

Install and Configure Chef Workstation, Chef Server, and a Chef Node

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Description

This lab guide provides step-by-step instructions for setting up a Chef ecosystem, including the installation and configuration of Chef Workstation, Chef Server, and a Chef Node. Chef is a powerful tool for automating system configurations, infrastructure management, and application deployments. By the end of this guide, you will have a functional Chef environment ready for configuration management tasks.

Problem Statement

Automating configuration management across multiple servers can be challenging without the right tools. Chef provides a streamlined way to define infrastructure as code, making server management efficient, consistent, and scalable. In this lab, we will:

- Install Chef Workstation to manage our Chef configurations.
- Configure Chef Server as the central repository for all Chef configurations.
- Set up Chef Node, which will be managed by Chef Server.

Prerequisites

- 64 bit operating system
- CPU Virtualization enabled

In order to virtualize a 64 bit operating system, one must also be running a 64 bit operating system. Most importantly, the CPU itself must support hardware virtualization extensions and this must be enabled in the

BIOS/EFI. Most modern processors support virtualization extensions in the form of VT-x (Intel) or AMD-V (AMD).

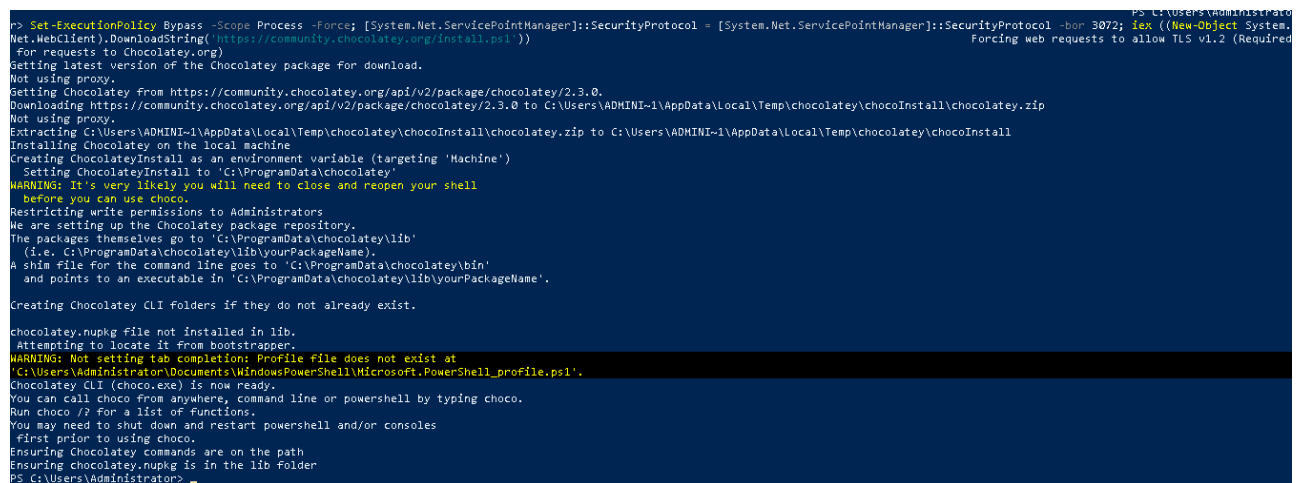
Implementation Steps

Step-1: Install Chocolatey, Virtual Box and Vagrant

1. Install Chocolatey

- To install Chocolatey, run the following command from the command line or from PowerShell:

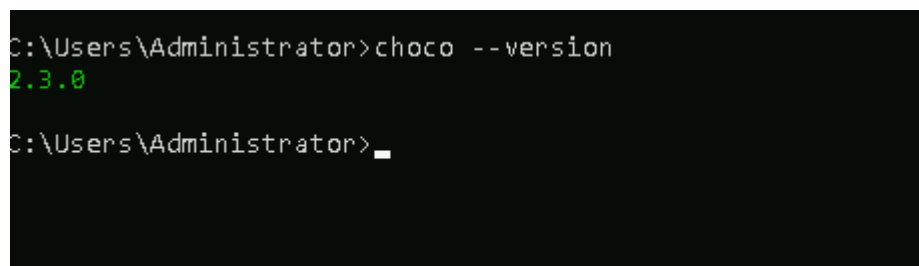
```
Set-ExecutionPolicy Bypass -Scope Process -Force;
[System.Net.ServicePointManager]::SecurityProtocol =
[System.Net.ServicePointManager]::SecurityProtocol -bor 3072; iex ((New-Object
System.Net.WebClient).DownloadString('https://community.chocolatey.org/install.ps1'))
```



```
PS C:\Users\Administrator> Set-ExecutionPolicy Bypass -Scope Process -Force; [System.Net.ServicePointManager]::SecurityProtocol = [System.Net.ServicePointManager]::SecurityProtocol -bor 3072; iex ((New-Object System.Net.WebClient).DownloadString('https://community.chocolatey.org/install.ps1'))
Forcing web requests to allow TLS v1.2 (Required for requests to Chocolatey.org)
Getting latest version of the Chocolatey package for download.
Not using proxy.
Setting Chocolatey from https://community.chocolatey.org/api/v2/package/chocolatey/2.3.0.
Downloading https://community.chocolatey.org/api/v2/package/chocolatey/2.3.0 to C:\Users\ADMINI-1\AppData\Local\Temp\chocolatey\chocoInstall\chocolatey.zip
Not using proxy.
Extracting C:\Users\ADMINI-1\AppData\Local\Temp\chocolatey\chocoInstall\chocolatey.zip to C:\Users\ADMINI-1\AppData\Local\Temp\chocolatey\chocoInstall
Installing Chocolatey on the local machine.
Creating ChocolateyInstall as an environment variable (targeting 'Machine')
Setting ChocolateyInstall to 'C:\ProgramData\chocolatey'
WARNING: It's very likely you will need to close and reopen your shell
before you can use choco.
Restricting write permissions to Administrators
We are setting up the Chocolatey package repository.
The packages themselves go to 'C:\ProgramData\chocolatey\lib'
(i.e. C:\ProgramData\chocolatey\lib\yourPackageName).
A shim file for the command line goes to 'C:\ProgramData\chocolatey\bin'
and points to an executable in 'C:\ProgramData\chocolatey\lib\yourPackageName'.
Creating Chocolatey CLI folders if they do not already exist.
chocolatey.nupkg file not installed in lib.
Attempting to locate it from bootstrapper.
WARNING: Not setting tab completion: Profile file does not exist at
'C:\Users\Administrator\Documents\WindowsPowerShell\Microsoft.PowerShell_profile.ps1'.
Chocolatey CLI (choco.exe) is now ready.
You can call choco from anywhere, command line or powershell by typing choco.
Run choco /? for a list of functions.
You may need to shut down and restart powershell and/or consoles
first prior to using choco.
Ensuring Chocolatey commands are on the path
Ensuring chocolatey.nupkg is in the lib folder
PS C:\Users\Administrator>
```

