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Course/Section: CPE31S5	Date Submitted: 17/10/2023
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Activity 7: Managing Files and Creating Roles in Ansible

1. Objectives:

- 1.1 Manage files in remote servers
- 1.2 Implement roles in ansible

2. Discussion:

In this activity, we look at the concept of copying a file to a server. We are going to create a file into our git repository and use Ansible to grab that file and put it into a particular place so that we could do things like customize a default website, or maybe install a default configuration file. We will also implement roles to consolidate plays.

Task 1: Create a file and copy it to remote servers

1. Using the previous directory we created, create a directory, and named it “*files*.” Create a file inside that directory and name it “*default_site.html*.” Edit the file and put basic HTML syntax. Any content will do, as long as it will display text later. Save the file and exit.

The image is a composite of three screenshots from a Linux environment:

- Top Left (Terminal):** Shows a series of commands in a terminal window. The user creates a directory named 'files', navigates into it, and creates a file named 'default_site.html'. They then use 'nano' to edit the file. The terminal output shows the file's creation and the user's navigation through the directory structure.
- Top Right (System Information Window):** A window titled 'DirectX Diagnostic Tool' showing system information. It includes details like 'Current Date/Time: Tuesday, 17 October 2023, 2:05:21 pm', 'Computer Name: DESKTOP-BVLHQ70', 'Operating System: Windows 10 Pro 64-bit (10.0, Build 19045)', 'Language: English (Regional Setting: English)', 'System Manufacturer: EMAXX TECHNOLOGY INC', 'System Model: EMX-A70PM2-HCafe', 'BIOS: 4.6.5', 'Processor: AMD A8-7600 Radeon R7, 10 Compute Cores 4C+6G (4 CPUs), ~3.1GHz', 'Memory: 8192MB RAM', 'Page File: 11615MB used, 3921MB available', and 'DirectX Version: DirectX 12'. There is a checkbox for 'Check for WHQL digital signatures' which is checked.
- Bottom (File Editor):** A screenshot of the 'GNU nano 6.2' text editor showing the content of 'default site.html'. The file contains basic HTML syntax: `<html>`, `<head>`, `</head>`, `<body>`, `<h1>Hello World</h1>`, `<p>Hello World</p>`, `</body>`, and `</html>`.

2. Edit the *site.yml* file and just below the *web_servers* play, create a new file to copy the default html file for site:

- name: copy default html file for site
tags: apache, apache2, httpd
copy:
src: default_site.html
dest: /var/www/html/index.html
owner: root
group: root
mode: 0644

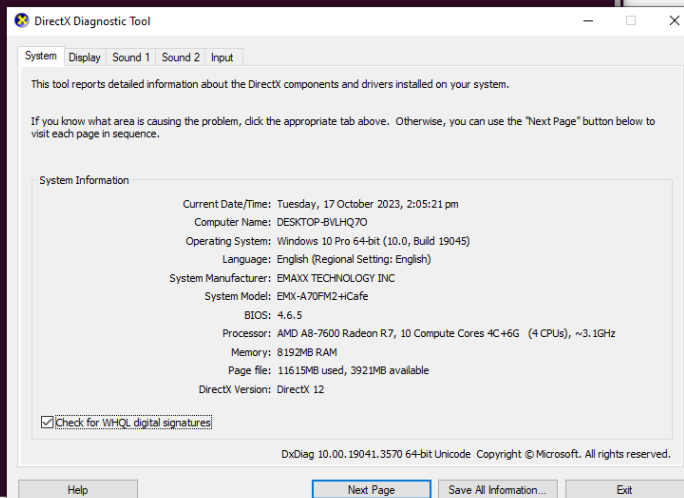
```
tags: always
apt:
  upgrade: dist
  update_cache: yes
when: ansible_distribution == "Ubuntu"

- hosts: web_servers
  become: true
  tasks:

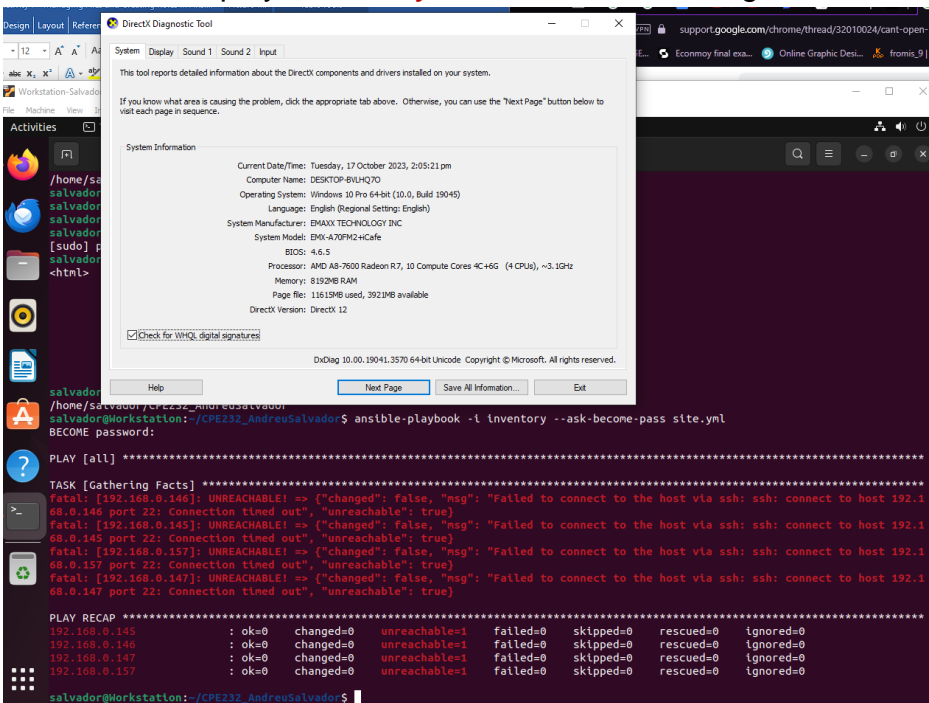
    - name: copy default html file for site
      tags: apache, apache2, httpd
      copy:
        src: default_site.html
        dest: /var/www/html/index.html
        owner: root
        group: root
        mode: 0644

    - name: install apache and php for Ubuntu servers
      tags: apache, apache2, ubuntu
      apt:
        name:
          - apache2
          - libapache2-mod-php
        state: latest
        update_cache: yes
        when: ansible_distribution == "Ubuntu"

    - name: install apache and php for CentOS servers
```



