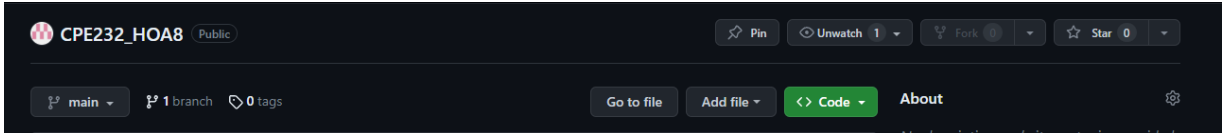| Name: Victor B. Ortega	Date Performed: 10/20/23
Course/Section: CPE31S5	Date Submitted: 10/20/23
Instructor: Engr Roman Richard	Semester and SY: 2023-2024

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)

Creating repository:

Step 1: Creating directories, using galaxy command. This command will create automatic directories.

```
victor@Workstation:~/CPE232_HOA8$ ansible-galaxy init roles/negios --offline
```

```
victor@Workstation:~/CPE232_HOA8$ tree
├── ansible.cfg
├── inventory
├── README.md
├── roles
│   └── common
│       ├── defaults
│       │   └── main.yml
│       ├── handlers
│       │   └── main.yml
│       ├── meta
│       │   └── main.yml
│       ├── README.md
│       ├── tasks
│       │   ├── main.yml
│       │   └── negios_setup.yml
│       ├── tests
│       │   ├── inventory
│       │   └── test.yml
│       └── vars
│           └── main.yml
└── site.yml

8 directories, 13 files
victor@Workstation:~/CPE232_HOA8$
victor@Workstation:~/CPE232_HOA8$
BECOME password:

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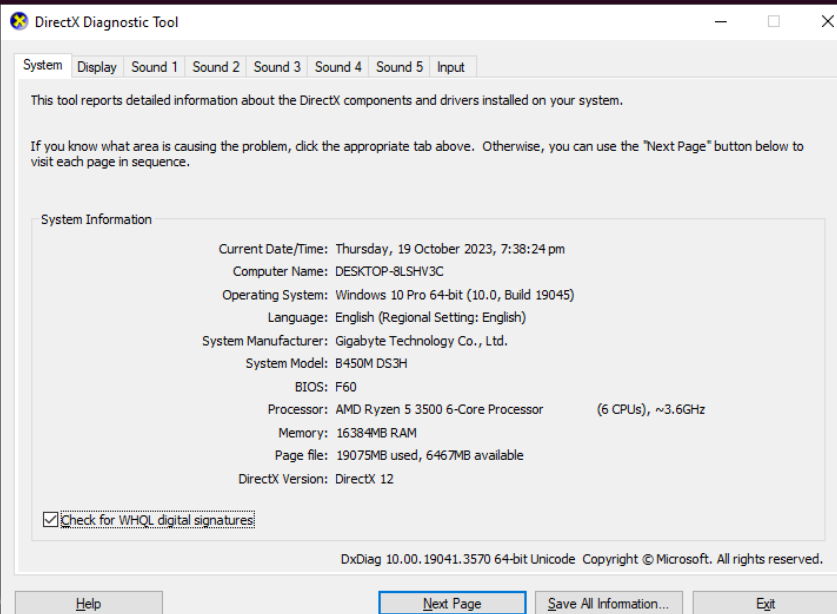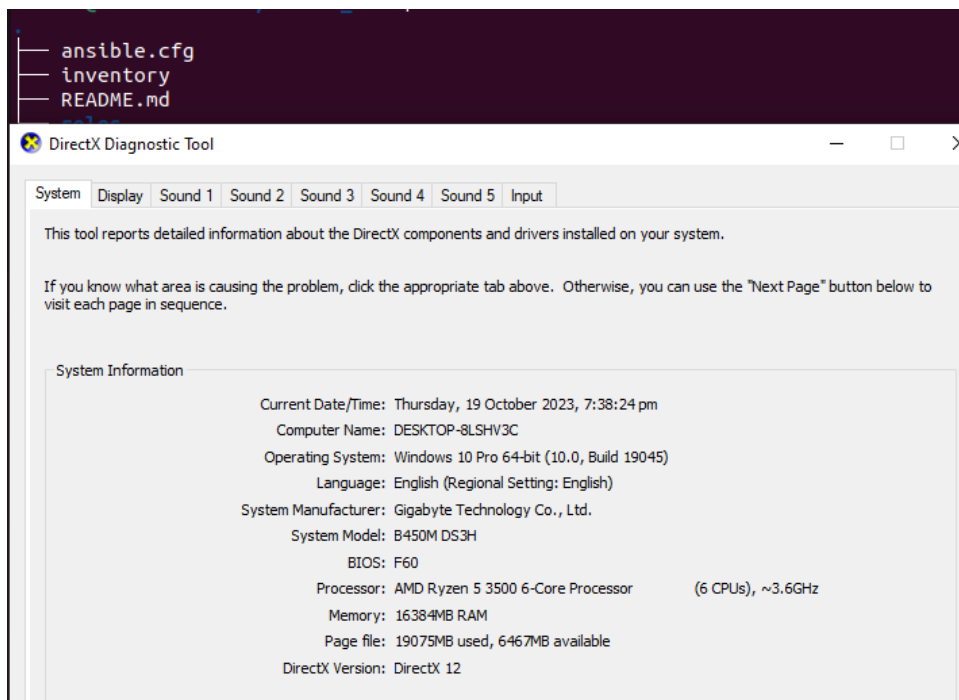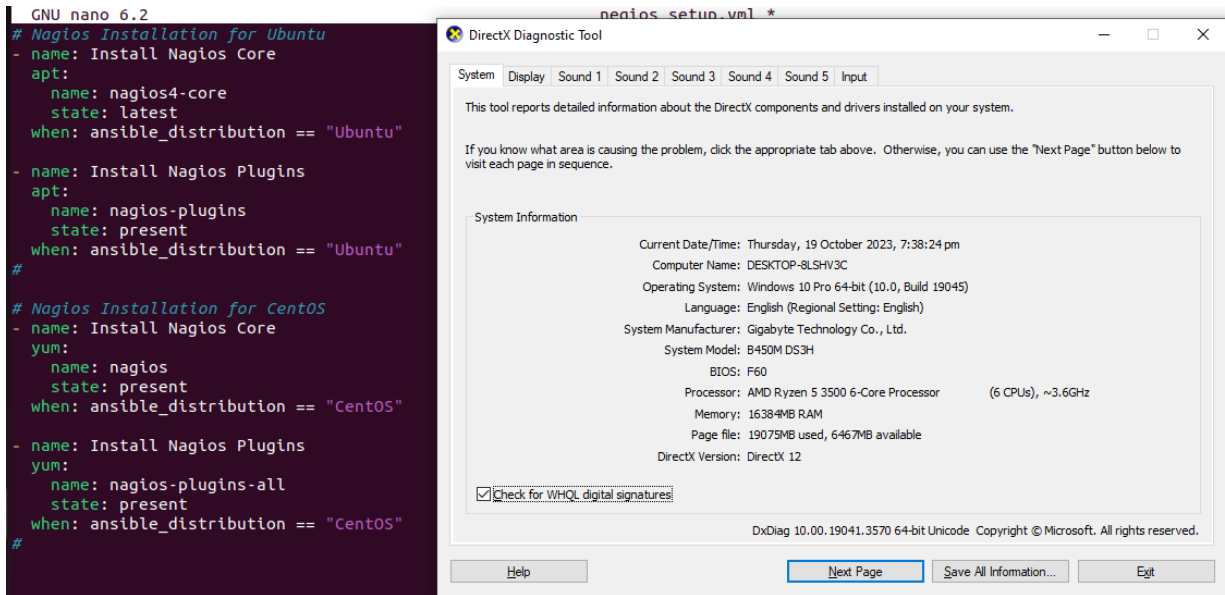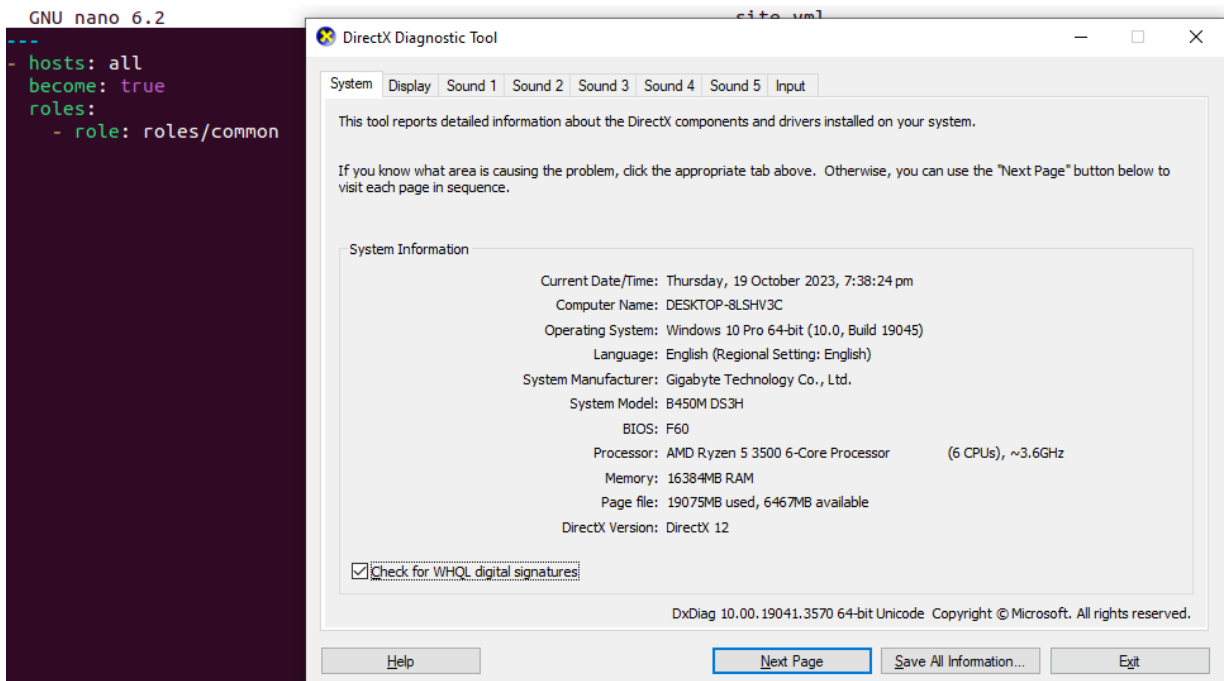

DirectX Diagnostic Tool — System tab

Step 2: Creating defaults files such as ansibe.cfg, inventory and site.yml for playbook.

