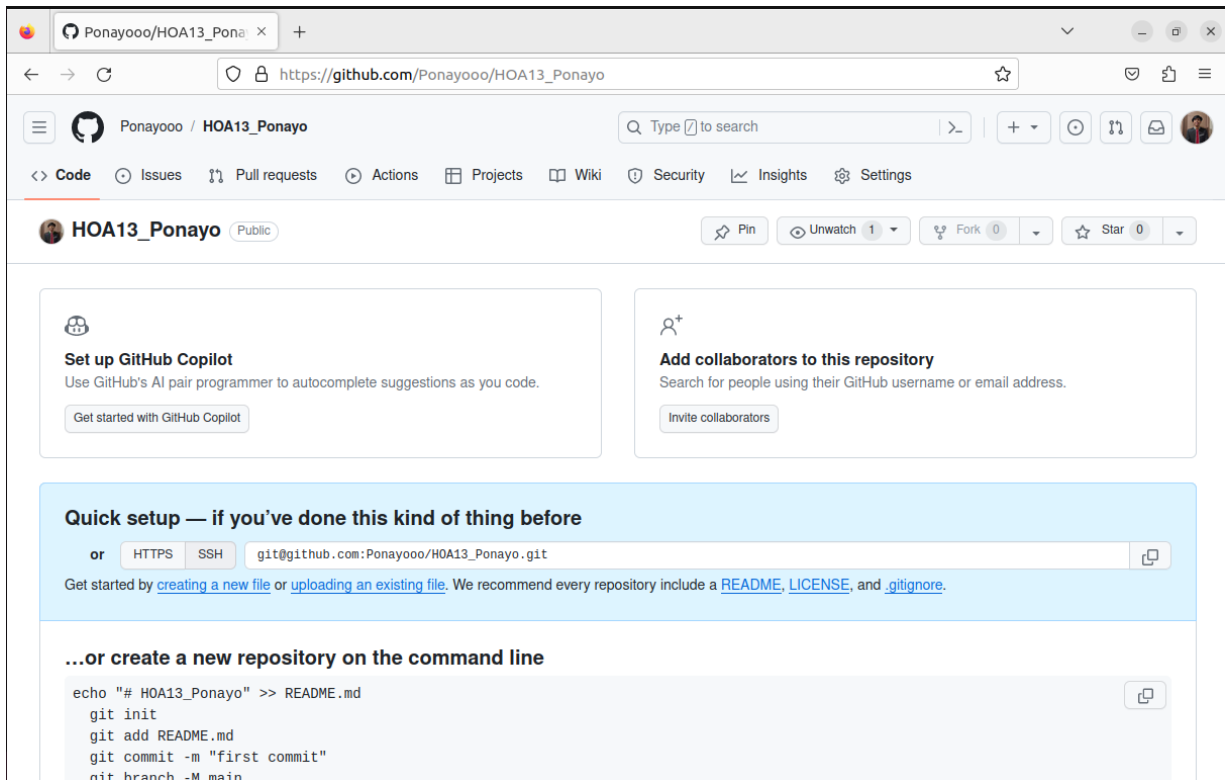


Name: Mark Andrei Ponayo	Date Performed: Dec 2, 2023
Course/Section: BSCPE31S5	Date Submitted: Dec 2, 2023
Instructor: Engr. Roman Richard	Semester and SY: 1st sem 2022-2023
Activity 13: OpenStack Prerequisite Installation	
1. Objectives	
Create a workflow to install OpenStack using Ansible as your Infrastructure as Code (IaC).	
2. Intended Learning Outcomes	
<ol style="list-style-type: none"> 1. Analyze the advantages and disadvantages of cloud services 2. Evaluate different Cloud deployment and service models 3. Create a workflow to install and configure OpenStack base services using Ansible as documentation and execution. 	
3. Resources	
<p>Oracle VirtualBox (Hypervisor)</p> <p>1x Ubuntu VM or Centos VM</p>	
4. Tasks	
<ol style="list-style-type: none"> 1. Create a new repository for this activity. 2. Create a playbook that converts the steps in the following items in https://docs.openstack.org/install-guide/ <ol style="list-style-type: none"> a. NTP b. OpenStack packages c. SQL Database d. Message Queue e. Memcached f. Etcd g. Create different plays in installing per server type (controller, compute etc.) and identify it as a group in Inventory file. h. Add, commit and push it to your GitHub repo. 	
5. Output (screenshots and explanations)	

Step 1. Creating New Repository



The screenshot shows the GitHub web interface for a new repository named 'HOA13_Ponayo'. The repository is public and currently has 0 forks and 0 stars. The page includes a search bar, navigation links for Code, Issues, Pull requests, Actions, Projects, Wiki, Security, Insights, and Settings. Below the repository name, there are two main sections: 'Set up GitHub Copilot' and 'Add collaborators to this repository'. A 'Quick setup' section provides instructions for cloning the repository using HTTPS or SSH, with the SSH URL being 'git@github.com:Ponayooo/HOA13_Ponayo.git'. It also includes a command-line setup for creating a new repository, which involves running 'git init', 'git add README.md', 'git commit -m "first commit"', and 'git branch -M main'.

HOA13_Ponayo Public

Pin Unwatch 1 Fork 0 Star 0

Set up GitHub Copilot
Use GitHub's AI pair programmer to autocomplete suggestions as you code.
[Get started with GitHub Copilot](#)

Add collaborators to this repository
Search for people using their GitHub username or email address.
[Invite collaborators](#)