- Verify the installation by running the following command in cmd

```
choco --version
```



```
C:\Users\Administrator>choco --version
2.3.0
C:\Users\Administrator>
```

2. Install Virtual Box

- VirtualBox is a hypervisor that lets you run virtual machines on your local workstation.
- To install Virtual Box, run the following command from the command line or from PowerShell:

```
choco install virtualbox
```

```
PS C:\Users\Administrator> choco install virtualbox
Chocolatey v2.3.0
Installing the following packages:
virtualbox
By installing, you accept licenses for the packages.
Downloading package from source 'https://community.chocolatey.org/api/v2/'
Progress: Downloading chocolatey-compatibility.extension 1.0.0... 100%

chocolatey-compatibility.extension v1.0.0 [Approved]
chocolatey-compatibility.extension package files install completed. Performing other installation steps.
  Installed/updated chocolatey-compatibility extensions.
  The install of chocolatey-compatibility.extension was successful.
  Deployed to 'C:\ProgramData\chocolatey\extensions\chocolatey-compatibility'
Downloading package from source 'https://community.chocolatey.org/api/v2/'
Progress: Downloading chocolatey-core.extension 1.4.0... 100%

chocolatey-core.extension v1.4.0 [Approved]
chocolatey-core.extension package files install completed. Performing other installation steps.
  Installed/updated chocolatey-core extensions.
  The install of chocolatey-core.extension was successful.
  Deployed to 'C:\ProgramData\chocolatey\extensions\chocolatey-core'
Downloading package from source 'https://community.chocolatey.org/api/v2/'
Progress: Downloading chocolatey-windowsupdate.extension 1.0.5... 100%

chocolatey-windowsupdate.extension v1.0.5 [Approved]
chocolatey-windowsupdate.extension package files install completed. Performing other installation steps.
  Installed/updated chocolatey-windowsupdate extensions.
  The install of chocolatey-windowsupdate.extension was successful.
  Deployed to 'C:\ProgramData\chocolatey\extensions\chocolatey-windowsupdate'
Downloading package from source 'https://community.chocolatey.org/api/v2/'
Progress: Downloading KB2919442 1.0.20160915... 100%

KB2919442 v1.0.20160915 [Approved]
KB2919442 package files install completed. Performing other installation steps.
The package KB2919442 wants to run 'ChocolateyInstall.ps1'.
Note: If you don't run this script, the installation will fail.
Note: To confirm automatically next time, use '-y' or consider:
choco feature enable -n allowGlobalConfirmation
Do you want to run the script?([Y]es/[A]ll - yes to all/[N]o/[P]rint): yes

Skipping installation because this hotfix only applies to Windows 8.1 and Windows Server 2012 R2.
The install of KB2919442 was successful.
  Software install location not explicitly set, it could be in package or
  default install location of installer.
Downloading package from source 'https://community.chocolatey.org/api/v2/'
Progress: Downloading KB2919355 1.0.20160915... 100%

KB2919355 v1.0.20160915 [Approved]
KB2919355 package files install completed. Performing other installation steps.
The package KB2919355 wants to run 'ChocolateyInstall.ps1'.
```

- Verify the installation by running the following command in cmd

```
virtualbox --version
```

2. Install Vagrant

- Vagrant manages hypervisors such as VirtualBox and makes it easy to distribute pre-packaged virtual machines, known as “boxes”.
- To install Vagrant, run the following command from the command line or from PowerShell:

```
choco install Vagrant
```

```

PS C:\Users\Administrator> choco install vagrant
Chocolatey v2.3.0
Installing the following packages:
vagrant
By installing, you accept licenses for the packages.
Downloading package from source 'https://community.chocolatey.org/api/v2/'
Progress: Downloading vagrant 2.4.2... 100%

vagrant v2.4.2 [Approved]
vagrant package files install completed. Performing other installation steps.
The package vagrant wants to run 'chocolateyinstall.ps1'.
Note: If you don't run this script, the installation will fail.
Note: To confirm automatically next time, use '-y' or consider:
choco feature enable -n allowGlobalConfirmation
Do you want to run the script?([Y]es/[A]ll - yes to all/[N]o/[P]rint): yes

Downloading vagrant 64 bit
  from 'https://releases.hashicorp.com/vagrant/2.4.2/vagrant_2.4.2_windows_amd64.msi'
Progress: 100% - Completed download of C:\Users\Administrator\AppData\Local\Temp\chocolatey\vagrant\2.4.2\vagrant_2.4.2_windows_amd64.msi (250.51 MB).
Download of vagrant_2.4.2_windows_amd64.msi (250.51 MB) completed.
Hashes match.
Installing vagrant...
vagrant has been installed.
Updating installed plugins...