```
├── ansible.cfg
├── inventory
├── README.md
```


DirectX Diagnostic Tool — System tab

Step 3: Creating negios_setup, and adding installation command of nagios both ubuntu and cento.

```
GNU nano 6.2                                    negios_setup.yml *
# Nagios Installation for Ubuntu
- name: Install Nagios Core
  apt:
    name: nagios4-core
    state: latest
  when: ansible_distribution == "Ubuntu"

- name: Install Nagios Plugins
  apt:
    name: nagios-plugins
    state: present
  when: ansible_distribution == "Ubuntu"
#

# Nagios Installation for CentOS
- name: Install Nagios Core
  yum:
    name: nagios
    state: present
  when: ansible_distribution == "CentOS"

- name: Install Nagios Plugins
  yum:
    name: nagios-plugins-all
    state: present
  when: ansible_distribution == "CentOS"
#
```


Step 4: After creating the installation, calling the negios_setup in the site.yml which is nagios/common

```
GNU nano 6.2                                    site.yml
---
- hosts: all
  become: true
  roles:
    - role: roles/common
```

Step 5: Then running the playbook which is site.yml

```
victor@Workstation:~/CPE232_HOA$ ansible-playbook --ask-become-pass site.yml
BECOME password:

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

TASK [Gathering Facts] *********************************************************
ok: [192.168.56.112]
ok: [192.168.56.110]