Quick setup — if you've done this kind of thing before

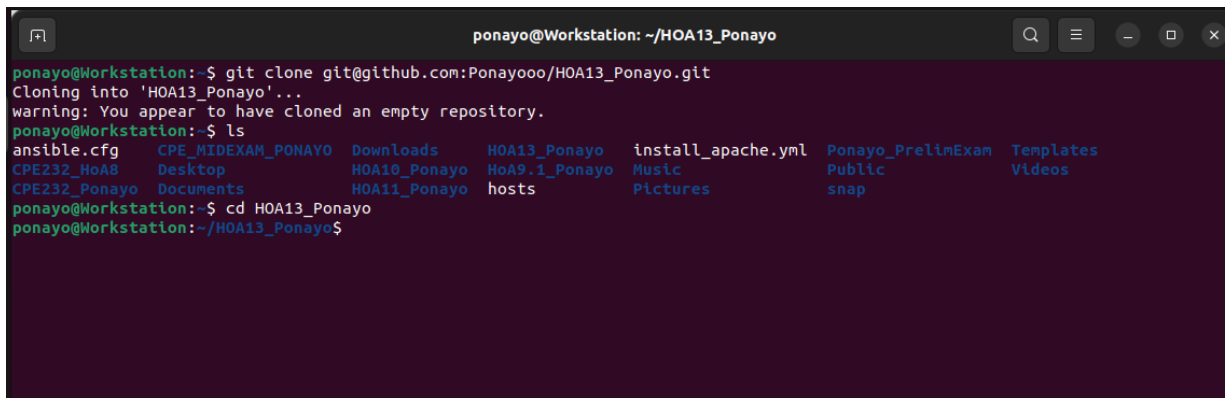
or

Get started by [creating a new file](#) or [uploading an existing file](#). We recommend every repository include a [README](#), [LICENSE](#), and [.gitignore](#).

...or create a new repository on the command line

```
echo "# HOA13_Ponayo" >> README.md
git init
git add README.md
git commit -m "first commit"
git branch -M main
```

2.



The screenshot shows a terminal window with the prompt 'ponayo@Workstation: ~/HOA13_Ponayo'. The user has run the command 'git clone git@github.com:Ponayooo/HOA13_Ponayo.git', which has successfully cloned the repository. The terminal output shows the cloning process, a warning about cloning an empty repository, and the contents of the directory after cloning. The directory listing shows various files and folders, including 'ansible.cfg', 'CPE_MIDEXAM_PONAYO', 'Downloads', 'HOA13_Ponayo', 'install_apache.yml', 'Ponayo_PrelimExam', 'Templates', 'CPE232_HoA8', 'Desktop', 'HOA10_Ponayo', 'HOA9.1_Ponayo', 'Music', 'Public', 'Videos', 'CPE232_Ponayo', 'Documents', 'HOA11_Ponayo', 'hosts', 'Pictures', 'snap', and 'snap'.

```
ponayo@Workstation: ~/HOA13_Ponayo
ponayo@Workstation:~$ git clone git@github.com:Ponayooo/HOA13_Ponayo.git
Cloning into 'HOA13_Ponayo'...
warning: You appear to have cloned an empty repository.
ponayo@Workstation:~$ ls
ansible.cfg  CPE_MIDEXAM_PONAYO  Downloads  HOA13_Ponayo  install_apache.yml  Ponayo_PrelimExam  Templates
CPE232_HoA8  Desktop            HOA10_Ponayo  HOA9.1_Ponayo  Music              Public              Videos
CPE232_Ponayo  Documents          HOA11_Ponayo  hosts          Pictures           snap
ponayo@Workstation:~$ cd HOA13_Ponayo
ponayo@Workstation:~/HOA13_Ponayo$
```

a. NTP

The terminal window shows the configuration of an NTP role in a YAML file. The configuration includes installing the NTP package and enabling the service.

```
---
- name: install NTP
  apt:
    name: ntp
    state: present

- name: run and enable ntp
  service:
    name: ntp
    state: restarted
    enabled: yes
```

The Windows System Information window displays the following details:

- Current Date/Time: Saturday, December 2, 2023, 7:54:11 PM
- Computer Name: DESKTOP-3AE31QN
- Operating System: Windows 10 Pro 64-bit (10.0, Build 19045)
- Language: English (Regional Setting: English)
- System Manufacturer: Gigabyte Technology Co., Ltd.
- System Model: B450 AORUS M
- BIOS: F50
- Processor: AMD Ryzen 5 2600 Six-Core Processor (12 CPUs), ~3.4GHz
- Memory: 24576MB RAM
- Page file: 16877MB used, 11230MB available
- DirectX Version: DirectX 12

b. OpenStack Package

The terminal window shows the configuration of an OpenStack role in a YAML file. The configuration includes installing OpenStack packages and enabling the service.

```
---
- name: install OpenStack packages
  apt:
    name: "{{ item }}"
    state: present
  loop:
    - nova-compute
    - python3-openstackclient
  become_method: sudo
```

The Windows System Information window displays the following details:

- Current Date/Time: Saturday, December 2, 2023, 7:54:11 PM
- Computer Name: DESKTOP-3AE31QN
- Operating System: Windows 10 Pro 64-bit (10.0, Build 19045)
- Language: English (Regional Setting: English)
- System Manufacturer: Gigabyte Technology Co., Ltd.
- System Model: B450 AORUS M
- BIOS: F50
- Processor: AMD Ryzen 5 2600 Six-Core Processor (12 CPUs), ~3.4GHz
- Memory: 24576MB RAM
- Page file: 16877MB used, 11230MB available
- DirectX Version: DirectX 12

c. MySQL Database

```
ponayo@Workstation: ~/roles/SQLdb/SQLdb
GNU nano 6.2 main.yml *
---
- name: install mariadb server
  apt:
    name: mariadb-server
    state: present

- name: install mysql
  apt:
    name: python3-pymysql
    state: present

- name: start Mariadb
  service:
    name: mariadb
    state: started
    enabled: yes
    become: true

- name: restart mysql
  systemd:
    name: mysql
    state: restarted
    enabled: yes
    become: true

^G Help ^O Write Out ^W Where Is ^K Cut ^T Execute ^C Location M-U Undo M-A Set Mark
```

DirectIX Diagnostic Tool

System | Display 1 | Display 2 | Sound 1 | Sound 2 | Sound 3 | Input

This tool reports detailed information about the DirectX components and drivers installed on your system.

If you know what area is causing the problem, click the appropriate tab above. Otherwise, you can use the "Next Page" button to visit each page in sequence.