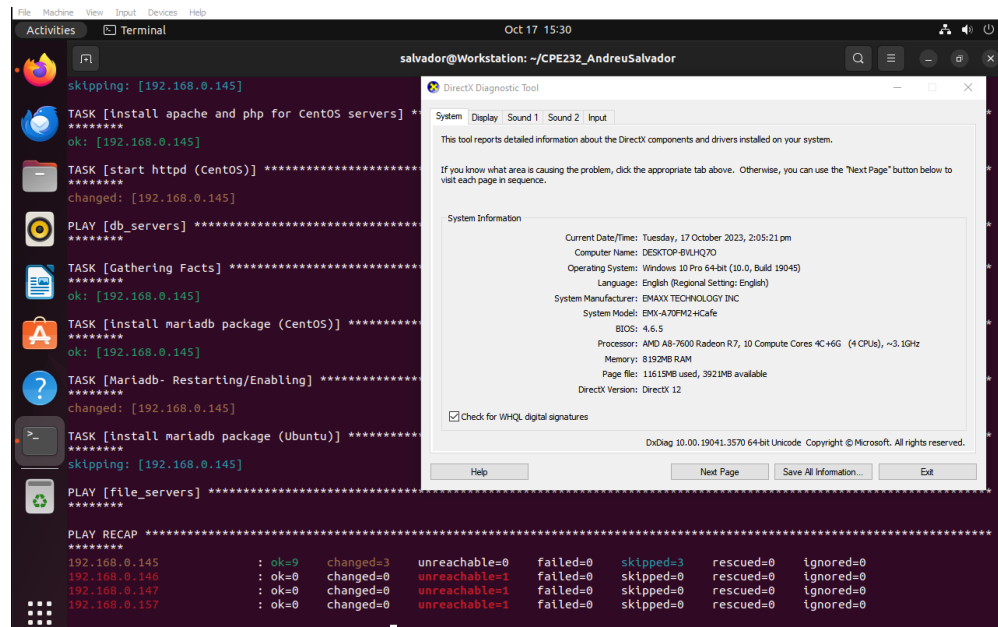
3. Run the playbook *site.yml*. Describe the changes.



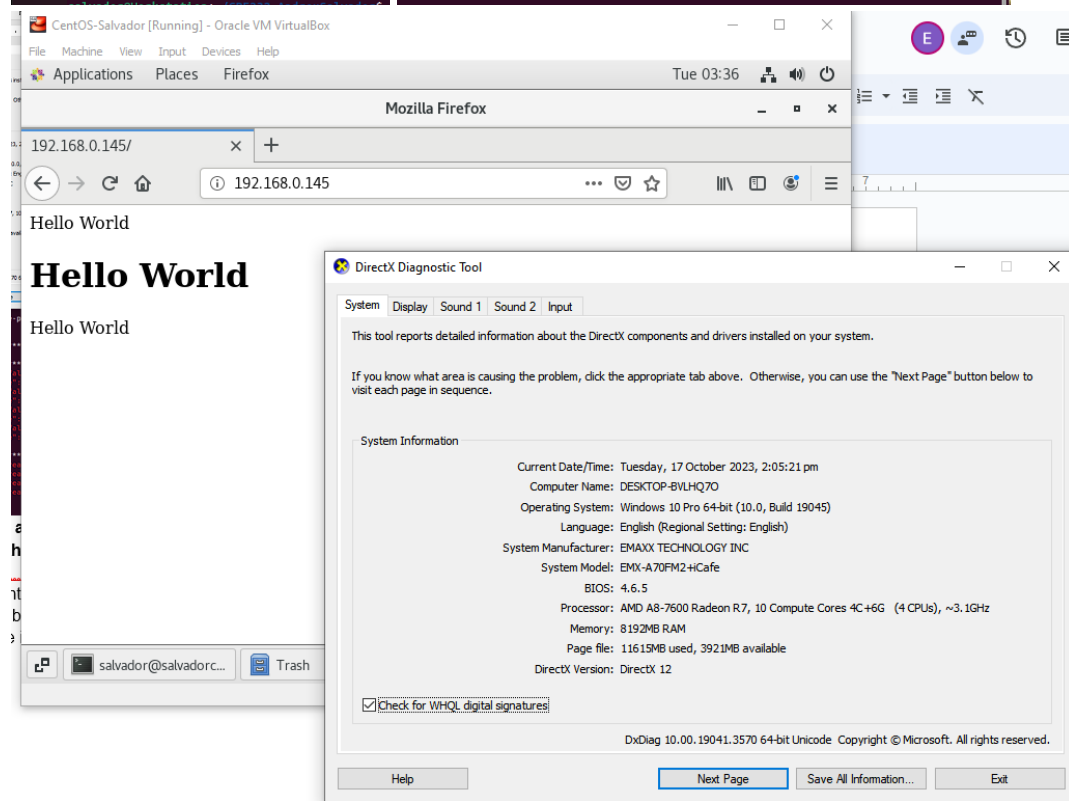
No changes occurred, since there are no server to reach due to the servers not being open prior into running the ansible playbook.

4. Go to the remote servers (*web_servers*) listed in your inventory. Use cat command to check if the index.html is the same as the local repository file (*default_site.html*). Do both for Ubuntu and CentOS servers. On the CentOS server, go to the browser and type its IP address. Describe the output.

CentOS



```
skipping: [192.168.0.145]
TASK [install apache and php for CentOS servers] *****
ok: [192.168.0.145]
TASK [start httpd (CentOS)] *****
changed: [192.168.0.145]
PLAY [db_servers] *****
TASK [Gathering Facts] *****
ok: [192.168.0.145]
TASK [install mariadb package (CentOS)] *****
ok: [192.168.0.145]
TASK [Mariadb- Restarting/Enabling] *****
changed: [192.168.0.145]
TASK [install mariadb package (Ubuntu)] *****
skipping: [192.168.0.145]
PLAY [file_servers] *****
PLAY RECAP *****
192.168.0.145      : ok=9  changed=3  unreachable=0  failed=0  skipped=3  rescued=0  ignored=0
192.168.0.146      : ok=0  changed=0  unreachable=1  failed=0  skipped=0  rescued=0  ignored=0
192.168.0.147      : ok=0  changed=0  unreachable=1  failed=0  skipped=0  rescued=0  ignored=0
192.168.0.157      : ok=0  changed=0  unreachable=1  failed=0  skipped=0  rescued=0  ignored=0
```



I wrote a basic html code wherein text would be printed in the body and header of the html. After the playbook initiate the tasks written inside, I accessed html file that was copied in the CentOS server via its ip address. In the screenshot above, it shows that what was written inside the default_site.html file was the same as what appeared when I accessed the site through the CentOS server.

Server2:192.168.0.147

The image is a composite of several screenshots related to a system configuration and testing process.

