

Objectives:

- Install and set up an Ubuntu 20.04 workstation to use with all the following labs.

Necessary utilities to be installed:

- Chef Workstation
- Docker

Chef Workstation:

The Chef Workstation allows us to use the following tools:

- Chef Infra Client
- Chef InSpec
- The 'chef' and 'knife' command line tool
- Testing tools such as Test Kitchen, ChefSpec, and Cookstyle

1. SSH into the provided workstation:

\$ ssh -i /path/to/private/key username@ipaddress

- a. Use the username, SSH key, IP Address provided by your instructor

2. Update and upgrade the OS:

```
$sudo apt-get update -y && sudo apt-get upgrade -y
```

3. Install various Linux utilities on the Virtual Machine(VM):

```
$sudo apt-get install -y wget tree unzip
```

4. Download and install Chef Workstation from the CLI:

- a. Download Chef Workstation version 21.2.278:

```
$ wget  
https://packages.chef.io/files/stable/chef-workstation  
/21.2.278/ubuntu/20.04/chef-workstation_21.2.278-1_amd  
64.deb
```

**Note: There is a single space between wget and the URL on a single line*

b. Install the package:

```
ubuntu@ip-172-31-62-237:~$ sudo dpkg -i chef-workstation_21.2.278-1_amd64.deb
```

If Chef Workstation installed successfully, the following message should display:

```
ubuntu@ip-172-31-62-237:~$ sudo dpkg -i chef-workstation_21.2.278-1_amd64.deb  
Selecting previously unselected package chef-workstation.  
(Reading database ... 60023 files and directories currently installed.)  
Preparing to unpack chef-workstation_21.2.278-1_amd64.deb ...  
Unpacking chef-workstation (21.2.278-1) ...  
Setting up chef-workstation (21.2.278-1) ...  
  
To run the Chef Workstation App, some additional dependencies must be installed.  
Using your platforms package manager to install the 'electron' package is  
the easiest way to meet the dependency requirements.  
  
You can then launch the App by running 'chef-workstation-app'.  
The App will then be available in the system tray.  
  
Thank you for installing Chef Workstation!  
You can find some tips on getting started at https://docs.chef.io/workstation/
```

5. Verify the success of the installation:

```
ubuntu@ip-172-31-62-237:~$ chef -v
```

If installation was successful, all installed Chef utilities with their current version should be displaying:

```
ubuntu@ip-172-31-62-237:~$ chef -v
Chef Workstation version: 21.2.278
Chef Infra Client version: 16.10.8
Chef InSpec version: 4.26.4
Chef CLI version: 3.1.1
Chef Habitat version: 1.6.181
Test Kitchen version: 2.10.0
Cookstyle version: 7.8.0
```

Docker

Docker is a set of 'platform as a service' (PaaS) products that use OS-level virtualization to deliver software in packages called containers.

Containers are isolated from one another and bundle their own software, libraries and configuration files.

In our labs, Test Kitchen will be using docker to execute integration tests using a driver named "dokken". The "dokken" driver enables Test Kitchen to use Docker as its virtualization environment.

6. Install Docker

```
ubuntu@ip-172-31-62-237:~$ sudo apt-get install -y docker.io
```

7. Executing the Docker Command Without Sudo :

- a. By default, the docker command can only be run by the root user or by a user in the docker group, which is automatically created during Docker's installation process.
- b. If you attempt to run a docker command without prefixing it with sudo or without being in the docker group, you'll get an error like this. Run the command and look for the "permission denied" message:

```
$docker images
```

```
ubuntu@ip-172-31-62-237:~$ docker images
Got permission denied while trying to connect to the Docker daemon socket
at unix:///var/run/docker.sock: Get http://%2Fvar%2Frun%2Fdocker.sock/v1.4
0/images/json: dial unix /var/run/docker.sock: connect: permission denied
```

- c. To fix this, add your username to the docker group:

```
$sudo usermod -aG docker ubuntu
```

This adds the 'ubuntu' user to the 'docker' group on the Linux machine

- d. **NOTE: To apply the new group membership, log out of the server (close your terminal session) and log back into the VM (open the terminal session and ssh into the VM again).**

8. Confirm that your user is now added to the docker group by executing the command. Note that 'docker' is now listed in your user's group membership list:

```
$id -nG
```

```
/home/ubuntu $id -nG
ubuntu adm dialout cdrom floppy sudo audio dip video plugdev netdev lxd docker
```

9. Execute the Docker command `$docker images` without sudo. It should **not** throw an exception and you should see the following output:

```
/home/ubuntu $docker images
REPOSITORY          TAG                 IMAGE ID            CREATED            SIZE
```

Notify your instructor that you are done with the lab

END OF LAB