System Information

Current Date/Time: Saturday, December 2, 2023, 7:54:11 PM
Computer Name: DESKTOP-3AE31QN
Operating System: Windows 10 Pro 64-bit (10.0, Build 19045)
Language: English (Regional Setting: English)
System Manufacturer: Gigabyte Technology Co., Ltd.
System Model: B450 AORUS M
BIOS: F50
Processor: AMD Ryzen 5 2600 Six-Core Processor (12 CPUs), ~3.4GHz
Memory: 24576MB RAM
Page file: 16877MB used, 11230MB available
DirectX Version: DirectX 12

☐ Check for WHQL digital signatures

DxDiag 10.00.19041.3636 64-bit Unicode Copyright © Microsoft. All rights reserved.

Help Next Page Save All Information...

d. Message Queue

```
ponayo@Workstation: ~/roles/msgQ/tasks
GNU nano 6.2 main.yml *
---
- name: install msgQueue
  apt:
    name: rabbitmq-server
    state: present
```

DirectIX Diagnostic Tool

System | Display 1 | Display 2 | Sound 1 | Sound 2 | Sound 3 | Input

This tool reports detailed information about the DirectX components and drivers installed on your system.

If you know what area is causing the problem, click the appropriate tab above. Otherwise, you can use the "Next Page" button to visit each page in sequence.

System Information

Current Date/Time: Saturday, December 2, 2023, 7:54:11 PM
Computer Name: DESKTOP-3AE31QN
Operating System: Windows 10 Pro 64-bit (10.0, Build 19045)
Language: English (Regional Setting: English)
System Manufacturer: Gigabyte Technology Co., Ltd.
System Model: B450 AORUS M
BIOS: F50
Processor: AMD Ryzen 5 2600 Six-Core Processor (12 CPUs), ~3.4GHz
Memory: 24576MB RAM
Page file: 16877MB used, 11230MB available
DirectX Version: DirectX 12

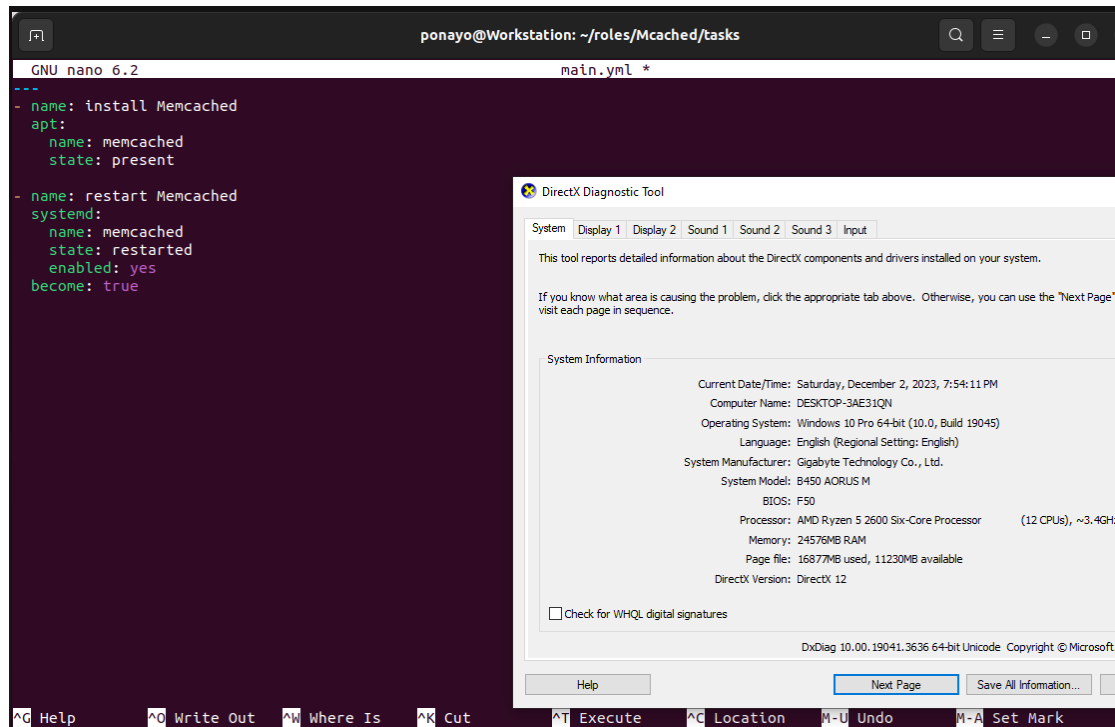
☐ Check for WHQL digital signatures

DxDiag 10.00.19041.3636 64-bit Unicode Copyright © Microsoft. All rights reserved.

Help Next Page Save All Information... Exit

^G Help ^O Write Out ^W Where Is ^K Cut ^T Execute ^C Location M-U Undo M-A Set Mark
^X Exit ^R Read File ^M Replace ^U Paste ^D Justify ^J Go To Line M-E Redo M-6 Copy

e. Memcached



```
ponayo@Workstation: ~/roles/Mcached/tasks
GNU nano 6.2 main.yml *
---
- name: install Memcached
  apt:
    name: memcached
    state: present

- name: restart Memcached
  systemd:
    name: memcached
    state: restarted
    enabled: yes
    become: true
```

Direct Diagnostic Tool

System | Display 1 | Display 2 | Sound 1 | Sound 2 | Sound 3 | Input

This tool reports detailed information about the DirectX components and drivers installed on your system.

If you know what area is causing the problem, click the appropriate tab above. Otherwise, you can use the "Next Page" button to visit each page in sequence.