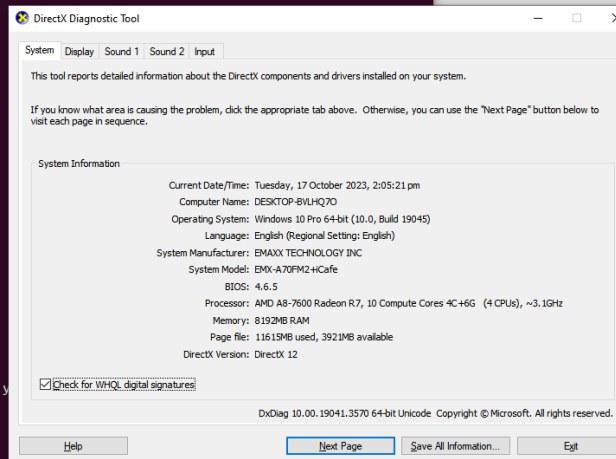
- Top Left:** A screenshot of an Ansible playbook execution output. It shows tasks for installing updates on CentOS and Ubuntu, gathering facts, copying a default HTML file, installing Apache and PHP for both operating systems, and starting the HTTP service on CentOS. A summary table at the bottom shows the status of these tasks across three hosts (192.168.0.145, 192.168.0.146, 192.168.0.147).
- Bottom Left:** A terminal window showing the user navigating to a directory and listing files. It then displays the content of a file named 'default_site.html', which contains a simple HTML structure with a header and body containing 'Hello World'.
- Top Right:** A screenshot of the DirectX Diagnostic Tool window. It shows system information including the current date/time, computer name, operating system, language, system manufacturer, system model, BIOS version, processor, memory, page file, and DirectX version.
- Bottom Right:** Another screenshot of the DirectX Diagnostic Tool window, showing the same system information as the top right screenshot.

Host	ok	changed	unreachable	failed	skipped	rescued	ignored
192.168.0.145	ok=0	changed=0	unreachable=1	failed=0	skipped=0	rescued=0	ignored=0
192.168.0.146	ok=0	changed=0	unreachable=1	failed=0	skipped=0	rescued=0	ignored=0
192.168.0.147	ok=5	changed=1	unreachable=0	failed=0	skipped=3	rescued=0	ignored=0

```
salvador@Workstation:~$ cat index.html
cat: index.html: No such file or directory
salvador@Workstation:~$ cd +
bash: cd: +: No such file or directory
salvador@Workstation:~$ cd CPE232_AndreuSalvador
salvador@Workstation:~/CPE232_AndreuSalvador$ ls
ansible.txt  files  install_apache.yml  inventory  README.md  site.yml  suppl
salvador@Workstation:~/CPE232_AndreuSalvador$ cd files
salvador@Workstation:~/CPE232_AndreuSalvador/files$ ls
default_site.html
salvador@Workstation:~/CPE232_AndreuSalvador/files$ cat default_site.html
<html>
<head>
</head>
<body>
  Hello World
  <h1>Hello World</h1>
  <p>Hello World</p>
</body>
</html>
salvador@Workstation:~/CPE232_AndreuSalvador/files$
```

5. Sync your local repository with GitHub and describe the changes.

```
salvador@Workstation:~/var/www/html$ cd
salvador@Workstation:~$ cd CPE232_AndreuSalvador
salvador@Workstation:~/CPE232_AndreuSalvador$ sudo nano site.yml
salvador@Workstation:~/CPE232_AndreuSalvador$ cd files
salvador@Workstation:~/CPE232_AndreuSalvador/files$ ls
default_site.html
salvador@Workstation:~/CPE232_AndreuSalvador/files$ git add default_site.html
salvador@Workstation:~/CPE232_AndreuSalvador/files$ git commit "NEW"
error: pathspec 'NEW' did not match any file(s) known to git
salvador@Workstation:~/CPE232_AndreuSalvador/files$ git commit -m "NEW"
[main fedb984] NEW
1 file changed, 9 insertions(+)
create mode 100644 files/default_site.html
salvador@Workstation:~/CPE232_AndreuSalvador/files$ git push origin main
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Compressing objects: 100% (3/3), done.
Writing objects: 100% (4/4), 387 bytes | 387.00 KiB/s, done.
Total 4 (delta 1), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
To github.com:qajlsalvador/CPE232_AndreuSalvador.git
16e51c8..fedb984  main -> main
salvador@Workstation:~/CPE232_AndreuSalvador/files$ cd -
/home/salvador/CPE232_AndreuSalvador
salvador@Workstation:~/CPE232_AndreuSalvador$ ls
ansible.txt  files  install_apache.yml  inventory  README.md  site.yml  supple.y
salvador@Workstation:~/CPE232_AndreuSalvador$ git add inventory
salvador@Workstation:~/CPE232_AndreuSalvador$ git add site.yml
salvador@Workstation:~/CPE232_AndreuSalvador$ git commit -m "UPDATE"
[main cf01a09] UPDATE
```



