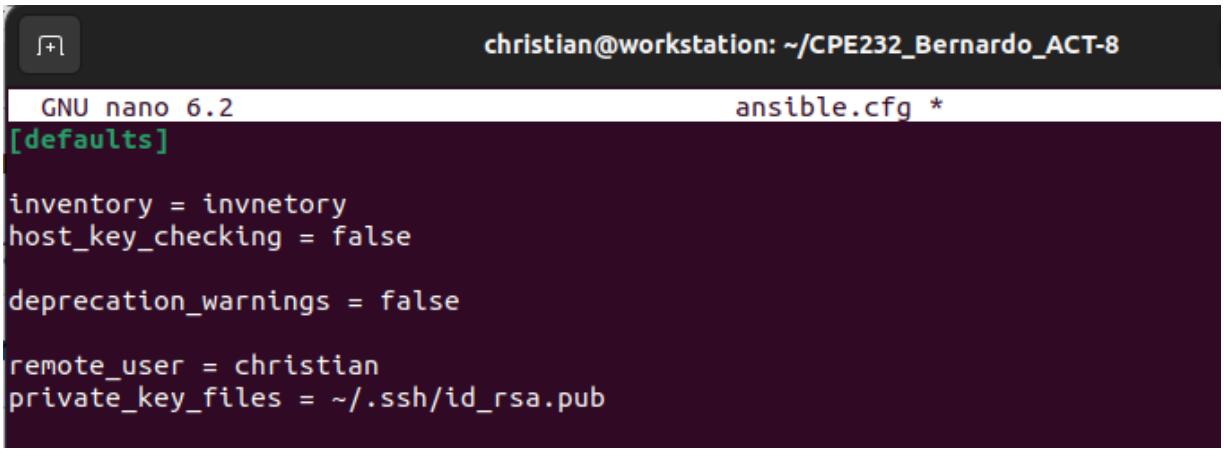
2. Discussion

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

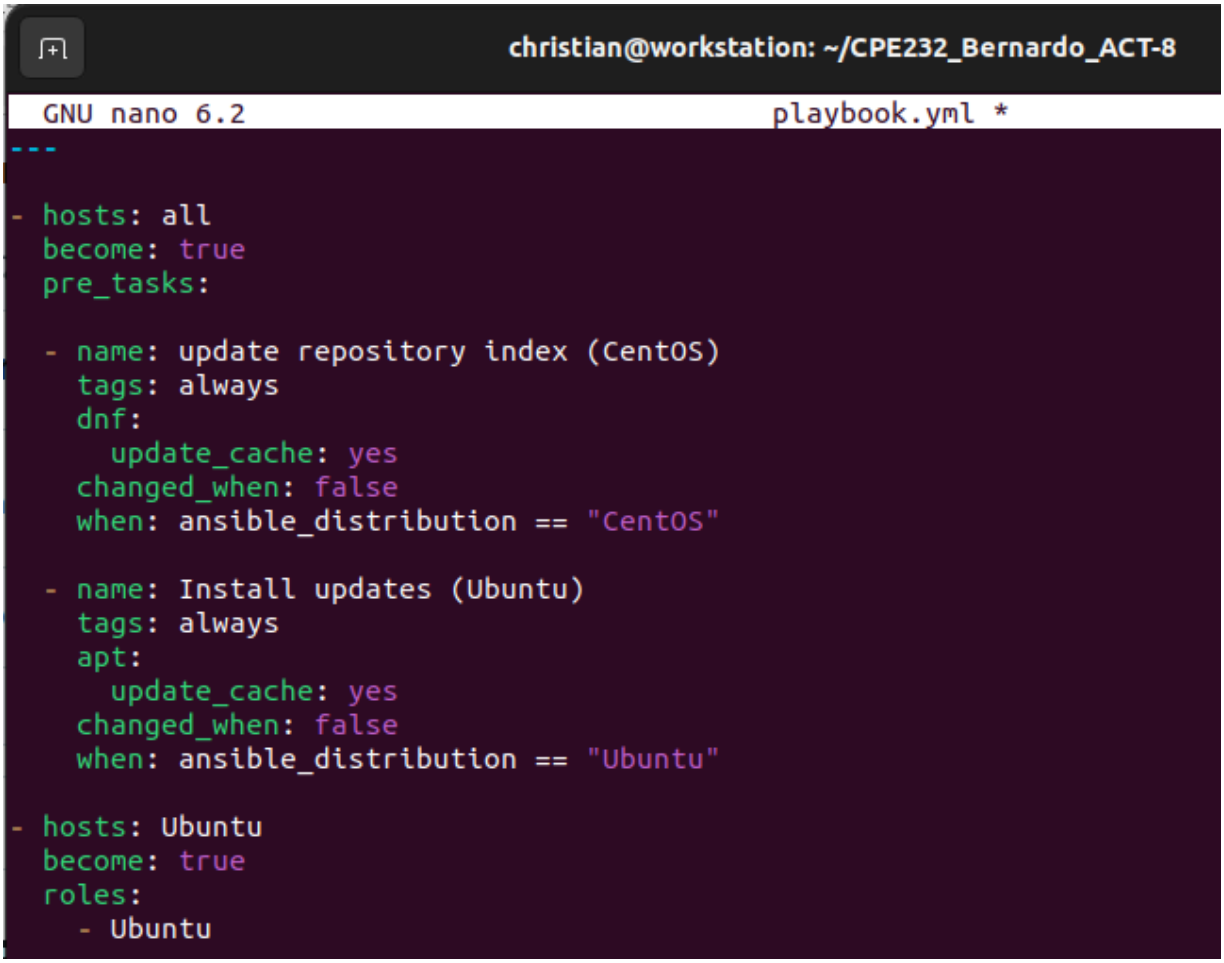
1. Create a playbook that installs Nagios in both Ubuntu and CentOS. Apply the concept of creating roles.
2. Describe how you did step 1. (Provide screenshots and explanations in your report. Make your report detailed such that it will look like a manual.)
3. Show an output of the installed Nagios for both Ubuntu and CentOS.
4. Make sure to create a new repository in GitHub for this activity.