System Information

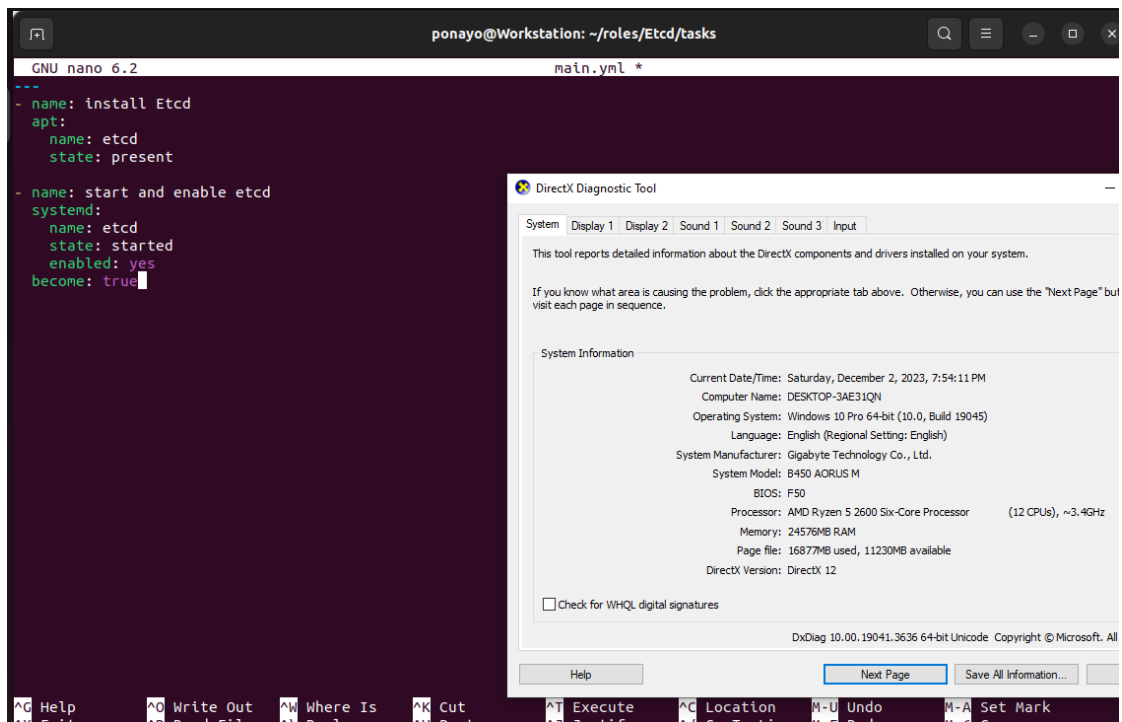
Current Date/Time: Saturday, December 2, 2023, 7:54:11 PM
Computer Name: DESKTOP-3AE31QN
Operating System: Windows 10 Pro 64-bit (10.0, Build 19045)
Language: English (Regional Setting: English)
System Manufacturer: Gigabyte Technology Co., Ltd.
System Model: B450 AORUS M
BIOS: F50
Processor: AMD Ryzen 5 2600 Six-Core Processor (12 CPUs), ~3.4GHz
Memory: 24576MB RAM
Page file: 16877MB used, 11230MB available
DirectX Version: DirectX 12

☐ Check for WHQL digital signatures

Dxdiag 10.00.19041.3636 64-bit Unicode Copyright © Microsoft.

Help Next Page Save All Information...

f. Etcd



```
ponayo@Workstation: ~/roles/Etcd/tasks
GNU nano 6.2 main.yml *
---
- name: install Etcd
  apt:
    name: etcd
    state: present

- name: start and enable etcd
  systemd:
    name: etcd
    state: started
    enabled: yes
    become: true
```

Direct Diagnostic Tool

System | Display 1 | Display 2 | Sound 1 | Sound 2 | Sound 3 | Input

This tool reports detailed information about the DirectX components and drivers installed on your system.

If you know what area is causing the problem, click the appropriate tab above. Otherwise, you can use the "Next Page" button to visit each page in sequence.

System Information

Current Date/Time: Saturday, December 2, 2023, 7:54:11 PM
Computer Name: DESKTOP-3AE31QN
Operating System: Windows 10 Pro 64-bit (10.0, Build 19045)
Language: English (Regional Setting: English)
System Manufacturer: Gigabyte Technology Co., Ltd.
System Model: B450 AORUS M
BIOS: F50
Processor: AMD Ryzen 5 2600 Six-Core Processor (12 CPUs), ~3.4GHz
Memory: 24576MB RAM
Page file: 16877MB used, 11230MB available
DirectX Version: DirectX 12

☐ Check for WHQL digital signatures

Dxdiag 10.00.19041.3636 64-bit Unicode Copyright © Microsoft. All

Help Next Page Save All Information...

g. Creating different config.yml and inventory that installs per server type

The terminal window shows the creation of a `config.yml` file using `GNU nano 6.2`. The file content is as follows:

```
---
- hosts: all
  become: true
  pre_tasks:
    - name: update ubuntu cache
      apt:
        update_cache: yes
        when: ansible_distribution == "Ubuntu"
- hosts: all
  become: true
  roles:
    - NTP
    - Opens
    - SQLdb
    - msgQ
    - Mcached
    - Etcid
```

The DirectX Diagnostic Tool window is open, showing system information:

- Current Date/Time: Saturday, December 2, 2023, 7:54:11 PM
- Computer Name: DESKTOP-3AE31QN
- Operating System: Windows 10 Pro 64-bit (10.0, Build 19045)
- Language: English (Regional Settings: English)
- System Manufacturer: Gigabyte Technology Co., Ltd.
- System Model: B450 AORUS M
- BIOS: F50
- Processor: AMD Ryzen 5 2600 Six-Core Processor (12 CPUs), ~3.4GHz
- Memory: 24576MB RAM
- Page file: 16877MB used, 11230MB available
- DirectX Version: DirectX 12

Buttons at the bottom: Help, Next Page, Save All Information...