Task 2: Download a file and extract it to a remote server

1. Edit the site.yml. Just before the web_servers play, create a new play:

- hosts: workstations
become: true
tasks:
 - name: install unzip
package:
name: unzip_
 - name: install terraform
unarchive:
src:
https://releases.hashicorp.com/terraform/0.12.28/terraform_0.12.28_linux_amd64.zip
dest: /usr/local/bin
remote_src: yes
mode: 0755
owner: root
group: root

```

- hosts: web_servers
  become: true
  tasks:

- hosts: workstations
  become: true
  tasks:

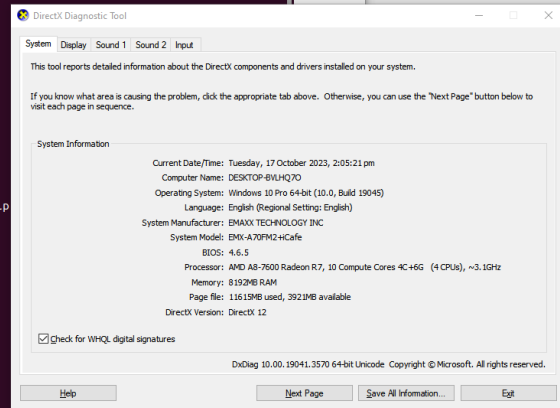
- name: install unzip
  package:
    name: unzip

- name: install terraform
  unarchive:
    src: https://releases.hashicorp.com/terraform/0.12.28/terraform_0.12.28_linux_amd64.zip
    dest: /usr/local/bin
    remote_src: yes
    mode: 0755
    owner: root
    group: root

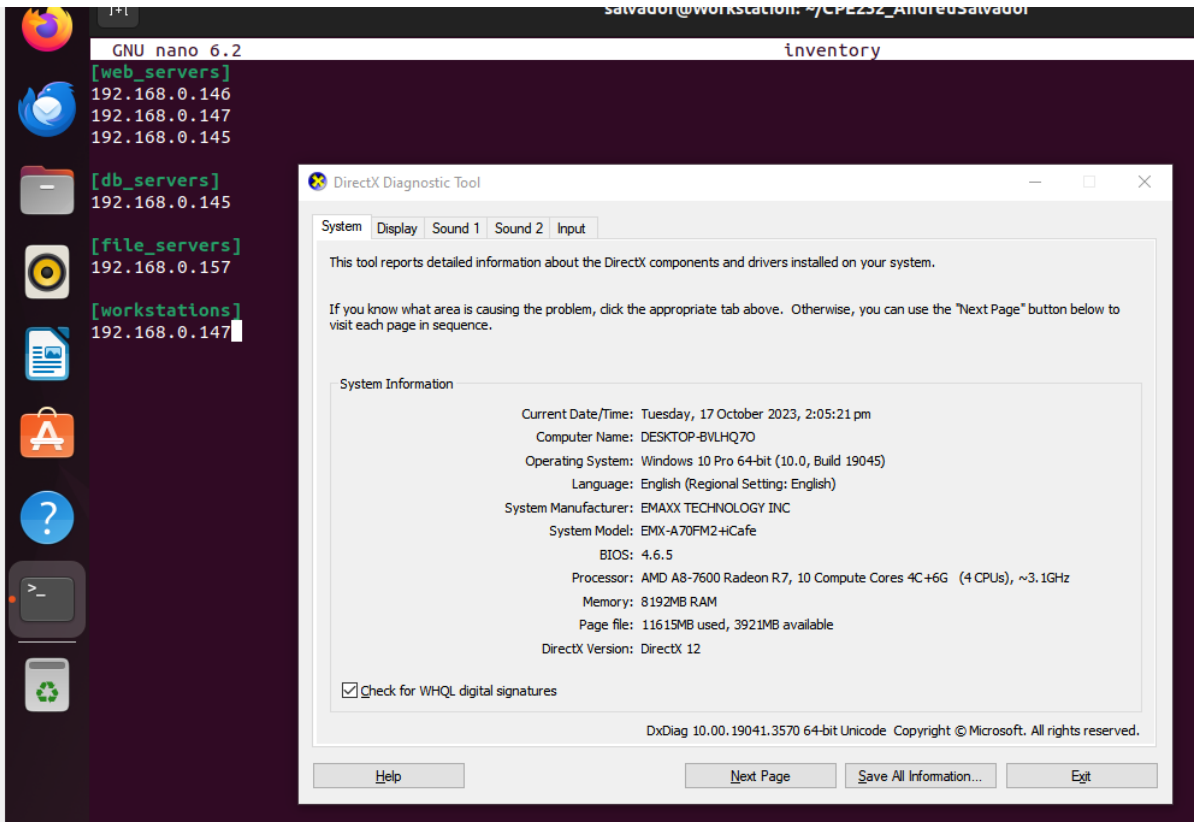
- name: copy default html file for site
  tags: apache, apache2, httpd
  copy:
    src: default_site.html
    dest: /var/www/html/index.html
    owner: root
    group: root
    mode: 0644

- name: install apache and php for Ubuntu servers

```



2. Edit the inventory file and add workstations group. Add any Ubuntu remote server. Make sure to remember the IP address.



3. Run the playbook. Describe the output.

The terminal window shows the execution of an Ansible playbook named `web_servers`. The output indicates that the `install unzip` task was successful, resulting in 2 changes. The `install terraform` task was skipped. The `copy default html file for site` task was successful. The `install apache and php for Ubuntu servers` task was skipped. The `install apache and php for CentOS servers` task was skipped. The `start httpd (CentOS)` task was skipped. The `db_servers` and `file_servers` playbooks were also skipped. A recap table shows the status of the tasks:

Host	ok	changed	unreachable	failed	skipped	rescued	ignored
192.168.0.145	0	0	1	0	0	0	0
192.168.0.146	0	0	1	0	0	0	0
192.168.0.147	8	2	0	0	3	0	0
192.168.0.157	0	0	1	0	0	0	0

The Windows System Information window shows the following details:

- Current Date/Time: Tuesday, 17 October 2023, 2:05:21 pm
- Computer Name: DESKTOP-BVLHQ70
- Operating System: Windows 10 Pro 64-bit (10.0, Build 19045)
- Language: English (Regional Setting: English)
- System Manufacturer: EMAXX TECHNOLOGY INC
- System Model: EMX-A70FM2+Hafe
- BIOS: 4.6.5
- Processor: AMD A8-7600 Radeon R7, 10 Compute Cores 4C+6G (4 CPUs), ~3.1GHz
- Memory: 8192MB RAM
- Page file: 11615MB used, 3921MB available
- DirectX Version: DirectX 12

The unzipping or unarchiving of the zip file was successful as the report suggests that there are 2 changes that occurred after playbook was played.

4. On the Ubuntu remote workstation, type terraform to verify installation of terraform. Describe the output.

The terminal window shows the output of the `terraform` command. It displays the common commands for Terraform, such as `apply`, `console`, `destroy`, `env`, `fmt`, `get`, `graph`, `import`, `init`, `login`, `logout`, `output`, `plan`, `providers`, `refresh`, `show`, `taint`, `untaint`, `validate`, `version`, and `workspace`. It also shows the output of the `terraform -v` command, which indicates that the installed version is 0.12.28, which is out of date. The latest version is 1.6.1, and it provides a link to download the latest version from <https://www.terraform.io/downloads.html>.

The Windows System Information window shows the following details:

- Current Date/Time: Tuesday, 17 October 2023, 2:05:21 pm
- Computer Name: DESKTOP-BVLHQ70
- Operating System: Windows 10 Pro 64-bit (10.0, Build 19045)
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- System Model: EMX-A70FM2+Hafe
- BIOS: 4.6.5
- Processor: AMD A8-7600 Radeon R7, 10 Compute Cores 4C+6G (4 CPUs), ~3.1GHz
- Memory: 8192MB RAM
- Page file: 11615MB used, 3921MB available
- DirectX Version: DirectX 12

Terraform was installed but needed an update as it says that the terraform installed was out of date.