```

- Verify the installation by running the following command in cmd

```
vagrant --version
```

```

C:\Users\Administrator> vagrant --version
Vagrant 2.4.2

C:\Users\Administrator> _

```

Step-2: Install Chef workstation

- To install Chef Workstation, run the following command from the command line or from PowerShell:

```
choco install chef-workstation
```

```

PS C:\Users\Administrator> choco install chef-workstation
Chocolatey v2.3.0
Installing the following packages:
chef-workstation
By installing, you accept licenses for the packages.
Downloading package from source 'https://community.chocolatey.org/api/v2/'
Progress: Downloading chef-workstation 24.8.1068... 100%

chef-workstation v24.8.1068 [Approved]
chef-workstation package files install completed. Performing other installation steps.
The package chef-workstation wants to run 'chocolateyinstall.ps1'.
Note: If you don't run this script, the installation will fail.
Note: To confirm automatically next time, use '-y' or consider:
choco feature enable -n allowGlobalConfirmation
Do you want to run the script?([Y]es/[A]ll - yes to all/[N]o/[P]rint): yes

```

- This package includes Chef Infra Client, Chef InSpec, Test Kitchen, Cookstyle, and a variety of useful tools for the Chef ecosystem.
- Verify the installation by running the following command in cmd

```
chef --version
```

```
C:\Users\Administrator>chef --version

Chef Workstation version: 24.8.1068
Chef Infra Client version: 18.5.0
Chef InSpec version: 5.22.55
Chef CLI version: 5.6.14
Chef Habitat version: 1.6.1041
Test Kitchen version: 3.6.0
Cookstyle version: 7.32.8

C:\Users\Administrator>
```

Step-3: Create an organization for server setup

1. Sign Up for Manage Chef

- Go to [Manage Chef](#) in your web browser.
- Click **Sign Up** or **Get Started**.
- Enter your email address and follow the on-screen instructions to complete the sign-up process. You may be required to verify your email address.

Sign In

Username or Email Address

Password

[Sign In](#)

[Forgot your password?](#)

Don't have an account?

You're one step away from access to all the power and flexibility of Chef Infra. Get ready to automate your infrastructure, accelerate your time to market, manage scale and complexity, and safeguard your systems.

[Click here to get started!](#)

Reminder on Hosted Chef going EOL soon

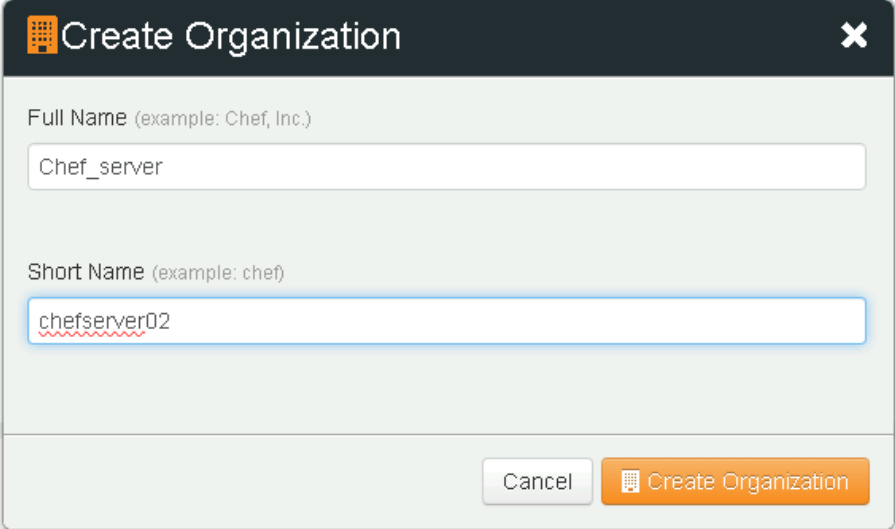
Hosted Chef is slated for End of Life on Nov 30th, 2024, and will no longer be supported. manage.chef.io will be decommissioned.

[To learn more click here](#)

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2. Log in and Create an Organization

- Once signed up, log in to [Manage Chef](#).
- After logging in, navigate to the **Organizations** section.
- Click on **Create Organization**.
- Provide the required details:
 - **Organization Name:** Choose a name for your organization.
 - **Short Name:** Enter a short, unique identifier for the organization.
- Complete any additional steps to confirm and create the organization.



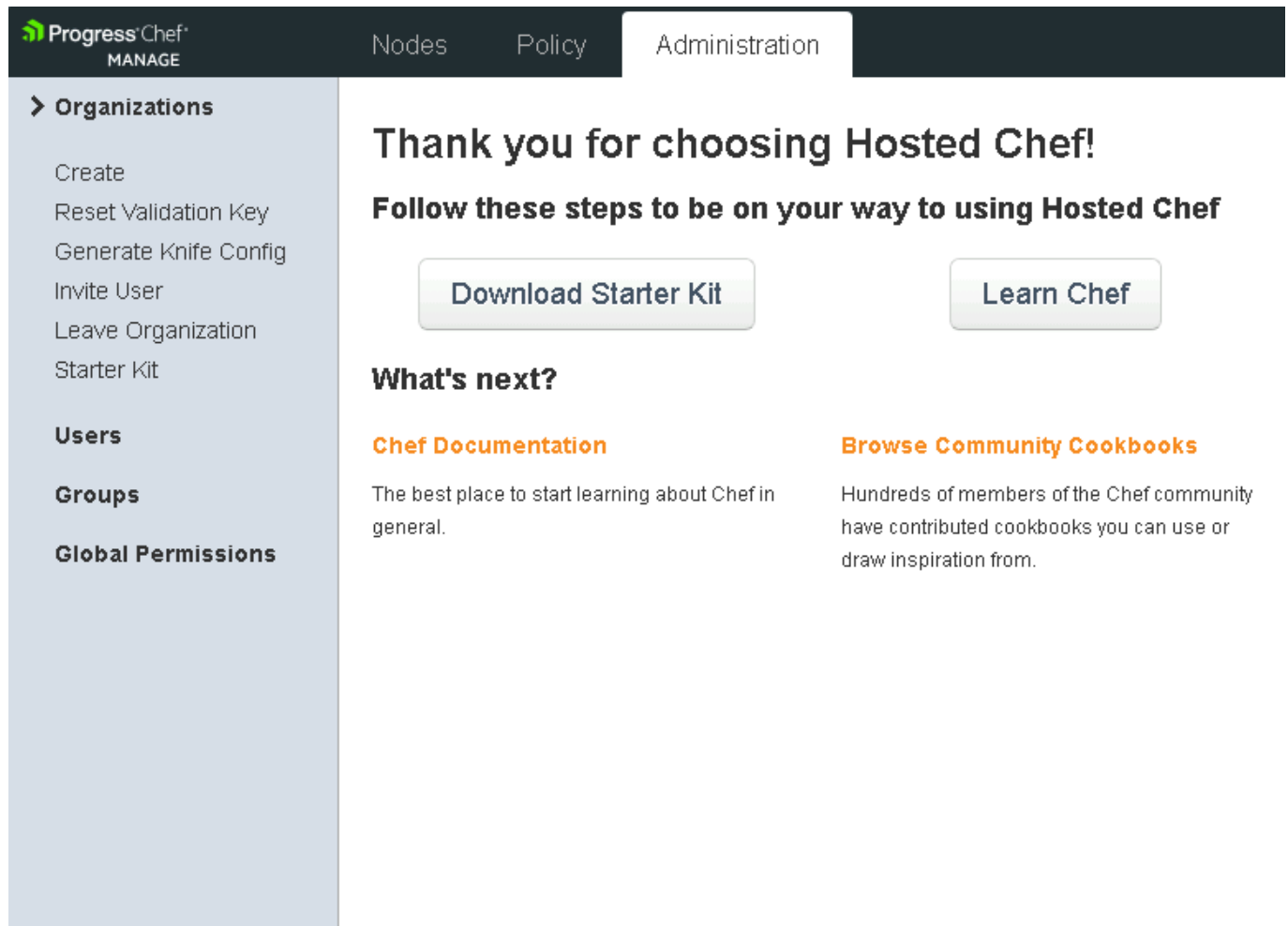
The screenshot shows a web application interface with a top navigation bar containing 'Policy' and 'Administration' tabs, and a 'Feedback' link. A 'Create Organization' modal dialog is open in the center. The dialog has a dark header with a close button (X). It contains two input fields: 'Full Name (example: Chef, Inc.)' with the value 'Chef_server' and 'Short Name (example: chef)' with the value 'chefserver02'. At the bottom are 'Cancel' and 'Create Organization' buttons.