4. Output (screenshots and explanations)



this is the ansible config that makes sure that the keys and inventory in the folder are being used correctly

this is the inventory that stores the ip addresses of the servers



this is the playbook that makes the server update and/or install applications when needed

```
christian@workstation: ~/CPE232_Bernardo_ACT-8/roles
christian@workstation:~/CPE232_Bernardo_ACT-8$ mkdir roles
christian@workstation:~/CPE232_Bernardo_ACT-8$ cd roles
christian@workstation:~/CPE232_Bernardo_ACT-8/roles$ mkdir CentOS
christian@workstation:~/CPE232_Bernardo_ACT-8/roles$ mkdir Ubuntu
christian@workstation:~/CPE232_Bernardo_ACT-8/roles$ mkdir CentOS/tasks
christian@workstation:~/CPE232_Bernardo_ACT-8/roles$ mkdir Ubuntu/tasks
christian@workstation:~/CPE232_Bernardo_ACT-8/roles$
```

this is when it was needed to make the roles and tasks for Ubuntu and CentOS

```
christian@workstation: ~/CPE232_Bernardo_ACT-8/roles/CentOS/tasks
 GNU nano 6.2                                  main.yml
---

  - name: Install nagios (CentOS)
    dnf:
      name:
        - nagios
        - nagios-plugins
      state: latest
```

this is what is inside of the main.yml file in the CentOS

```
BECOME password:

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

TASK [Gathering Facts] *********************************************************************
fatal: [192.168.56.109]: UNREACHABLE! => {"changed": false, "msg": "Failed to connect to the host
 via ssh: ssh: connect to host 192.168.56.109 port 22: No route to host", "unreachable": true}
fatal: [192.168.56.110]: UNREACHABLE! => {"changed": false, "msg": "Failed to connect to the host
 via ssh: ssh: connect to host 192.168.56.110 port 22: No route to host", "unreachable": true}
ok: [192.168.56.113]

TASK [update repository index (CentOS)] ****************************************************
ok: [192.168.56.113]

TASK [Install updates (Ubuntu)] ************************************************************
skipping: [192.168.56.113]

PLAY [Ubuntu] ******************************************************************************

PLAY RECAP *********************************************************************************
192.168.56.109             : ok=0    changed=0    unreachable=1    failed=0    skipped=0    rescu
ed=0    ignored=0
192.168.56.110             : ok=0    changed=0    unreachable=1    failed=0    skipped=0    rescu
ed=0    ignored=0
192.168.56.113             : ok=2    changed=0    unreachable=0    failed=0    skipped=1    rescu
ed=0    ignored=0

christian@workstation:~/CPE232_Bernardo_ACT-8$
```

```
BECOME password:

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

TASK [Gathering Facts] *********************************************************************
fatal: [192.168.56.113]: UNREACHABLE! => {"changed": false, "msg": "Failed to connect to the host
 via ssh: ssh: connect to host 192.168.56.113 port 22: No route to host", "unreachable": true}
fatal: [192.168.56.110]: UNREACHABLE! => {"changed": false, "msg": "Failed to connect to the host
 via ssh: ssh: connect to host 192.168.56.110 port 22: No route to host", "unreachable": true}
ok: [192.168.56.109]

TASK [update repository index (CentOS)] ****************************************************
skipping: [192.168.56.109]

TASK [Install updates (Ubuntu)] ************************************************************
fatal: [192.168.56.109]: FAILED! => {"changed": false, "msg": "Failed to lock apt for exclusive o
peration: Failed to lock directory /var/lib/apt/lists/: E:Could not get lock /var/lib/apt/lists/l
ock. It is held by process 3088 (aptd)"}

PLAY RECAP *********************************************************************************
192.168.56.109             : ok=1    changed=0    unreachable=0    failed=1    skipped=1    rescu
ed=0    ignored=0
192.168.56.110             : ok=0    changed=0    unreachable=1    failed=0    skipped=0    rescu
ed=0    ignored=0
192.168.56.113             : ok=0    changed=0    unreachable=1    failed=0    skipped=0    rescu
ed=0    ignored=0

christian@workstation:~/CPE232_Bernardo_ACT-8$
```

```
BECOME password:

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

TASK [Gathering Facts] *********************************************************************
fatal: [192.168.56.113]: UNREACHABLE! => {"changed": false, "msg": "Failed to connect to the host via ssh: ssh: connect to host 192.
168.56.113 port 22: No route to host", "unreachable": true}
fatal: [192.168.56.109]: UNREACHABLE! => {"changed": false, "msg": "Failed to connect to the host via ssh: ssh: connect to host 192.
168.56.109 port 22: No route to host", "unreachable": true}
ok: [192.168.56.110]

TASK [update repository index (CentOS)] ****************************************************
skipping: [192.168.56.110]

TASK [Install updates (Ubuntu)] ************************************************************
ok: [192.168.56.110]

PLAY [Ubuntu] ******************************************************************************

TASK [Gathering Facts] *********************************************************************
ok: [192.168.56.110]

TASK [Ubuntu : Install nagios (Ubuntu)] ****************************************************
fatal: [192.168.56.110]: FAILED! => {"changed": false, "msg": "Unsupported parameters for (apt) module: status Supported parameters
include: allow_unauthenticated, autoclean, autoremove, cache_valid_time, deb, default_release, dpkg_options, force, force_apt_get, i
nstall_recommends, only_upgrade, package, policy_rc_d, purge, state, update_cache, update_cache_retries, update_cache_retry_max_dela
y, upgrade"}

PLAY RECAP *********************************************************************************
192.168.56.109             : ok=0    changed=0    unreachable=1    failed=0    skipped=0    rescued=0    ignored=0
192.168.56.110             : ok=3    changed=0    unreachable=0    failed=1    skipped=1    rescued=0    ignored=0
192.168.56.113             : ok=0    changed=0    unreachable=1    failed=0    skipped=0    rescued=0    ignored=0

christian@workstation:~/CPE232_Bernardo_ACT-8$
```

this is the output of the playbook it works and it installs the nagios on each of them

(my PC can only handle two windows each of the OS's)

Reflections:

Answer the following:

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

It gives proactive issue detection and makes sure that the only file being filled with errors is only one of them. It optimizes well the delegated plans when being used correctly. It is also reliable when it is expected to have downtime that disrupts operations by regularly monitoring system availability.

Conclusions:

In conclusion this activity aids in making sure that the installation and configuration can be managed much more easy that normal and to make sure that the OS's aren't being underused.