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### Description

Ansible is a suite of tools which offers infrastructure as a code.

This Lab consists of following tasks:

* Install Ansible on a machine of choice (your Ansible Local Machine)
* Install a “fresh” remote Linux machine (e.g., Ubuntu 22.04) within the Conestoga Lab.
* Write an Ansible playbook that establishes the following on the remote Linux machine:
  + Install Apache
  + Create a website (port 80) hosting a “Hello World” page.
* Execute the Ansible playbook from the Ansible Local Machine
* Connect to the website to verify success.

### Preparation

Ansible needs to be installed on the machine. For this lab, I created two ubuntu virtual machines in vSphere, I had one ubuntu GUI machine which was already there, I used it to test the result. The console has my unique student ID: 8797297 and all the screenshots have my unique student as well as the Ip address.

### Observation

This Lab, I faced a little bit of challenges here and there, it was mostly with ssh setup, For the ansible playbook to work, I had to setup a password less SSH, which I figured out after reading through the guides and resources online. I also faced issues with ansible, it didn’t have default inventory files installed in directory, I followed steps from a stack overflow article to get the right version of Ansible.

### Screenshots

A screenshot of a computer

Description automatically generatedFig 1: Installed Ansible

A computer screen shot of a black screen

Description automatically generatedFig 2: Tested connection using SSH.

Here I used password authentication to take an SSH connection.

A computer screen with a black background

Description automatically generatedFig 3: The ‘deploy’ file which is a playbook.

A computer screen shot of a black screen

Description automatically generatedFig 4: Ansible playbook was successfully completed.

A screen shot of a computer screen

Description automatically generatedFig 5: SSH connection without password

As you can see, the password prompt for taking an SSH connection is not displayed.

A computer screen with text on it

Description automatically generatedFig 6: The html file is displayed which was created using Ansible playbook

A screen shot of a computer

Description automatically generatedFig 7: The apache 2 service was installed.

### Testing with GUI Machine

A computer screen with a message

Description automatically generatedFig 8: The webpage is not displayed.

A computer screen with a black screen

Description automatically generatedFig 9: Edited the playbook file to set a different host.

A screenshot of a computer screen

Description automatically generatedFig 10: Because of SSH connection issue, I generated new keypair.

The same steps shown in the figure 10 was done in for the core version as well.

A computer screen with a black background

Description automatically generatedFig 11: The Playbook was successfully executed.

A computer screen with a white screen

Description automatically generatedFig 12: The hello world page is displayed.

A screenshot of a computer

Description automatically generatedFig 13: The apache2 server is installed.

### Appendix

A screenshot of a computer

Description automatically generatedFig 14: hosts file

A computer screen with text on it

Description automatically generatedFig 15: ansible.cfg file

A computer screen with a black screen

Description automatically generatedFig 16: Prod file

### References

* (Ondara W., January 20th, 2022)

How To Set Up Ansible Inventory File

<https://www.cherryservers.com/blog/how-to-set-up-ansible-inventory-file>

* (lyk lyk, Jul 14, 2023)

How to deploy Apache on remote server using ansible playbook

<https://medium.com/@lyk1719/how-to-deploy-apache-on-remote-server-using-ansible-playbook-3426bc3b0d71>

* ansible config file not found, using defaults.

<https://stackoverflow.com/questions/63672853/ansible-config-file-not-found-using-defaults>