TASK [roles/common : Install Nagios] ******************************************
included: /home/victor/CPE232_HOA$/roles/common/tasks/nagios_setup.yml for 192.168.56.112, 192.168.56.110

TASK [roles/common : Install Nagios Core] *************************************
skipping: [192.168.56.110]
ok: [192.168.56.112]

TASK [roles/common : Install Nagios Plugins] *********************************
skipping: [192.168.56.110]
ok: [192.168.56.112]

TASK [roles/common : Install Nagios Core] *************************************
skipping: [192.168.56.112]
ok: [192.168.56.110]

TASK [roles/common : Install Nagios Plugins] *********************************
skipping: [192.168.56.112]
ok: [192.168.56.110]

PLAY RECAP *********************************************************************
192.168.56.110             : ok=4    changed=0    unreachable=0    failed=0    skipped=2    rescued=0    ignored=0
192.168.56.112             : ok=4    changed=0    unreachable=0    failed=0    skipped=2    rescued=0    ignored=0
```
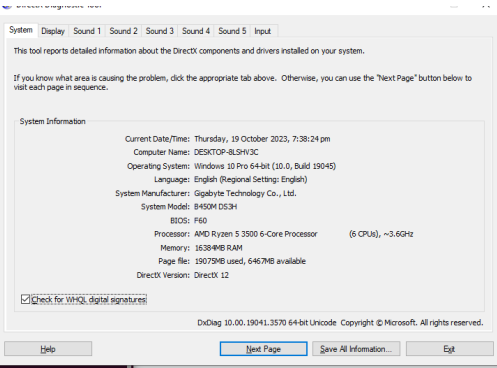
Step 6: Checking if the Nagios installed in CentOS and Ubuntu using –version.
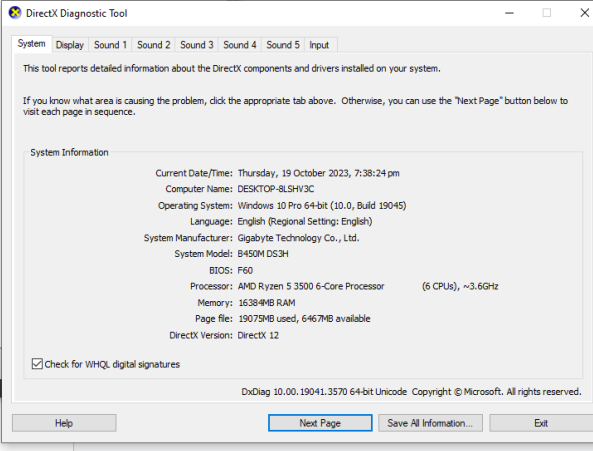
CentOS:

```
bash: nagios4: command not found...
[victor@localhost ~]$ nagios --version

Nagios Core 4.4.9
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[victor@localhost ~]$
```
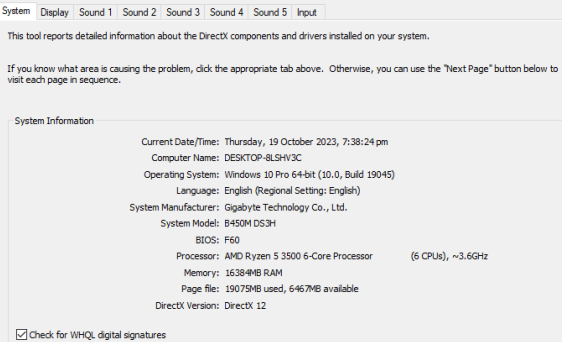
Ubuntu:

```
victor@Workstation:~$ nagios4 --version

Nagios Core 4.4.6
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Foundation, Inc., 675 Mass Ave, Cambridge, MA 02139, USA.

victor@Workstation:~$
```

Reflections:

Answer the following:

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

An availability monitoring tool integrated into a playbook can empower proactive issue detection, minimize downtime by addressing potential problems before they impact users, facilitate automated remediation, and contribute to the overall reliability of the system.

Conclusions:

Therefore, using Ansible playbooks with roles to install Ansible on CentOS and Ubuntu automates the deployment process, making it more efficient and organized. It also improves maintainability and ensures consistency across different operating systems.