Task 3: Create roles

1. Edit the site.yml. Configure roles as follows: (make sure to create a copy of the old site.yml file because you will be copying the specific plays for all groups)

```
---
- hosts: all
  become: true
  pre_tasks:

    - name: update repository index (CentOS)
      tags: always
      dnf:
        update_cache: yes
        changed_when: false
        when: ansible_distribution == "CentOS"
    - name: install updates (Ubuntu)
      tags: always
      apt:
        update_cache: yes
        changed_when: false
        when: ansible_distribution == "Ubuntu"

- hosts: all
  become: true
  roles:
    - base

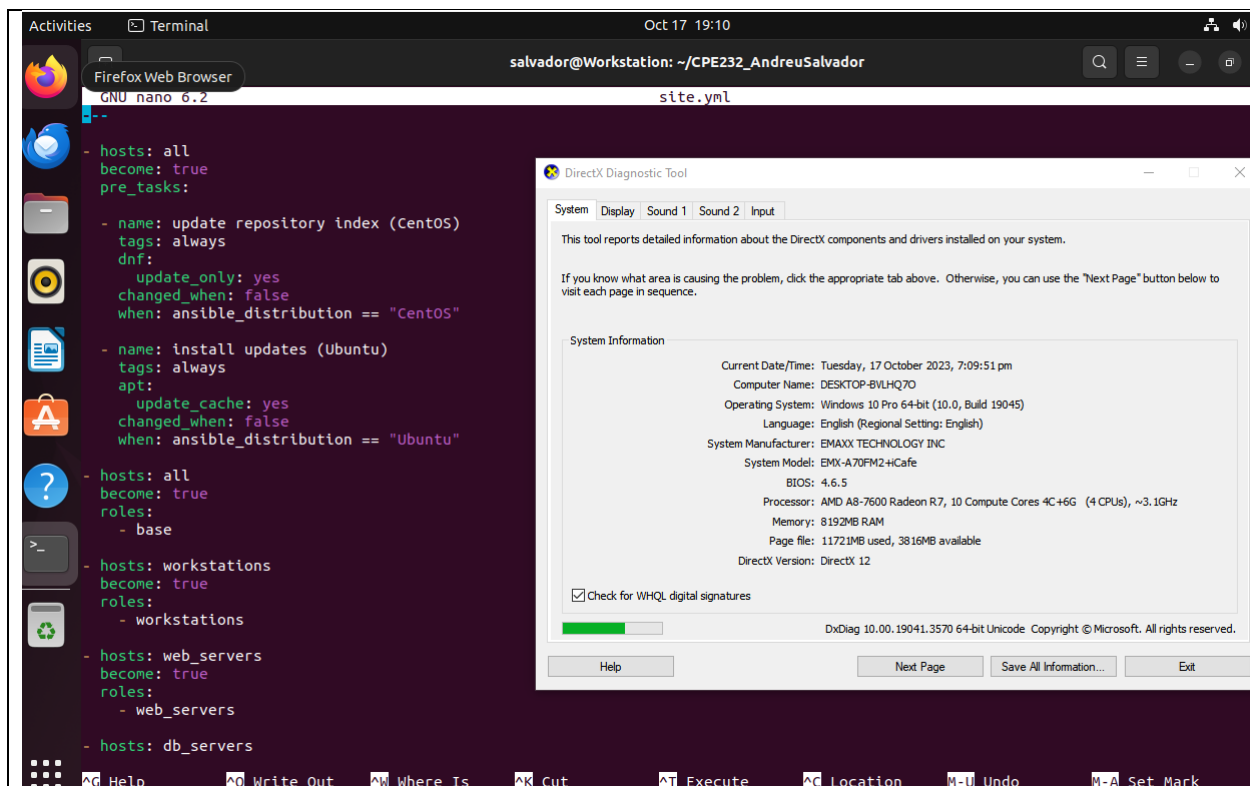
- hosts: workstations
  become: true
  roles:
    - workstations

- hosts: web_servers
  become: true
  roles:
    - web_servers

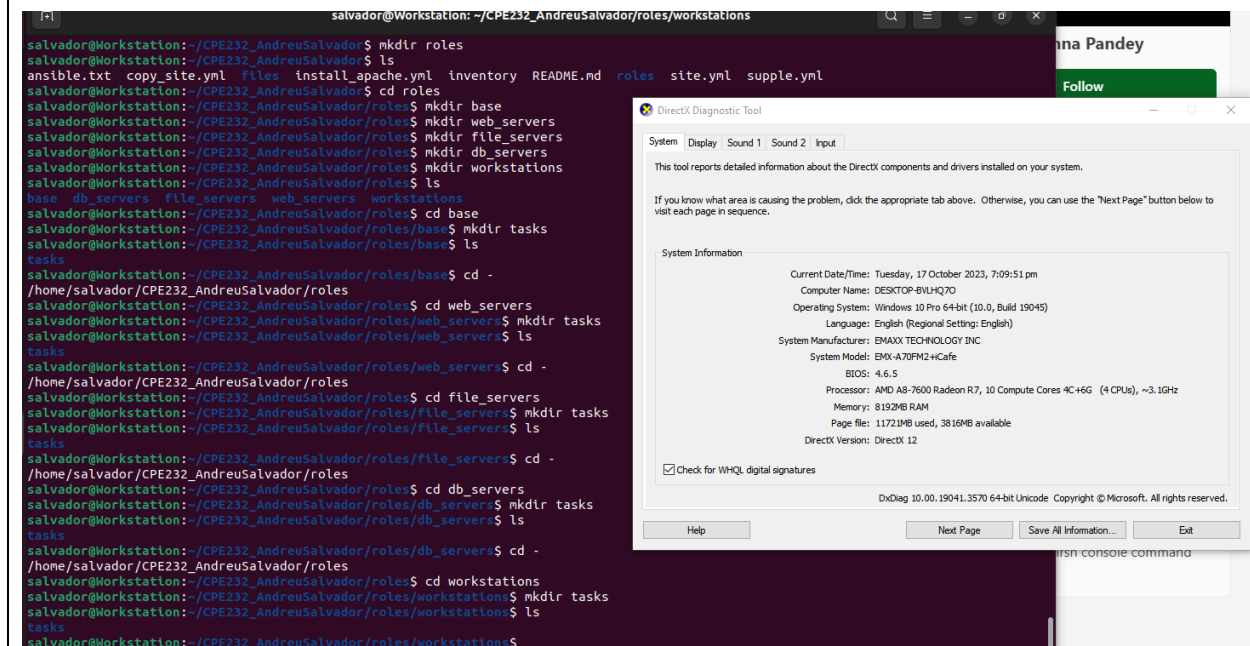
- hosts: db_servers
  become: true
  roles:
    - db_servers

- hosts: file_servers
  become: true
  roles:
    - file_servers
```

Save the file and exit.