The terminal window shows the creation of an `inventory` file using `GNU nano 6.2`. The file content is as follows:

```
[controller]
192.168.56.114

[compute]
192.168.56.114
```

The DirectX Diagnostic Tool window is open, showing system information:

- Current Date/Time: Saturday, December 2, 2023, 7:54:11 PM
- Computer Name: DESKTOP-3AE31QN
- Operating System: Windows 10 Pro 64-bit (10.0, Build 19045)
- Language: English (Regional Settings: English)
- System Manufacturer: Gigabyte Technology Co., Ltd.
- System Model: B450 AORUS M
- BIOS: F50
- Processor: AMD Ryzen 5 2600 Six-Core Processor (12 CPUs), ~3.4GHz
- Memory: 24576MB RAM
- Page file: 16877MB used, 11230MB available
- DirectX Version: DirectX 12

Buttons at the bottom: Help, Next Page, Save All Information...

tree

```
ponayo@Workstation:~/H0A13_Ponayo$ tree
.
├── config.yml
├── inventory
├── roles
│   ├── Etcd
│   │   └── tasks
│   │       └── main.yml
│   ├── Mcached
│   │   └── tasks
│   │       └── main.yml
│   ├── msgQ
│   │   └── tasks
│   │       └── main.yml
│   ├── NTP
│   │   └── tasks
│   │       └── main.yml
│   ├── OpenS
│   │   └── tasks
│   │       └── main.yml
│   └── SQLdb
│       └── tasks
│           └── main.yml
└── 13 directories, 8 files
ponayo@Workstation:~/H0A13_Ponayo$
```

DirectX Diagnostic Tool

System | Display 1 | Display 2 | Sound 1 | Sound 2 | Sound 3 | Input

This tool reports detailed information about the DirectX components and drivers installed on your system.

If you know what area is causing the problem, click the appropriate tab above. Otherwise, you can use the "Next Page" button to visit each page in sequence.

System Information

Current Date/Time: Saturday, December 2, 2023, 7:54:11 PM
Computer Name: DESKTOP-3AE31QN
Operating System: Windows 10 Pro 64-bit (10.0, Build 19045)
Language: English (Regional Setting: English)
System Manufacturer: Gigabyte Technology Co., Ltd.
System Model: B450 AORUS M
BIOS: F50
Processor: AMD Ryzen 5 2600 Six-Core Processor (12 CPUs), ~3.4G
Memory: 24576MB RAM
Page file: 16877MB used, 11230MB available
DirectX Version: DirectX 12

☐ Check for WHQL digital signatures

Dxdiag 10.00.19041.3636 64-bit Unicode Copyright © Microsoft

Help Next Page Save All Information...

Running the playbook

```
ponayo@Workstation:~/H0A13_Ponayo$ ansible-playbook -i inventory --ask-become-pass config.yml
BECOME password:

PLAY [all] *****

TASK [Gathering Facts] *****
ok: [192.168.56.114]

TASK [update ubuntu cache] *****
changed: [192.168.56.114]

PLAY [all] *****

TASK [Gathering Facts] *****
ok: [192.168.56.114]

TASK [NTP : install ntp] *****
changed: [192.168.56.114]

TASK [NTP : run and enable ntp] *****
changed: [192.168.56.114]

TASK [OpenS : install OpenStack packages] *****
changed: [192.168.56.114] => (item=nova-compute)
changed: [192.168.56.114] => (item=python3-openstackclient)

TASK [SQLdb : install mariadb server] *****
changed: [192.168.56.114]

TASK [SQLdb : install mysql] *****
ok: [192.168.56.114]

TASK [SQLdb : start Mariadb] *****
ok: [192.168.56.114]

TASK [SQLdb : restart mysql] *****
changed: [192.168.56.114]
```

DirectX Diagnostic Tool

System | Display 1 | Display 2 | Sound 1 | Sound 2 | Sound 3 | Input

This tool reports detailed information about the DirectX components and drivers installed on your system.

If you know what area is causing the problem, click the appropriate tab above. Otherwise, you can use the "Next Page" button to visit each page in sequence.

System Information

Current Date/Time: Saturday, December 2, 2023, 7:54:11 PM
Computer Name: DESKTOP-3AE31QN
Operating System: Windows 10 Pro 64-bit (10.0, Build 19045)
Language: English (Regional Setting: English)
System Manufacturer: Gigabyte Technology Co., Ltd.
System Model: B450 AORUS M
BIOS: F50
Processor: AMD Ryzen 5 2600 Six-Core Processor (12 CPUs), ~3.4G
Memory: 24576MB RAM
Page file: 16877MB used, 11230MB available
DirectX Version: DirectX 12

☐ Check for WHQL digital signatures

Dxdiag 10.00.19041.3636 64-bit Unicode Copyright © Microsoft

Help Next Page Save All Information...

```
ponayo@Workstation: ~/HOA13_Ponayo

TASK [NTP : run and enable ntp] *****
changed: [192.168.56.114]

TASK [OpenS : install OpenStack packages] *****
changed: [192.168.56.114] => (item=nova-compute)
changed: [192.168.56.114] => (item=python3-openstackclient)

TASK [SQLdb : install mariadb server] *****
changed: [192.168.56.114]

TASK [SQLdb : install mysql] *****
ok: [192.168.56.114]

TASK [SQLdb : start Mariadb] *****
ok: [192.168.56.114]

TASK [SQLdb : restart mysql] *****
changed: [192.168.56.114]

TASK [msgQ : install msgQueue] *****
changed: [192.168.56.114]

TASK [Mcached : install Memcached] *****
changed: [192.168.56.114]

TASK [Mcached : restart Memcached] *****
changed: [192.168.56.114]

TASK [Etcd : install Etcd] *****
changed: [192.168.56.114]

TASK [Etcd : start and enable etcd] *****
ok: [192.168.56.114]

PLAY RECAP *****
192.168.56.114 : ok=15 changed=10 unreachable=0 failed=0 skipped=0 rescued=0 ignored=0

ponayo@Workstation:~/HOA13_Ponayo$
```

DirectX Diagnostic Tool

System | Display 1 | Display 2 | Sound 1 | Sound 2 | Sound 3 | Input

This tool reports detailed information about the DirectX components and drivers installed on your system.

If you know what area is causing the problem, click the appropriate tab above. Otherwise, you can use the "Next Page" button to visit each page in sequence.

System Information

Current Date/Time: Saturday, December 2, 2023, 7:54:11 PM
Computer Name: DESKTOP-3AE31QN
Operating System: Windows 10 Pro 64-bit (10.0, Build 19045)
Language: English (Regional Setting: English)
System Manufacturer: Gigabyte Technology Co., Ltd.
System Model: B450 AORUS M
BIOS: F50
Processor: AMD Ryzen 5 2600 Six-Core Processor (12 CPUs), ~3.4GHz
Memory: 24576MB RAM
Page file: 16877MB used, 11230MB available
DirectX Version: DirectX 12

☐ Check for WHQL digital signatures

DxDiag 10.00.19041.3636 64-bit Unicode Copyright © Microsoft

Help Next Page Save All Information...