Please select an Organization

3. Download the Starter Kit

- After creating the organization, navigate to the **Starter Kit** section (usually under your organization settings).
- Click **Download Starter Kit**. The kit includes essential configuration files for Chef, like `knife.rb`, which you'll need to manage nodes.
- Follow any on-screen prompts to confirm the download.
- Extract the files

The starter kit should now be downloaded to your system, and you can proceed with configuring Chef on your workstation using the kit files.



Progress Chef MANAGE

Nodes Policy Administration

> Organizations

- Create
- Reset Validation Key
- Generate Knife Config
- Invite User
- Leave Organization
- Starter Kit

Users

Groups

Global Permissions

Thank you for choosing Hosted Chef!

Follow these steps to be on your way to using Hosted Chef

[Download Starter Kit](#) [Learn Chef](#)

What's next?

Chef Documentation

The best place to start learning about Chef in general.

Browse Community Cookbooks

Hundreds of members of the Chef community have contributed cookbooks you can use or draw inspiration from.

Step-4: Generate your Cookbook

- cd to chef-start\chef-repo\cookbooks and open command prompt

1. Creating a Cookbook

- In order to keep our example as simple as possible let's create a chef-infra cookbook to automate the installation and management of the Git distributed version control tool.
- run the following command to generate a cookbook

```
chef generate cookbook git_cookbook
```

```

C:\Users\Administrator>chef generate cookbook git_cookbook
+-----+
          Chef License Acceptance
+-----+

Before you can continue, 3 product licenses
must be accepted. View the license at
https://www.chef.io/end-user-license-agreement/

Licenses that need accepting:
  * Chef Workstation
  * Chef Infra Client
  * Chef InSpec

Do you accept the 3 product licenses (yes/no)?

> yes

Persisting 3 product licenses...
[+] 3 product licenses persisted.

+-----+
Generating cookbook git_cookbook
- Ensuring correct cookbook content
- Committing cookbook files to git

Your cookbook is ready. Type `cd git_cookbook` to enter it.

There are several commands you can run to get started locally developing and testing your cookbook.

Why not start by writing an InSpec test? Tests for the default recipe are stored at:

test/integration/default/default_test.rb

If you'd prefer to dive right in, the default recipe can be found at:

recipes/default.rb

C:\Users\Administrator>_

```

2. Configure kitchen.yml File for Node Configuration

- The `kitchen.yml` file is the main configuration file for **Test Kitchen**. It defines how to set up, run, and destroy instances for testing infrastructure code, primarily used for Chef cookbooks.
- cd to chef-start\chef-repo\cookbooks\git_cookbook
- Edit the `kitchen.yml` file

```

---
driver:
  name: vagrant

provisioner:
  name: chef_infra

verifier:
  name: inspec

platforms:
  - name: ubuntu-20.04

suites:
  - name: default
    verifier:


```



```

inspec_tests:
  - test/integration/default
attributes:

```

 kitchen - Notepad

File Edit Format View Help

```

|---
driver:
  name: vagrant

provisioner:
  name: chef_infra

verifier:
  name: inspec

platforms:
  - name: ubuntu-20.04

suites:
  - name: default
    verifier:
      inspec_tests:
        - test/integration/default
    attributes:

```

- Run the following command to verify the **kitchen list**

```
kitchen list
```


```

C:\Users\Administrator\git_cookbook>kitchen list
Instance      Driver  Provisioner  Verifier  Transport  Last Action  Last Error
default-ubuntu-2004  Vagrant ChefInfra    Inspec    Ssh        <Not Created> <None>

C:\Users\Administrator\git_cookbook>_

```

- Configure virtual machine boot timeout
 - cd to C:\Users\Administrator.vagrant.d\boxes\bento-VAGRANTSLASH-ubuntu-20.04\202407.23.0\amd64\virtualbox
 - Add config.vm.boot_timeout = 600 to the **Vagrantfile**



```

Vagrantfile - Notepad
File Edit Format View Help

# The contents below were provided by the Packer Vagrant post-processor

Vagrant.configure("2") do |config|
  config.vm.base_mac = "080027CB1A1D"
  config.vm.boot_timeout = 600
end

# The contents below (if any) are custom contents provided by the
# Packer template during image build.

Ln 6, Col 31    100%    Unix (LF)    UTF-8

```

Step-5: Create your Node

A Test Kitchen **Instance** is a combination of a **Suite** and a **Platform** as laid out in your `kitchen.yml` file. Test Kitchen has auto-named our only instance by combining the **Suite** name ("**default**") and the **Platform** name ("**ubuntu-20.04**") into a form that is safe for DNS and hostname records, namely "**default-ubuntu-2004**".