- Under the same directory, create a new directory and name it roles. Enter the roles directory and create new directories: base, web_servers, file_servers, db_servers and workstations. For each directory, create a directory and name it tasks.



- Go to tasks for all directory and create a file. Name it main.yml. In each of the tasks for all directories, copy and paste the code from the old site.yml file. Show all contents of main.yml files for all tasks.

For less time to consume, I used the copy and move function of Ubuntu. I copy the site.yml (the old one) and then move it to each directory

```
salvador@Workstation:~/CPE232_AndreuSalvador$ rm -f main1.yml
salvador@Workstation:~/CPE232_AndreuSalvador$ cp copy_site.yml
cp: missing destination file operand after 'copy_site.yml'
Try 'cp --help' for more information.
salvador@Workstation:~/CPE232_AndreuSalvador$ cp copy_site.yml main.yml
salvador@Workstation:~/CPE232_AndreuSalvador$ mv main.yml roles/base/tasks
salvador@Workstation:~/CPE232_AndreuSalvador$ cp copy_site.yml main.yml
salvador@Workstation:~/CPE232_AndreuSalvador$ mv main.yml roles/db_servers/tasks
salvador@Workstation:~/CPE232_AndreuSalvador$ cp copy_site.yml main.yml
salvador@Workstation:~/CPE232_AndreuSalvador$ mv main.yml roles/file_servers/tasks
salvador@Workstation:~/CPE232_AndreuSalvador$ cp copy_site.yml main.yml
salvador@Workstation:~/CPE232_AndreuSalvador$ mv main.yml roles/web_servers/tasks
salvador@Workstation:~/CPE232_AndreuSalvador$ cp copy_site.yml main.yml
salvador@Workstation:~/CPE232_AndreuSalvador$ mv main.yml roles/workstations/tasks
salvador@Workstation:~/CPE232_AndreuSalvador$
```

System | Display | Sound 1 | Sound 2 | 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 below to visit each page in sequence.

System Information

Current Date/Time: Tuesday, 17 October 2023, 7:09:51 pm
Computer Name: DESKTOP-BVLHQ70
Operating System: Windows 10 Pro 64-bit (10.0, Build 19045)
Language: English (Regional Setting: English)
System Manufacturer: EMAXX TECHNOLOGY INC
System Model: EMXX-A70FM2-HCafe
BIOS: 4.6.5
Processor: AMD A8-7600 Radeon R7, 10 Compute Cores 4C+6G (4 CPUs), ~3.1GHz
Memory: 8192MB RAM
Page file: 11721MB used, 3816MB available
DirectX Version: DirectX 12

☒ Check for WHQL digital signatures

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Help | Next Page | Save All Information... | Exit

The directories now has the copy of the old site.yml as main.yml

```
salvador@Workstation:~/CPE232_AndreuSalvador$ cp copy_site.yml main.yml
salvador@Workstation:~/CPE232_AndreuSalvador$ mv main.yml roles/workstations/tasks
salvador@Workstation:~/CPE232_AndreuSalvador$ ls roles/base/tasks
main.yml
salvador@Workstation:~/CPE232_AndreuSalvador$ ls roles/db_servers/tasks
main.yml
salvador@Workstation:~/CPE232_AndreuSalvador$ ls roles/web_servers/tasks
main.yml
salvador@Workstation:~/CPE232_AndreuSalvador$ ls roles/file_servers/tasks
main.yml
salvador@Workstation:~/CPE232_AndreuSalvador$ ls roles/workstations/tasks
main.yml
salvador@Workstation:~/CPE232_AndreuSalvador$
```

System | Display | Sound 1 | Sound 2 | Input

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Help | Next Page | Save All Information... | Exit

Base tasks main.yml file:

```
salvador@Workstation: ~/CPE232_AndreuSalvador
```

GNU nano 6.2 roles/base/tasks/main.yml

```
--
- name: install updates (CentOS)
  tags: always
  dnf:
    update_only: yes
    update_cache: yes
  when: ansible_distribution == "CentOS"

- name: install updates (Ubuntu)
  tags: always
  apt:
    upgrade: dist
    update_cache: yes
  when: ansible_distribution == "Ubuntu"
```

System | Display | Sound 1 | Sound 2 | 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 below to visit each page in sequence.

System Information

Current Date/Time: Tuesday, 17 October 2023, 7:09:51 pm
Computer Name: DESKTOP-BVLHQ70
Operating System: Windows 10 Pro 64-bit (10.0, Build 19045)
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BIOS: 4.6.5
Processor: AMD A8-7600 Radeon R7, 10 Compute Cores 4C+6G (4 CPUs), ~3.1GHz
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☒ Check for WHQL digital signatures

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Help | Next Page | Save All Information... | Exit

Web_servers tasks main.yml file:

The terminal window shows the content of the `roles/web_servers/tasks/main.yml` file:

```
GNU nano 6.2 roles/web_servers/tasks/main.yml
--
- name: copy default html file for site
  tags: apache, apache2, httpd
  copy:
    src: default_site.html
    dest: /var/www/html/index.html
    owner: root
    group: root
    mode: 0644

- name: install apache and php for Ubuntu servers
  tags: apache, apache2, ubuntu
  apt:
    name:
      - apache2
      - libapache2-mod-php
    state: latest
    update_cache: yes
    when: ansible_distribution == "Ubuntu"

- name: install apache and php for CentOS servers
  tags: apache, centos, httpd
  dnf:
    name:
      - httpd
      - php
    state: latest
    when: ansible_distribution == "CentOS"

- name: start httpd (CentOS)
  tags: apache, cnetos, httpd
  service:
    name: httpd
    state: started
    when: ansible_distribution == "CentOS"
```

The DirectX Diagnostic Tool window displays the following system information:

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- Operating System: Windows 10 Pro 64-bit (10.0, Build 19045)
- Language: English (Regional Setting: English)
- System Manufacturer: EMAXX TECHNOLOGY INC
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- BIOS: 4.6.5
- Processor: AMD A8-7600 Radeon R7, 10 Compute Cores 4C+6G (4 CPUs), ~3.1GHz
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☒ Check for WHQL digital signatures

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Buttons: Help, Next Page, Save All Information..., Exit

Db_servers tasks main.yml file:

The terminal window shows the content of the `roles/db_servers/tasks/main.yml` file:

```
GNU nano 6.2 roles/db_servers/tasks/main.yml
--
- name: install mariadb package (CentOS)
  tags: centos, db, mariadb
  dnf:
    name: mariadb-server
    state: latest
    when: ansible_distribution == "CentOS"

- name: "Mariadb- Restarting/Enabling"
  service:
    name: mariadb
    state: restarted
    enabled: true

- name: install mariadb package (Ubuntu)
  tags: db, mariadb, ubuntu
  apt:
    name: mariadb-server
    state: latest
    when: ansible_distribution == "Ubuntu"
```