Verifying the NTP

```
ponayo@Workstation: ~

ponayo@Workstation:~$ systemctl status ntp
● ntp.service - Network Time Service
   Loaded: loaded (/lib/systemd/system/ntp.service; enabled; vendor preset: enabled)
   Active: active (running) since Sat 2023-12-02 21:24:46 CST; 48min ago
     Docs: man:ntpd(8)
    Main PID: 3266 (ntpd)
      Tasks: 2 (limit: 2261)
     Memory: 1.6M
        CPU: 391ms
    CGroup: /system.slice/ntp.service
            └─3266 /usr/sbin/ntpd -p /var/run/ntpd.pid

ponayo@Workstation:~$
```

DirectX Diagnostic Tool

System | Display 1 | Display 2 | Sound 1 | Sound 2 | Sound 3 | Input

This tool reports detailed information about the DirectX components and drivers installed on your system.

If you know what area is causing the problem, click the appropriate tab above. Otherwise, you can use the "Next Page" button to visit each page in sequence.

System Information

Current Date/Time: Saturday, December 2, 2023, 7:54:11 PM
Computer Name: DESKTOP-3AE31QN
Operating System: Windows 10 Pro 64-bit (10.0, Build 19045)
Language: English (Regional Setting: English)
System Manufacturer: Gigabyte Technology Co., Ltd.
System Model: B450 AORUS M
BIOS: F50
Processor: AMD Ryzen 5 2600 Six-Core Processor (12 CPUs), ~3.4GHz
Memory: 24576MB RAM
Page file: 16877MB used, 11230MB available
DirectX Version: DirectX 12

☐ Check for WHQL digital signatures

DxDiag 10.00.19041.3636 64-bit Unicode Copyright © Microsoft. All rights reserved.

Help Next Page Save All Information... Exit

Verifying the Openstack

```
ponayo@Workstation:~$ sudo systemctl status nova-compute
● nova-compute.service - OpenStack Compute
   Loaded: loaded (/lib/systemd/system/nova-compute.service; enabled; vendor preset: enabled)
   Active: active (running) since Sat 2023-12-02 21:29:57 CST; 7min ago
     Main PID: 16641 (nova-compute)
       Tasks: 2 (limit: 2261)
      Memory: 97.0M
         CPU: 3.351s
    CGroup: /system.slice/nova-compute.service
            └─16641 /usr/bin/python3 /usr/bin/nova-compute --config-file /etc/nova/nova.conf

Dec 02 21:29:57 Workstation systemd[1]: Started OpenStack Compute.
Dec 02 21:30:12 Workstation nova-compute[16641]: Modules with known event hooks:
lines 1-12/12 (END)
```

This tool reports detailed information about the DirectX components and drivers installed on your system.

If you know what area is causing the problem, click the appropriate tab above. Otherwise, you can use the "Next Page" button to visit each page in sequence.

System Information

Current Date/Time:	Saturday, December 2, 2023, 7:54:11 PM
Computer Name:	DESKTOP-3AE31QN
Operating System:	Windows 10 Pro 64-bit (10.0, Build 19045)
Language:	English (Regional Setting: English)
System Manufacturer:	Gigabyte Technology Co., Ltd.
System Model:	B450 AORUS M
BIOS:	F50
Processor:	AMD Ryzen 5 2600 Six-Core Processor (12 CPUs), ~3.4
Memory:	24576MB RAM
Page file:	16877MB used, 11230MB available
DirectX Version:	DirectX 12

Verifying the Mysql

```
ponayo@Workstation:~$ sudo systemctl status mysql
● mariadb.service - MariaDB 10.6.12 database server
   Loaded: loaded (/lib/systemd/system/mariadb.service; enabled; vendor preset: enabled)
   Active: active (running) since Sat 2023-12-02 21:31:20 CST; 7min ago
     Docs: man:mariadb(8)
           https://mariadb.com/kb/en/library/systemd/
     Main PID: 17585 (mariadb)
    Status: "Taking your SQL requests now..."
       Tasks: 8 (limit: 2261)
      Memory: 57.1M
         CPU: 599ms
    CGroup: /system.slice/mariadb.service
            └─17585 /usr/sbin/mariadb

Dec 02 21:31:20 Workstation mariadb[17585]: 2023-12-02 21:31:20 0 [Note]
Dec 02 21:31:20 Workstation mariadb[17585]: Version: '10.6.12-MariaDB-0
Dec 02 21:31:20 Workstation systemd[1]: Started MariaDB 10.6.12 database
Dec 02 21:31:20 Workstation /etc/mysql/debian-start[17605]: Looking for
Dec 02 21:31:20 Workstation /etc/mysql/debian-start[17605]: This installa
Dec 02 21:31:20 Workstation /etc/mysql/debian-start[17605]: There is no r
Dec 02 21:31:20 Workstation /etc/mysql/debian-start[17605]: You can use
Dec 02 21:31:20 Workstation /etc/mysql/debian-start[17613]: Checking for
Dec 02 21:31:20 Workstation /etc/mysql/debian-start[17618]: Triggering my
lines 1-23/23 (END)
```

DirectX Diagnostic Tool

System | Display 1 | Display 2 | Sound 1 | Sound 2 | Sound 3 | Input

This tool reports detailed information about the DirectX components and drivers installed on your system.

If you know what area is causing the problem, click the appropriate tab above. Otherwise, you can use the "Next Page" button to visit each page in sequence.