Let's spin this **Instance** up to see what happens. We're going to be explicit and ask kitchen to only create the **default-ubuntu-2004** instance:

```
kitchen create default-ubuntu-2004
```

```

C:\Users\Administrator\git_cookbook>kitchen create default-ubuntu-2004
-----> Starting Test Kitchen (v3.6.0)
-----> Creating <default-ubuntu-2004>...
  Bringing machine 'default' up with 'virtualbox' provider...
  ==> default: Importing base box 'bento/ubuntu-20.04'...
==> default: Matching MAC address for NAT networking...
  ==> default: Checking if box 'bento/ubuntu-20.04' version '202407.23.0' is up to date...
  ==> default: Setting the name of the VM: kitchen-git_cookbook-default-ubuntu-2004-f65108d6-7cf9-48a7-b2d4-832077deb402
  ==> default: Clearing any previously set network interfaces...
  ==> default: Preparing network interfaces based on configuration...
    default: Adapter 1: nat
  ==> default: Forwarding ports...
    default: 22 (guest) => 2222 (host) (adapter 1)
  ==> default: Running 'pre-boot' VM customizations...
  ==> default: Booting VM...
  ==> default: Waiting for machine to boot. This may take a few minutes...
    default: SSH address: 127.0.0.1:2222
    default: SSH username: vagrant
    default: SSH auth method: private key
    default: Warning: Connection reset. Retrying...
    default: Warning: Connection aborted. Retrying...
    default:
    default: Vagrant insecure key detected. Vagrant will automatically replace
    default: this with a newly generated keypair for better security.
    default:
    default: Inserting generated public key within guest...
    default: Removing insecure key from the guest if it's present...
    default: Key inserted! Disconnecting and reconnecting using new SSH key...
  ==> default: Machine booted and ready!
  ==> default: Checking for guest additions in VM...
  ==> default: Setting hostname...
  ==> default: Mounting shared folders...
    default: C:/Users/Administrator/.kitchen/cache => /tmp/omnibus/cache
  ==> default: Machine not provisioned because '--no-provision' is specified.
  [SSH] Established
  Vagrant instance <default-ubuntu-2004> created.
  Finished creating <default-ubuntu-2004> (9m56.21s).
-----> Test Kitchen is finished. (10m1.39s)

```

1. Setup Node

- Run the following command to login to your Node

```
kitchen login
```

```
C:\Users\Administrator\git_cookbook>kitchen login
Welcome to Ubuntu 20.04.6 LTS (GNU/Linux 5.4.0-189-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/pro

System information as of Fri 08 Nov 2024 06:18:05 AM UTC

System load:  0.06               Processes:           150
Usage of /:   11.6% of 30.34GB   Users logged in:    0
Memory usage: 10%               IPv4 address for eth0: 10.0.2.15
Swap usage:   0%

This system is built by the Bento project by Chef Software
More information can be found at https://github.com/chef/bento

Use of this system is acceptance of the OS vendor EULA and License Agreements.
Last login: Fri Nov  8 06:18:44 2024 from 10.0.2.2
vagrant@default-ubuntu-2004:~$
```

- Run the following command to open the sudoers file safely

```
sudo visudo
```

```
vagrant@default-ubuntu-2004:~$ sudo visudo_
```