The DirectX Diagnostic Tool window displays the same system information as the previous screenshot:

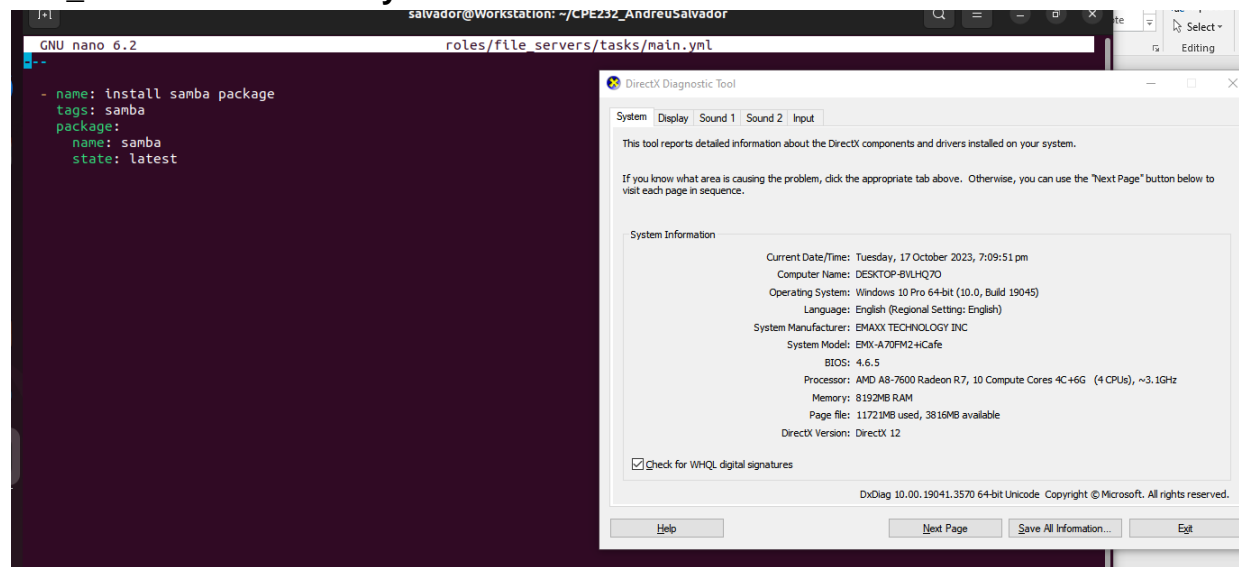
- Current Date/Time: Tuesday, 17 October 2023, 7:09:51 pm
- Computer Name: DESKTOP-BVLHQ70
- Operating System: Windows 10 Pro 64-bit (10.0, Build 19045)
- Language: English (Regional Setting: English)
- System Manufacturer: EMAXX TECHNOLOGY INC
- System Model: EMX-A70FM2+Cafe
- BIOS: 4.6.5
- Processor: AMD A8-7600 Radeon R7, 10 Compute Cores 4C+6G (4 CPUs), ~3.1GHz
- Memory: 8192MB RAM
- Page file: 11721MB used, 3816MB available
- DirectX Version: DirectX 12

☒ Check for WHQL digital signatures

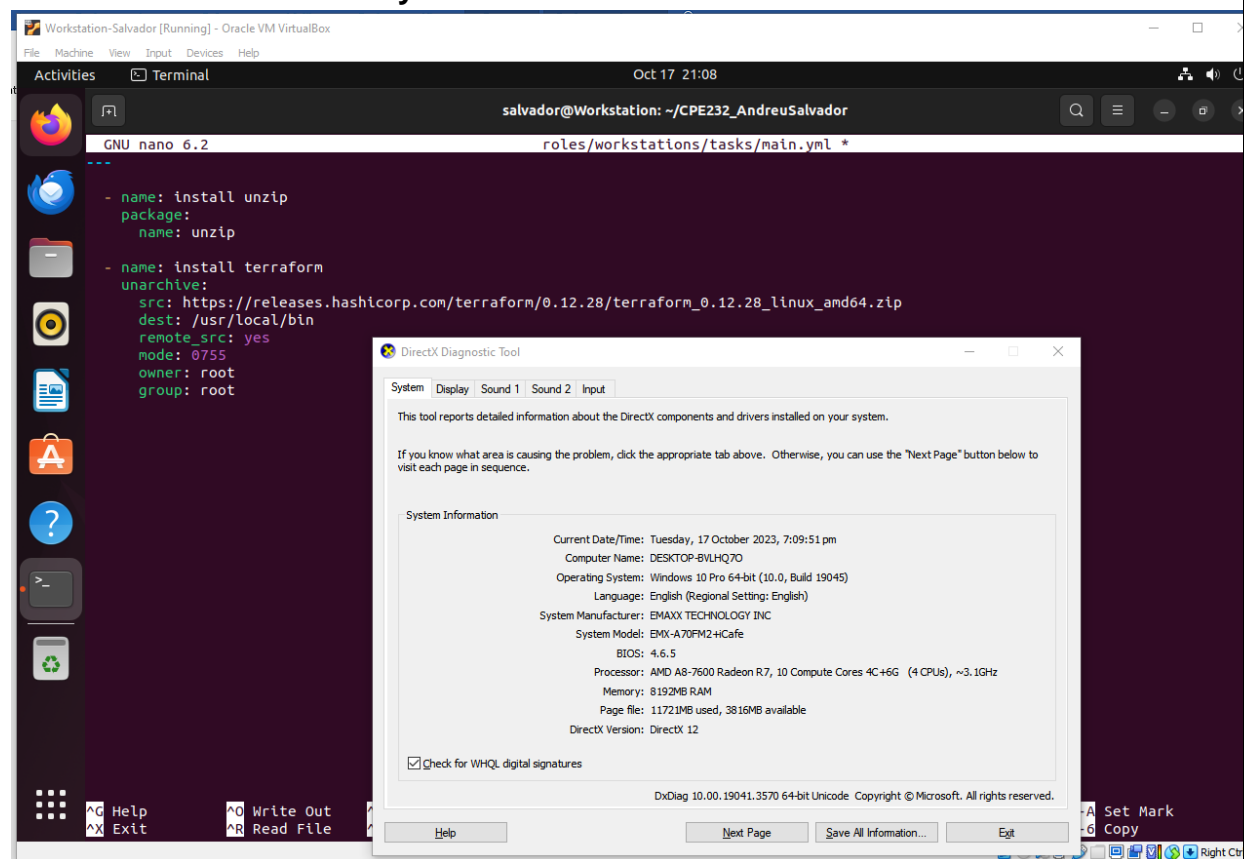
DxDiag 10.00.19041.3570 64-bit Unicode Copyright © Microsoft. All rights reserved.

