

CS312 Project #2

February 12, 2016

Instructions

Please submit all answers as a single text file (except for files specified) via T.E.A.C.H using the naming format `$onidusername-project2.txt`. This project is due at 4pm Wednesday, February 24nd.

Questions

1. Name and describe the four components of Ansible.
2. Name the Ansible fact variable which provides the operating system family.
3. Show an Ansible inventory file that would do the following:
 - Two groups named `oregon` and `washington`
 - The `oregon` group contains hosts `www1`, `www2` ... through `www100`
 - The `washington` group contains hosts `db1`, `db5` and `www`
 - Set the variable `db_host=db.example.org` for the `oregon` group
 - Create a group called `pnw` which contains the `oregon` and `washington` groups
4. Provide an Ansible host pattern that includes all hosts from groups `foo` and `bar` but only if they are also in the `production` group.

5. Describe the difference between Ansible Roles and Playbooks.
6. Handlers in Ansible can only be triggered once
 - (a) True
 - (b) False
7. Construct an Ansible playbook that does the following. Include the YAML file and the output from running it with `ansible-playbook -v`.
 - Create two loop back devices using `dd` and `losetup` that are each 200M
 - Create a volume group named `ansible_vg` using the loop back devices
 - Create a logical volume named `data` from the volume group described above with the size of 50M
 - Create a logical volume named `www` from the volume group described above filling the remaining space
 - Delete a logical volume named `backup` from the volume group described above
8. Provide an Ansible template that will output an HTML file with the following information included which is sourced from Ansible Facts:
 - Hostname
 - Lists all IP addresses
 - Linux distribution name and release version
 - The amount of free memory
 - The total size of `/dev/vda1`
9. Construct an Ansible playbook that does the following. Include the YAML file and the output from running it with `ansible-playbook -v`.
 - Installs `epel-release`, `httpd`, `git`, `python-pip` and `python-virtualenv`

- Enables and starts the `httpd` service
 - Create a system user named `cs312`
 - Using `git`, clone the CS312 class site repository `https://github.com/osuosl/cs312.git` into `/var/www/cs312`
 - Executes the script `scripts/build.sh` inside of the repository
10. Create a new role which does the following. Include all the files (include directories) in a **single** zip or tarball file including the output of running `ansible-playbook -v`.
- Convert the single playbook in #9 into roles splitting out each task as its own role using the recommended best practice
 - Using the template in #8, set the destination to `/var/www/html/index.html`
 - Create a symlink from `/var/www/cs312/build/html` to `/var/www/html/cs312`
 - Set the default playbook (`site.yml`) to use all of the roles and run `ansible-playbook -v` with the playbook.
 - Go to the IP address for your VM in your web browser and ensure that the url `http://<your_ip>/index.html` shows the content of your template, and the CS312 website is accessible at `http://<your_ip>/cs312`