System Information

Current Date/Time:	Saturday, December 2, 2023, 7:54:11 PM
Computer Name:	DESKTOP-3AE31QN
Operating System:	Windows 10 Pro 64-bit (10.0, Build 19045)
Language:	English (Regional Setting: English)
System Manufacturer:	Gigabyte Technology Co., Ltd.
System Model:	B450 AORUS M
BIOS:	F50
Processor:	AMD Ryzen 5 2600 Six-Core Processor (12 CPUs), ~3
Memory:	24576MB RAM
Page file:	16877MB used, 11230MB available
DirectX Version:	DirectX 12

☐ Check for WHQL digital signatures

Verifying the Message

```
ponayo@Workstation:~$ sudo systemctl status rabbitmq-server
● rabbitmq-server.service - RabbitMQ Messaging Server
   Loaded: loaded (/lib/systemd/system/rabbitmq-server.service; enabled; vendor preset: enabled)
   Active: active (running) since Sat 2023-12-02 21:32:02 CST; 7min ago
     Main PID: 18016 (beam.smp)
       Tasks: 23 (limit: 2261)
      Memory: 81.5M
         CPU: 9.975s
    CGroup: /system.slice/rabbitmq-server.service
            └─18016 /usr/lib/erlang/erts-12.2.1/bin/beam.smp -W w -MB
              └─18027 erl_child_setup 65536
                └─18078 inet_gethost 4
                  └─18079 inet_gethost 4

Dec 02 21:31:54 Workstation systemd[1]: Starting RabbitMQ Messaging Se
Dec 02 21:32:02 Workstation systemd[1]: Started RabbitMQ Messaging Ser
lines 1-15/15 (END)
```

System | Display 1 | Display 2 | Sound 1 | Sound 2 | Sound 3 | Input

This tool reports detailed information about the DirectX components and drivers installed on your system.

If you know what area is causing the problem, click the appropriate tab above. Otherwise, you can use the "Next Page" button to visit each page in sequence.

System Information

Current Date/Time:	Saturday, December 2, 2023, 7:54:11 PM
Computer Name:	DESKTOP-3AE31QN
Operating System:	Windows 10 Pro 64-bit (10.0, Build 19045)
Language:	English (Regional Setting: English)
System Manufacturer:	Gigabyte Technology Co., Ltd.
System Model:	B450 AORUS M
BIOS:	F50
Processor:	AMD Ryzen 5 2600 Six-Core Processor (12 CPUs), ~3.4GH
Memory:	24576MB RAM
Page file:	16877MB used, 11230MB available
DirectX Version:	DirectX 12

Verifying the Memcached

```
ponayo@Workstation:~$ sudo systemctl status memcached
● memcached.service - memcached daemon
   Loaded: loaded (/lib/systemd/system/memcached.service; enabled; vendor preset: enabled)
   Active: active (running) since Sat 2023-12-02 21:32:14 CST; 8min
     Docs: man:memcached(1)
    Main PID: 18386 (memcached)
      Tasks: 10 (limit: 2261)
     Memory: 2.0M
        CPU: 145ms
    CGroup: /system.slice/memcached.service
            └─18386 /usr/bin/memcached -m 64 -p 11211 -u memcache -l

Dec 02 21:32:14 Workstation systemd[1]: Started memcached daemon.
ponayo@Workstation:~$
```

If you know what area is causing the problem, click the appropriate tab above. Otherwise, you can use the "Next Page" button to visit each page in sequence.

System Information

Current Date/Time: Saturday, December 2, 2023, 7:54:11 PM
Computer Name: DESKTOP-3AE31QN
Operating System: Windows 10 Pro 64-bit (10.0, Build 19045)
Language: English (Regional Setting: English)
System Manufacturer: Gigabyte Technology Co., Ltd.
System Model: B450 AORUS M
BIOS: F50
Processor: AMD Ryzen 5 2600 Six-Core Processor (12 CPUs), ~3.4GHz
Memory: 24576MB RAM
Page file: 16877MB used, 11230MB available
DirectX Version: DirectX 12

Verifying the Etc

```
ponayo@Workstation:~$ sudo systemctl status etcd
● etcd.service - etcd - highly-available key value store
   Loaded: loaded (/lib/systemd/system/etcd.service; enabled; vendor preset: enabled)
   Active: active (running) since Sat 2023-12-02 21:32:37 CST; 8min ago
     Docs: https://etcd.io/docs
    Main PID: 18592 (etcd)
      Tasks: 8 (limit: 2261)
     Memory: 10.0M
        CPU: 3.138s
    CGroup: /system.slice/etcd.service
            └─18592 /usr/bin/etcd

Dec 02 21:32:36 Workstation etcd[18592]: 8e9e05c52164694d became leader
Dec 02 21:32:36 Workstation etcd[18592]: raft.node: 8e9e05c52164694d elected leader 8e9e05c52164694d
Dec 02 21:32:37 Workstation etcd[18592]: request "ID:75878750623445278" published {Name:Workstation C
Dec 02 21:32:37 Workstation etcd[18592]: setting up the initial cluster
Dec 02 21:32:37 Workstation etcd[18592]: ready to serve client request
Dec 02 21:32:37 Workstation etcd[18592]: serving insecure client request from 127.0.0.1
Dec 02 21:32:37 Workstation etcd[18592]: set the initial cluster version to 3.5
Dec 02 21:32:37 Workstation etcd[18592]: enabled capabilities for version 3.5
Dec 02 21:32:37 Workstation systemd[1]: Started etcd - highly-available key value store.
ponayo@Workstation:~$
```

DirectX Diagnostic Tool

System Display 1 Display 2 Sound 1 Sound 2 Sound 3 Input

This tool reports detailed information about the DirectX components and drivers installed on your system.

If you know what area is causing the problem, click the appropriate tab above. Otherwise, you can use the "Next Page" button to visit each page in sequence.

System Information

Current Date/Time: Saturday, December 2, 2023, 7:54:11 PM
Computer Name: DESKTOP-3AE31QN
Operating System: Windows 10 Pro 64-bit (10.0, Build 19045)
Language: English (Regional Setting: English)
System Manufacturer: Gigabyte Technology Co., Ltd.
System Model: B450 AORUS M
BIOS: F50
Processor: AMD Ryzen 5 2600 Six-Core Processor (12 CPUs), ~3.4GHz
Memory: 24576MB RAM
Page file: 16877MB used, 11230MB available
DirectX Version: DirectX 12

h. Git pushing the file in Github

```
ponayo@Workstation:~/HOA13_Ponayo$ git add *
ponayo@Workstation:~/HOA13_Ponayo$ ls
config.yml inventory roles
ponayo@Workstation:~/HOA13_Ponayo$ git commit -m "Hands On Activity 13"
[main (root-commit) 8915306] Hands On Activity 13
 8 files changed, 99 insertions(+)
 create mode 100644 config.yml
 create mode 100644 inventory
 create mode 100644 roles/Etcd/tasks/main.yml
 create mode 100644 roles/Mcached/tasks/main.yml
 create mode 100644 roles/NTP/tasks/main.yml
 create mode 100644 roles/OpenS/tasks/main.yml
 create mode 100644 roles/SQLdb/tasks/main.yml
 create mode 100644 roles/msgQ/tasks/main.yml
ponayo@Workstation:~/HOA13_Ponayo$ git push origin main
Enumerating objects: 23, done.
Counting objects: 100% (23/23), done.
Delta compression using up to 2 threads
Compressing objects: 100% (11/11), done.
Writing objects: 100% (23/23), 1.85 KiB | 472.00 KiB/s, done.
Total 23 (delta 0), reused 0 (delta 0), pack-reused 0
To github.com:Ponayooo/HOA13_Ponayo.git
 * [new branch]      main -> main
ponayo@Workstation:~/HOA13_Ponayo$
```

DirectX Diagnostic Tool

System Display 1 Display 2 Sound 1 Sound 2 Sound 3 Input

This tool reports detailed information about the DirectX components and drivers installed on your system.

If you know what area is causing the problem, click the appropriate tab above. Otherwise, you can use the "Next Page" button to visit each page in sequence.

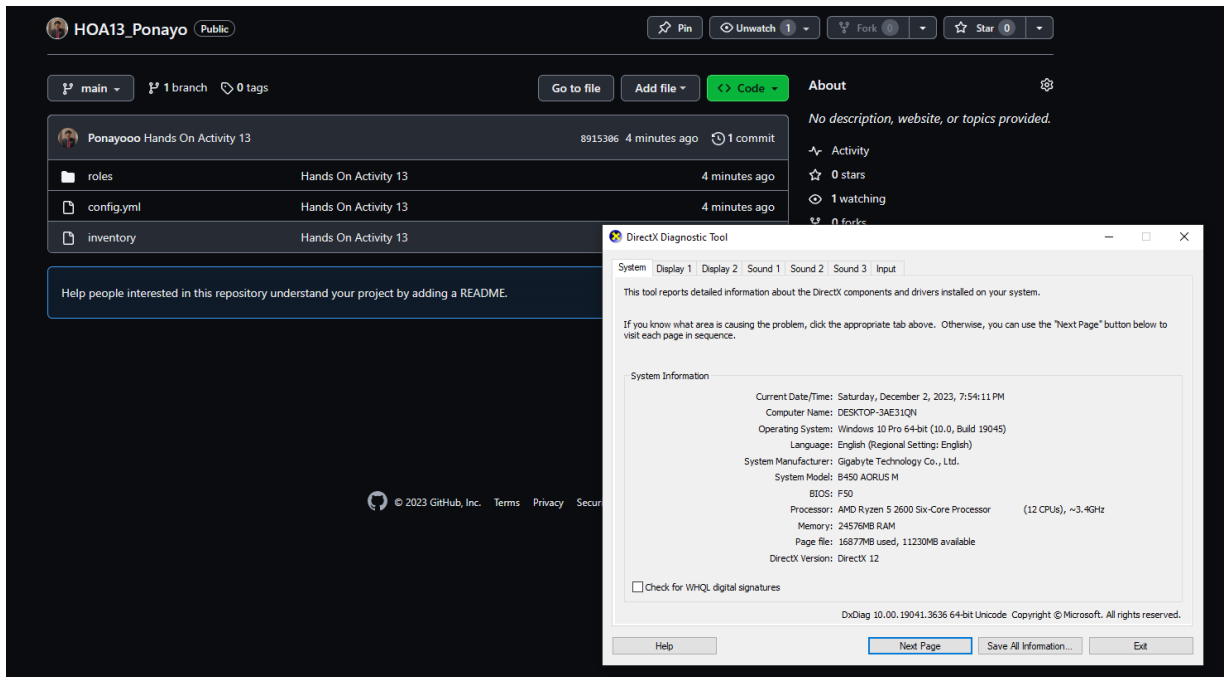
System Information

Current Date/Time: Saturday, December 2, 2023, 7:54:11 PM
Computer Name: DESKTOP-3AE31QN
Operating System: Windows 10 Pro 64-bit (10.0, Build 19045)
Language: English (Regional Setting: English)
System Manufacturer: Gigabyte Technology Co., Ltd.
System Model: B450 AORUS M
BIOS: F50
Processor: AMD Ryzen 5 2600 Six-Core Processor (12 CPUs), ~3.4GHz
Memory: 24576MB RAM
Page file: 16877MB used, 11230MB available
DirectX Version: DirectX 12

☐ Check for WHQL digital signatures

DxDiag 10.00.19041.3636 64-bit Unicode Copyright © Microsoft

Verifying that the git push is Successful



Reflections:

Answer the following:

1. What are the benefits of implementing OpenStack?

- By implementing Openstack it has a lot of benefits. It gives scalability, scalability has always been a key component of cloud hosting and for hosting in general. People need to be able to increase the amount of resources that they have access to so that they can meet rising demand from customers and website visitors. It also gives us an easy automation, OpenStack is particularly powerful because of the ease with which you can automate tasks, and its automation is one of its key selling points when compared to other options. The software comes with inbuilt tools that make cloud management much, much easier.

Conclusions:

In conclusion, the installation process is significantly improved by using Ansible playbooks to install OpenStack. It improves efficiency, consistency, and manageability. Ansible can be a powerful automation tool which provides a systematic and repeatable way to speed up the complex process of creating an OpenStack infrastructure. The installation becomes modular with the help of a well-written playbook, which makes it simple to customize and adapt to various contexts. Using Ansible playbooks to deploy OpenStack improves workflow overall by encouraging automation, dependability, and teamwork. This streamlined procedure not only makes the initial deployment easier, but it also lays the groundwork for future OpenStack environment changes, scalability, and effective management.