Buttons: Help, Next Page, Save All Information..., Exit

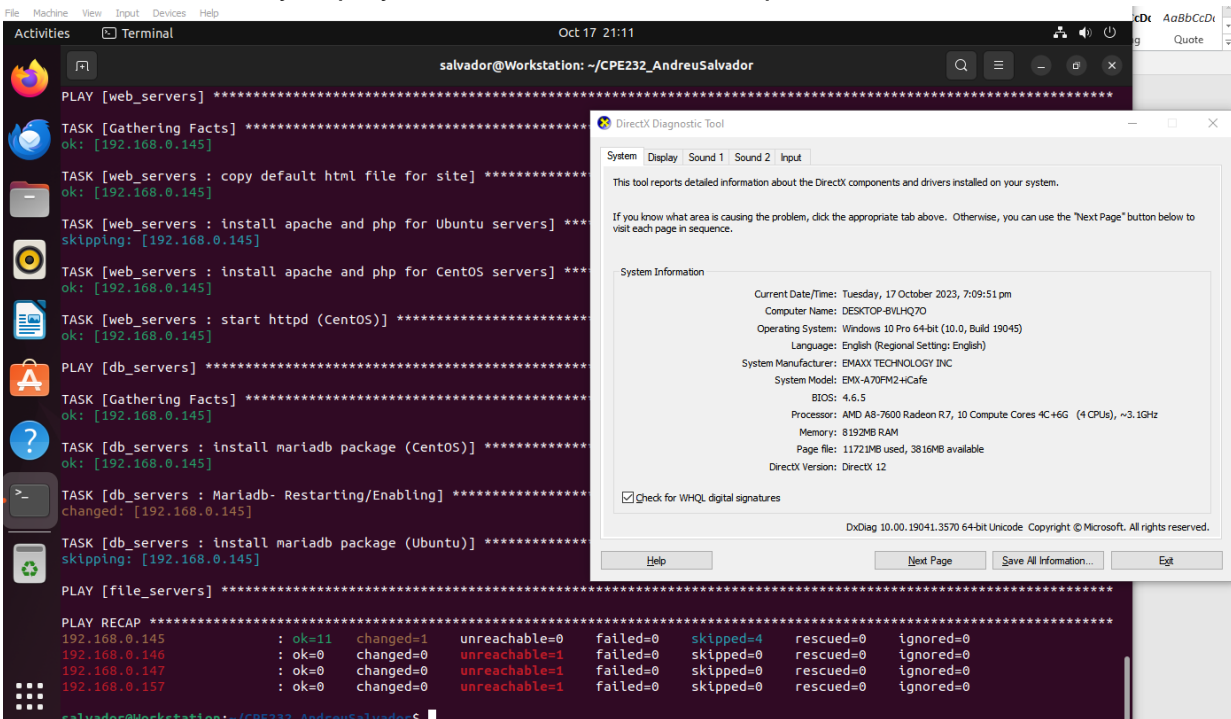
File_servers tasks main.yml file:



Workstations tasks main.yml file:



4. Run the site.yml playbook and describe the output.



The screenshot shows a terminal window with the following output:

```
PLAY [web_servers] *****
TASK [Gathering Facts] *****
ok: [192.168.0.145]
TASK [web_servers : copy default html file for site] *****
ok: [192.168.0.145]
TASK [web_servers : install apache and php for Ubuntu servers] ***
skipping: [192.168.0.145]
TASK [web_servers : install apache and php for CentOS servers] ***
ok: [192.168.0.145]
TASK [web_servers : start httpd (CentOS)] *****
ok: [192.168.0.145]
PLAY [db_servers] *****
TASK [Gathering Facts] *****
ok: [192.168.0.145]
TASK [db_servers : install mariadb package (CentOS)] *****
ok: [192.168.0.145]
TASK [db_servers : Mariadb- Restarting/Enabling] *****
changed: [192.168.0.145]
TASK [db_servers : install mariadb package (Ubuntu)] *****
skipping: [192.168.0.145]
PLAY [file_servers] *****
PLAY RECAP *****
192.168.0.145 : ok=11 changed=1 unreachable=0 failed=0 skipped=4 rescued=0 ignored=0
192.168.0.146 : ok=0 changed=0 unreachable=1 failed=0 skipped=0 rescued=0 ignored=0
192.168.0.147 : ok=0 changed=0 unreachable=1 failed=0 skipped=0 rescued=0 ignored=0
192.168.0.157 : ok=0 changed=0 unreachable=1 failed=0 skipped=0 rescued=0 ignored=0
```

Overlaid on the terminal is a Windows Diagnostic Tool window showing system information:

System Information

- Current Date/Time: Tuesday, 17 October 2023, 7:09:51 pm
- Computer Name: DESKTOP-BVLHQ70
- Operating System: Windows 10 Pro 64-bit (10.0, Build 19045)
- Language: English (Regional Setting: English)
- System Manufacturer: EMAXX TECHNOLOGY INC
- System Model: EMX-A70FM2-HCafe
- BIOS: 4.6.5
- Processor: AMD A8-7600 Radeon R7, 10 Compute Cores 4C+6G (4 CPUs), ~3.1GHz
- Memory: 8192MB RAM
- Page file: 11721MB used, 3816MB available
- DirectX Version: DirectX 12

At the bottom of the diagnostic tool, there is a checkbox for "Check for WHQL digital signatures" which is checked. Buttons for "Help", "Next Page", "Save All Information...", and "Exit" are visible at the bottom.

The output was successful no failed occurred in running the playbook, changes occurred on the server. It ran every roles that was written on the site.yml file that's why there are a lot of occurrence that happened since I put the ip address of the server on different groups in the inventory.

Reflections:

Answer the following:

1. What is the importance of creating roles?

- It can specify the tasks on groups that you want that tasks to be played on. It also lessen the line of codes for that specific group that you want those tasks for. Another benefit of creating roles is that you can easily debug an error since the tasks are group-specific. For a programmer/system admin a playbook that can be easily read and understood is an advantage that is really fatal when working on projects and server distribution.

2. What is the importance of managing files?

- A chaotic workplace would always be hard to deal with. By managing our files using directories and grouping tasks together base on its roles is an advantage that we should be practicing. Our files is very important since it is where the information is stored to, so managing it so that we can easily access it from time to time and lessen the confusion is the most important thing that could happen.