- Add the following at the end of sudoers file and **ctrl+x** to safely exit the file

```
vagrant  ALL=(ALL) NOPASSWD:ALL
```

```

##
# This file MUST be edited with the 'visudo' command as root.
#
# Please consider adding local content in /etc/sudoers.d/ instead of
# directly modifying this file.
#
# See the man page for details on how to write a sudoers file.
#
Defaults        env_reset
Defaults        exempt_group=sudo
Defaults        mail_badpass
Defaults        secure_path="/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/sbin:/bin:/snap/bin"

# Host alias specification

# User alias specification

# Cmnd alias specification

# User privilege specification
root    ALL=(ALL:ALL) ALL

# Members of the admin group may gain root privileges
%admin   ALL=(ALL) ALL

# Allow members of group sudo to execute any command
%sudo   ALL=(ALL:ALL) ALL

# See sudoers(5) for more information on "#include" directives:

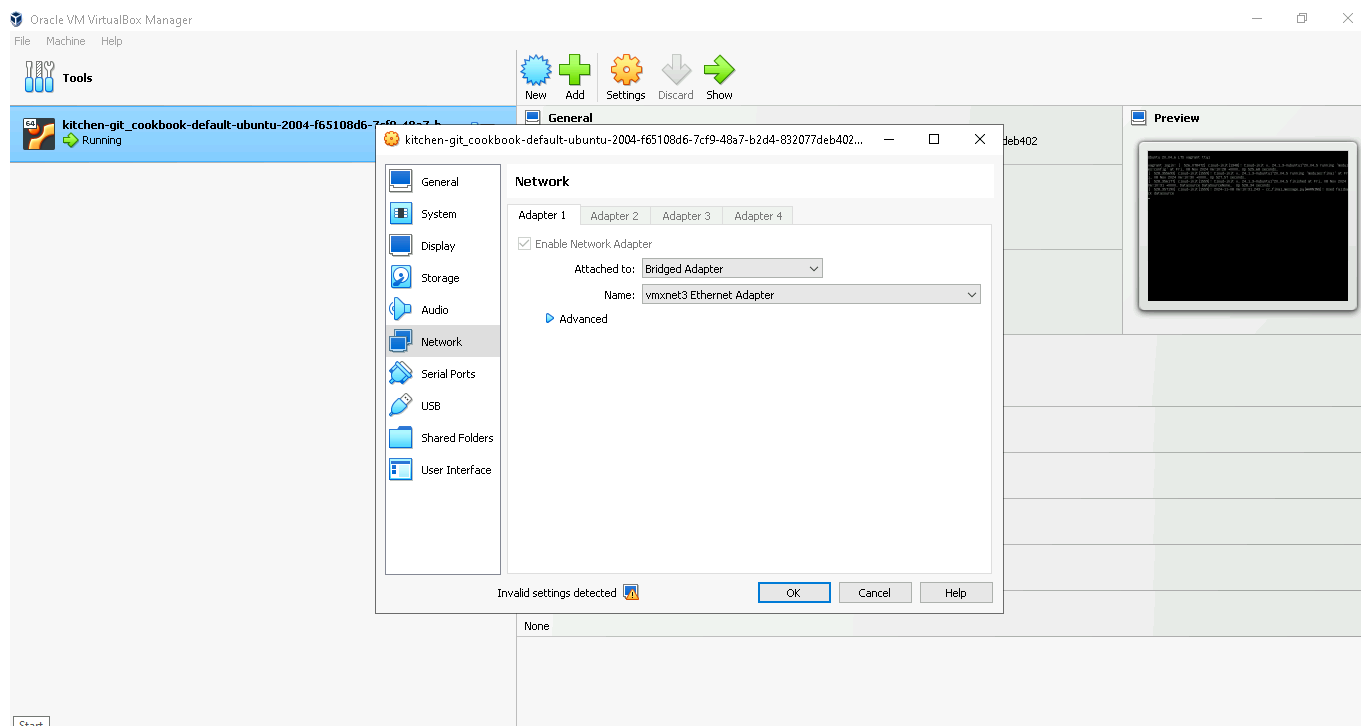
#include::/etc/sudoers.d

vagrant  ALL=(ALL) NOPASSWD:ALL

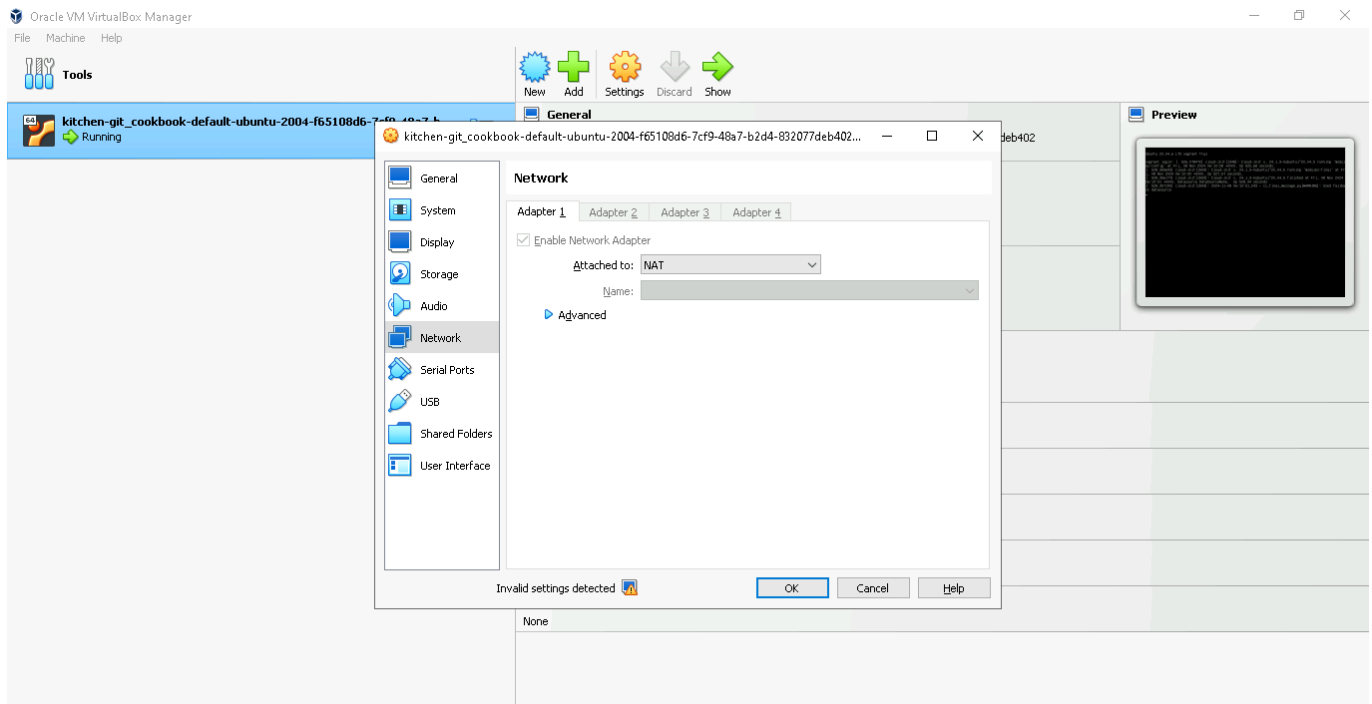
```

