Creating an Ansible playbook

Installing Ansible on control node

These are the instructions to install Ansible on Ubuntu 20.04 LTS. To install on other distributions reference Official Ansible Documentation.

Update packages with sudo apt update

```
sebastian@LAPTOP-IRMJH3C9:/$ sudo apt update
Get:1 http://archive.ubuntu.com/ubuntu focal InRelease [265 kB]
Get:2 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Get:3 http://archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Get:4 http://archive.ubuntu.com/ubuntu focal-backports InRelease [108 kB]
Get:5 http://archive.ubuntu.com/ubuntu focal/main amd64 Packages [970 kB]
```

Once the packages are updated, run sudo apt install ansible to install the software. Type y when prompted.

```
Reading package lists... Done
Building dependency tree
Reading state information... Done
(The following additional packages will be installed:
    ieee-data python3-argcomplete python3-crypto python3-dnspython python3-jmespath python3-kerberos python3-libcloud
    python3-lockfile python3-netaddr python3-ntlm-auth python3-requests-kerberos python3-requests-ntlm python3-selinux
    python3-winrm python3-xmltodict

Suggested packages:
    cowsay sshpass python-lockfile-doc ipython3 python-netaddr-docs

The following NEW packages will be installed:
    ansible ieee-data python3-argcomplete python3-crypto python3-dnspython python3-jmespath python3-kerberos
    python3-libcloud python3-lockfile python3-netaddr python3-ntlm-auth python3-requests-kerberos python3-requests-ntlm
    python3-selinux python3-winrm python3-xmltodict

0 upgraded, 16 newly installed, 0 to remove and 259 not upgraded.

Need to get 9644 kB of archives.

After this operation, 90.2 MB of additional disk space will be used.

Do you want to continue? [Y/n] y
```

Type ansible --version to check if the installation has been successful

```
sebastian@LAPTOP-IRMJH3C9:/$ ansible --version
ansible 2.9.6
  config file = /etc/ansible/ansible.cfg
  configured module search path = ['/home/sebastian/.ansible/plugins/modules', '/usr/share/ansible/plugins/modules']
  ansible python module location = /usr/lib/python3/dist-packages/ansible
  executable location = /usr/bin/ansible
  python version = 3.8.2 (default, Mar 13 2020, 10:14:16) [GCC 9.3.0]
```

Configuring inventory of hosts

Type cd /etc/ansible to move to the folder where the hosts file is stored.

```
sebastian@LAPTOP-IRMJH3C9:~$ cd /etc/ansible sebastian@LAPTOP-IRMJH3C9:/etc/ansible$ ls ansible.cfg hosts
```

Open the hosts file using any editor. In this case vim will be used.

```
sebastian@LAPTOP-IRMJH3C9:/etc/ansible$ vi hosts
```

Add a new group of hosts at the end of the file. To create a group, write [<group-name>] and below write all the hosts' ips.

```
[vms]
192.168.100.26
192.168.100.27
```

Run the command ansible <group-name> -m ping to check if Ansible is able to communicate with the hosts.

```
sebastian@LAPTOP-IRMJH3C9:/etc/ansible$ ansible vms -m ping
192.168.100.26 | SUCCESS => {
    "ansible_facts": {
        "discovered_interpreter_python": "/usr/bin/python3"
    },
        "changed": false,
        "ping": "pong"
}
[DEPRECATION WARNING]: Distribution fedora 35 on host 192.168.100.27 should use /usr/bin/python3, but is using
/usr/bin/python for backward compatibility with prior Ansible releases. A future Ansible release will default to using
the discovered platform python for this host. See
https://docs.ansible.com/ansible/2.9/reference_appendices/interpreter_discovery.html for more information. This feature
will be removed in version 2.12. Deprecation warnings can be disabled by setting deprecation_warnings=False in
ansible.cfg.
192.168.100.27 | SUCCESS => {
    "ansible_facts": {
        "discovered_interpreter_python": "/usr/bin/python"
        },
        "changed": false,
        "ping": "pong"
}
```

Creating the playbook

Create a new playbook file on /etc/ansible. Use touch <filename>.yml or, as in this case, sudo vi <filename>.yml

```
sebastian@LAPTOP-IRMJH3C9:/etc/ansible$ sudo vi runjenkins.yml
```

The following playbook will install Docker SDK on the servers in order to user docker_container module to run a Docker container. For more information about modules, visit Ansible Oficcial Module Documentation.

```
name: Run Docker containers with Jenkins
hosts: vms
tasks:
  - name: Install Docker SDK for python
     name:

    docker

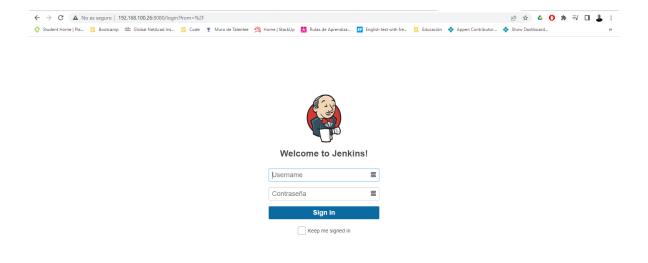
        - docker-compose
  - name: Run containers with Jenkins
    docker container:
     name: jenkins-python
      volumes:
          jenkins_home:/var/jenkins_home
      detach:
      image: jenkins:python
      ports:
      state: started
```

To run a playbook, type in console ansible-playbook <playbook-name>.yml

```
REAVER TRANSPORTED HIGH Control of the Control of t
```

If everything was configured successfully, all tasks should have been executed on the remote servers.

Remote server 1:



Remote server 2:



