Lab 10
(Module 18 and 19)

Instructions:

1. Log in to Azure Portal with your credentials
2. Paste all screenshots (highlighted in red) in a single Word document in the correct order
3. Name the document as **YourName-lab10**
4. Submit the document as an attachment in Bb under Labs
5. Use a WSL terminal for all activities

Lab submissions must be made by the due date (as indicated on the Critical Path). Each day thereafter will incur a **10%** deduction from the earned marks, up to a maximum of **3 days**. Submissions beyond this deadline will receive a grade of **Zero**.

Lab Objectives:

There are 6 sections in this lab as described below:

Section 1: Demonstrate the management of files and folders
Section 2: Get ready for using Ansible roles
Section 3: Create package and patch management roles
section 4: Create a profile management role
Section 5: Create a role for time zone management
Section 6: Create a role for syslog service management

WARNING

Code generated by ChatGPT or a similar generative AI tool, and copied and pasted without making the **right** modifications will result in a **ZERO** for that **entire section**.

Section 1

Objectives:

- Demonstrate the management of files and folders

Part 1: Demonstrate the management of files and folders:

1. Write a single-play playbook with the following tasks:
    a. Create an empty file called **locfile** on the automation machine
    b. Copy **locfile** to the managed nodes under the **/tmp** directory, set ownership and owning group to <yourusername>:root with permissions 0444
    c. Display the status of the **/tmp/locfile** file
    d. Create an empty file called **emptyfile** on the managed nodes in your home directory with the default permissions and ownership
2. Run this playbook against **ansible-c-vm1**

SCREENSHOT of the playbook and the output of the playbook execution.

========== End of Section 1 ==========

Section 2

Objectives:

- Get ready for using Ansible roles

Part 1: Getting ready for using Ansible roles:

1. Create a directory called **roles** in your Ansible root directory
2. Update the Ansible configuration file and define the location of the **roles** directory

========== End of Section 2 ==========

Section 3

Objectives:

- Create package and patch management roles

Part 1: Create multiple roles for software management:

1. Create a role called **package_remove** to remove these packages: rsync, ldap-utils, and nis. Define the packages in the vars directory. Employ a condition to only delete the packages if the guest operating system matches CentOS or RedHat.

    SCREENSHOT of the package_remove role's tasks/main.yml and vars/main.yml files

2. Create a role called **package_install** to install these packages: cifs-utils, nfs-utils, audit, and chrony. Define the packages in the vars directory. Employ a condition to only install the packages if the guest operating system matches CentOS or RedHat.

SCREENSHOT of the package_install role's tasks/main.yml and vars/main.yml files

3. Create a role called **patching** to deploy the updated versions of all installed packages. Employ a condition to restrict patching to CentOS or RedHat guest operating system. Define a handlers task to reboot the managed nodes after patching has finished.

SCREENSHOT of the patching role's tasks/main.yml and handlers/main.yml files

4. Create a playbook called **playbook.yml** and define all three roles in it. Make sure that they run in the order in which they are listed above.

SCREENSHOT of the playbook.yml file

5. Run this playbook against **linux** inventory hosts

SCREENSHOT of playbook execution

========== End of Section 3 ==========

Section 4

Objectives:

- Create a profile management role

Part 1: Convert lab10 section 1 into a role:

1. Convert the playbook from section 1 of lab10 into a role called **profile_mgmt**. Parametrize the configuration as much as possible.

SCREENSHOT of the profile_mgmt role's tasks/main.yml and vars/main.yml files

2. Add this role to the **playbook.yml** playbook. Do not remove or alter the existing roles from the playbook.

SCREENSHOT of the playbook.yml file

3. Run this playbook against **linux** inventory hosts

SCREENSHOT of playbook execution

========== End of Section 4 ==========

Section 5

Objectives:

- Create a role for setting time zone

Part 1: Create a role for setting time zone:

1. Create a role called **timezone** to set up the time zone to America/Toronto if the installed guest operating system matches CentOS or RedHat.
2. Add this role to the **playbook.yml** playbook. Do not remove or alter the existing roles from the playbook.
3. Run this playbook against **linux** inventory hosts

SCREENSHOT of playbook execution

========== End of Section 5 ==========

Section 6

Objectives:

- Create a role for syslog service management

Part 1: Create a role for syslog updates:

1. Create a role called **syslog_updates** to perform the following tasks:
    a. Insert a block of text "$FileCreateMode 0640" at the end of the /etc/rsyslog.conf file.
    b. Set ownership and owning group to root:root and permissions to 0640 recursively on the /etc/rsyslog.d directory.
    c. Set permissions on the /var/log directory to 0775. Do not run it recursively.
    d. Restart the rsyslog service via a handler

SCREENSHOT of the syslog_updates role's tasks/main.yml, vars/main.yml, and handlers/main.yml files

2. Add this role to the **playbook.yml** playbook. Do not remove or alter the existing roles from the playbook.
3. Run this playbook against **linux** inventory hosts

SCREENSHOT of playbook execution

========== End of Section 6 ==========