Step-6: Change the Network Settings

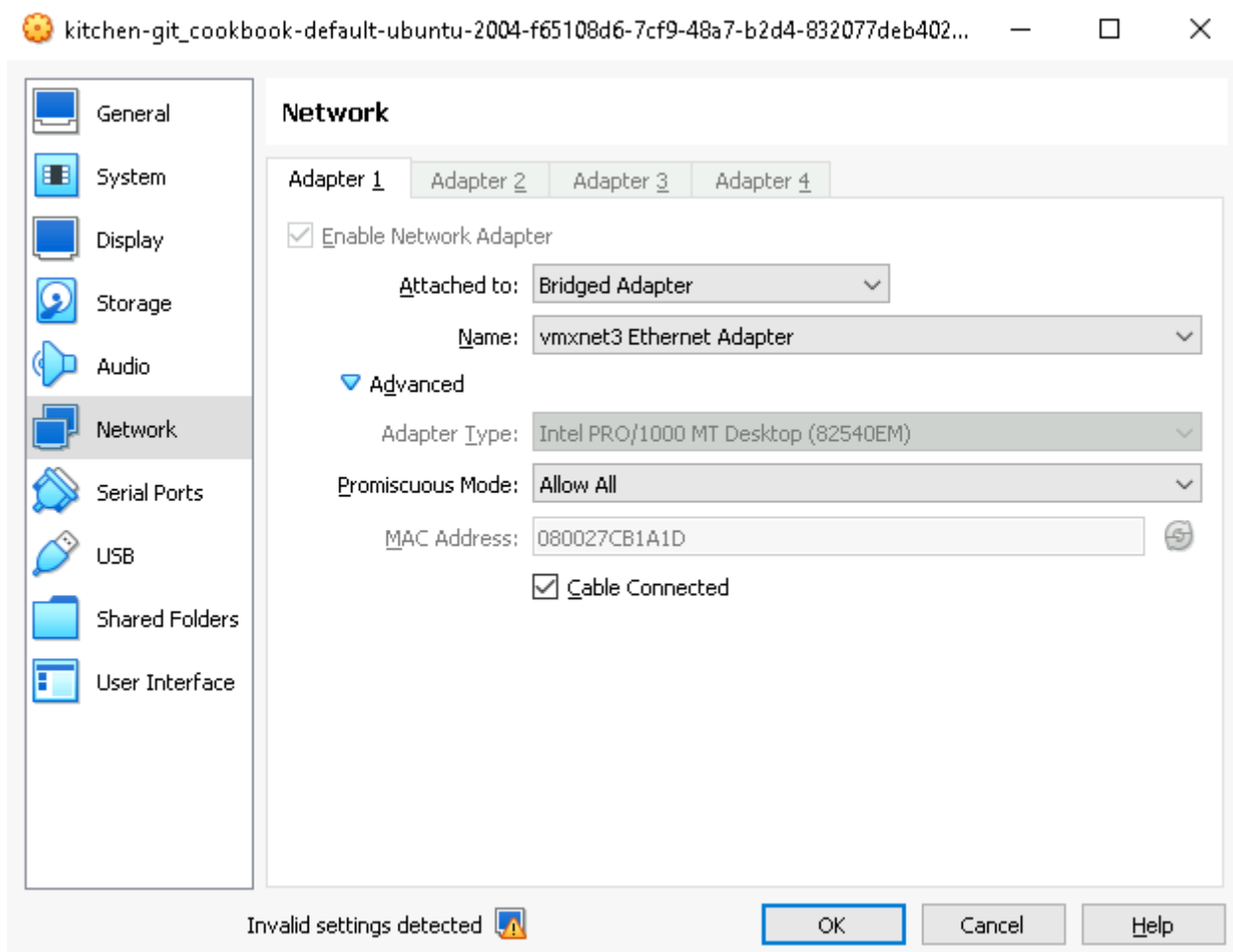
- Open your Virtual box and click on **Network**



- Change the Network settings from Attached to:**NAT** to Attached to:**Bridged Adapter**

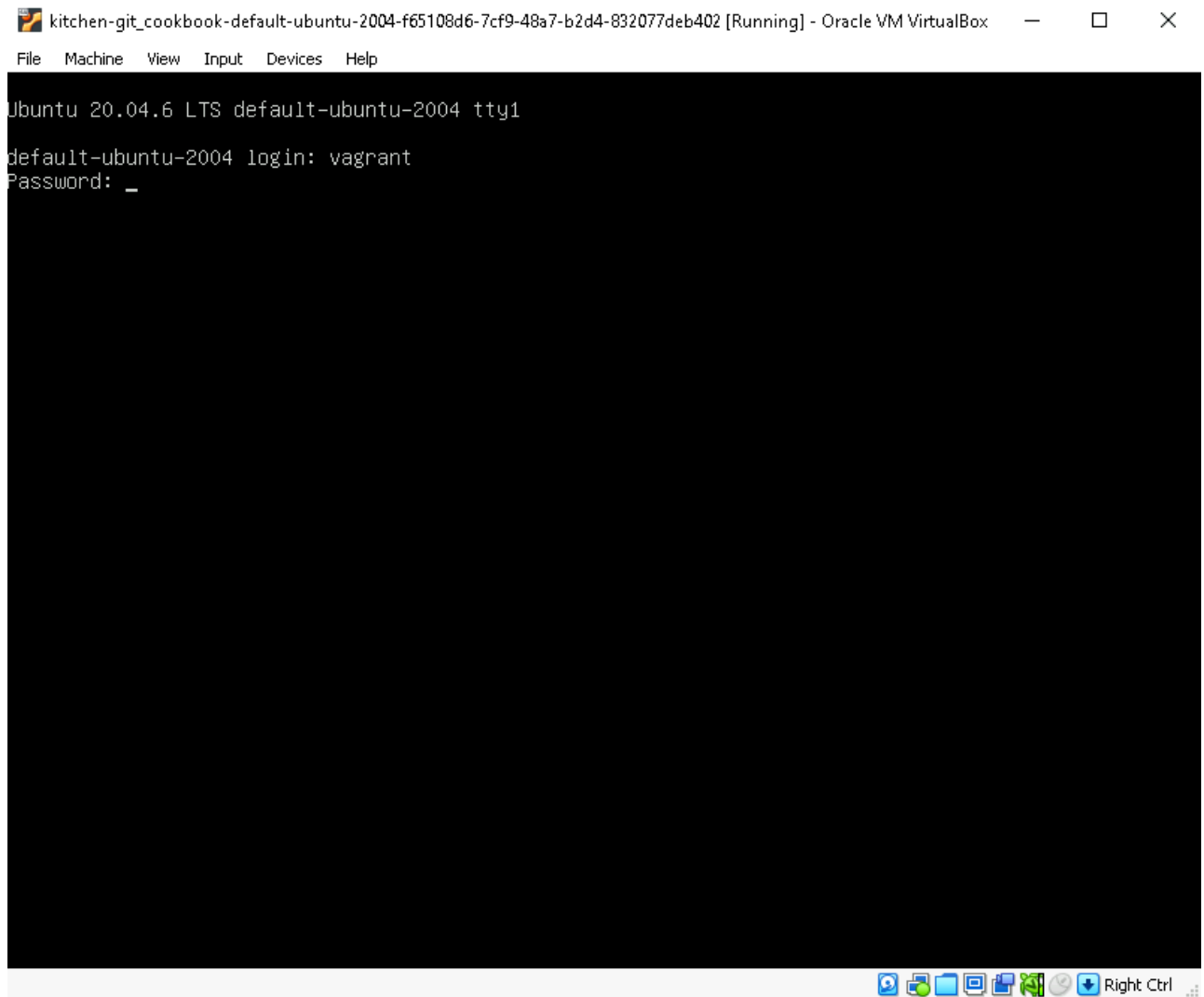


- Change the Promiscuous Mode: **Allow All** and click on **ok**



- Reboot your Node by stopping the system in virtual box and starting it again
- Once the system is Running, click on Show and login to your system with the following credetials
 - username- vagrant

- password- vagrant



- Run the following command to install net-tools

```
sudo apt install net-tools
```

```
vagrant@default-ubuntu-2004:~$ sudo apt install net-tools
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following NEW packages will be installed:
  net-tools
0 upgraded, 1 newly installed, 0 to remove and 0 not upgraded.
Need to get 196 kB of archives.
After this operation, 864 kB of additional disk space will be used.
Get:1 http://us.archive.ubuntu.com/ubuntu focal/main amd64 net-tools amd64 1.60+git20180626.aebd88e-1ubuntu1 [196 kB]
Fetched 196 kB in 7s (27.7 kB/s)
Selecting previously unselected package net-tools.
(Reading database ... 41439 files and directories currently installed.)
Preparing to unpack .../net-tools_1.60+git20180626.aebd88e-1ubuntu1_amd64.deb ...
Unpacking net-tools (1.60+git20180626.aebd88e-1ubuntu1) ...
Setting up net-tools (1.60+git20180626.aebd88e-1ubuntu1) ...
Processing triggers for man-db (2.9.1-1) ...
vagrant@default-ubuntu-2004:~$
```

- Check the ipconfig of your Node and Note down the etho2 ip: inet

```
ip a
```

```
kitchen-git_cookbook-default-ubuntu-2004-f65108d6-7cf9-48a7-b2d4-832077deb402 [Running] - Oracle VM VirtualBox
File Machine View Input Devices Help
vagrant@default-ubuntu-2004:~$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc fq_codel state UP group default qlen 1000
    link/ether 08:00:27:cb:1a:1d brd ff:ff:ff:ff:ff:ff
    inet 172.19.4.155/16 brd 172.19.255.255 scope global dynamic eth0
        valid_lft 86110sec preferred_lft 86110sec
    inet6 fe80::a00:27ff:feeb:1a1d/64 scope link
        valid_lft forever preferred_lft forever
vagrant@default-ubuntu-2004:~$ _
```

Step-7: Connect Server to your Node

Run the following command to connect server to your node

Note: Replace the ip address in the command with your respective ip address

```
knife bootstrap 172.19.4.155 -U vagrant -P vagrant --sudo -N chef-node
```

```
C:\Users\Administrator\Downloads\chef-starter\chef-repo\cookbooks>knife bootstrap 172.19.4.155 -U vagrant -P vagrant --sudo -N chef-node
INFO: Using configuration from C:/Users/Administrator/Downloads/chef-starter/chef-repo/.chef/config.rb
Connecting to 172.19.4.155 using ssh
The authenticity of host '172.19.4.155 ()' can't be established.
fingerprint is SHA256:AsisF7nXdcrc7xz0/aEi8wrf4wb/HKNVxd5PNyvtKzw.
Are you sure you want to continue connecting
? (Y/N) Y
Connecting to 172.19.4.155 using ssh
Creating new client for chef-node
Creating new node for chef-node
Bootstrapping 172.19.4.155
[172.19.4.155] -----> Installing Chef Omnibus (stable/18)
downloading https://omnitruck.chef.io/chef/install.sh
  to file /tmp/install.sh.1392/install.sh
[172.19.4.155] trying wget...
[172.19.4.155] ubuntu 20.04 x86_64
setting information for chef stable 18 for ubuntu...
downloading https://omnitruck.chef.io/stable/chef/metadata?v=18&p=ubuntu&pv=20.04&m=x86_64
  to file /tmp/install.sh.1396/metadata.txt
[172.19.4.155] trying wget...
[172.19.4.155] sha1 b27b98228f3fd5c0e9a09b04b869cb96d478f22b
sha256 b502d80f8d358560d7b1015d967f478d89e05529c386310b13fb5ab274977d3
url https://packages.chef.io/files/stable/chef/18.5.0/ubuntu/20.04/chef_18.5.0-1_amd64.deb
version 18.5.0
[172.19.4.155] downloaded metadata file looks valid...
[172.19.4.155] downloading https://packages.chef.io/files/stable/chef/18.5.0/ubuntu/20.04/chef_18.5.0-1_amd64.deb
  to file /tmp/install.sh.1396/chef_18.5.0-1_amd64.deb
[172.19.4.155] trying wget...
[172.19.4.155] Comparing checksum with sha256sum...
[172.19.4.155] Installing chef 18
installing with dpkg...
[172.19.4.155] Selecting previously unselected package chef.
[172.19.4.155] (Reading database ... 41488 files and directories currently installed.)
Preparing to unpack .../chef_18.5.0-1_amd64.deb ...
[172.19.4.155] Unpacking chef (18.5.0-1) ...
[172.19.4.155] Setting up chef (18.5.0-1) ...
[172.19.4.155] Thank you for installing Chef Infra Client! For help getting started visit https://learn.chef.io
[172.19.4.155] Starting the first Chef Infra Client Client run...
[172.19.4.155] +-----+
  2 product licenses accepted.
```

- Verify your node
 1. Go to [Manage Chef](#) in your web browser.
 2. Click on your **Organization**.
 3. Click n **Nodes**.



The screenshot shows the Chef Manage web interface. The top navigation bar includes 'Nodes', 'Policy', and 'Administration'. The left sidebar has a 'Nodes' section with options like 'Delete', 'Manage Tags', 'Reset Key', 'Edit Run List', and 'Edit Attributes'. The main content area displays a table of nodes. The table has columns for Node Name, Platform, FQDN, IP Address, Uptime, Last Check-in, Environment, and Actions. One node is listed: 'chef-node' on 'ubuntu' platform, with FQDN 'default-ubuntu-2004.va...', IP '172.19.4.155', uptime of '17 minutes', and last check-in '11 minutes ago' in the '_default' environment.

Node Name	Platform	FQDN	IP Address	Uptime	Last Check-in	Environment	Actions
chef-node	ubuntu	default-ubuntu-2004.va...	172.19.4.155	17 minutes	11 minutes ago	_default	

References

- Official Chef Documentation: <https://docs.chef.io/>
- Setting Up Chef Server: <https://docs.chef.io/server/>
- Working with Chef Workstation: <https://docs.chef.io/workstation/>
- Chef Infra Client Overview: https://docs.chef.io/chef_client_overview/