Installation of Chef WorkStation on AWS Linux

Chef is a free and open source *Infrastructure as Code* (IaC) application. It's a configuration management system that allows administrators to provision and manage infrastructure using automation. A complete Chef workflow includes one or more Chef Workstations, a Chef Server, and a set of nodes.

What is Chef?

Chef is a IaC application for automating and streamlining the process of provisioning, configuring, deploying, and managing network nodes.

It allows for continuous deployment and an automated environment. Chef can manage many types of components including servers, containers, and networking infrastructure.

A chef is an open-source **configuration management tool** that uses **Ruby** to develop essential building blocks like recipes and cookbooks. It is an automation tool that converts infrastructure to code. It focuses on writing code instead of using the manual process. This feature enables Chef to manage and configure multiple systems with ease. The code can be tested and continuously deployed using Chef.

One or more Chef Workstations interact with the Server, which automates the configuration of one or more Chef nodes. Configuration assets move from the workstation to the server and finally to the nodes. Workstations cannot interact with the nodes directly. The Chef infrastructure consists of the following components.

Chef Workstation: A workstation is a server for creating and testing configuration code. The code is then pushed to the Chef Server. Several workstations can interact with the same server, but each workstation only links to one server. The Chef Workstation documentation contains more information on how to use the workstation.

Chef Server: The Chef Server is the "command center" for the entire system. It stores and maintains all the configuration files, code, and scripts. A Chef Server includes many components, including a web server and PostgreSQL database. It is responsible for pushing the relevant assets to the various nodes and keeping track of the nodes under its management. Each server is highly capable, efficient, and robust, and is capable of managing a large number of nodes.

Chef Node: The Chef Server deploys and manages a node using assets developed on the Chef Workstation. Each node is administered by a single Chef Server. Although it is dependent on the server, a Chef Node contains a Chef client. The client queries the server for updates and keeps the node up to date.

Chef Workstation comes with everything you need to get started with Chef in a simple one-click installation and to start delivering infrastructure automation without the need to set up any other software, such as a Chef client or Chef server. The ideal tool for brand-new users to begin using Chef is Chef Workstation.

A variety of resources, helpers, and testing tools are included in Chef Workstation, the new developer toolkit from Chef that makes it simpler than ever to automate infrastructure, application, and security testing. DevOps automators can generate, test, and deliver the codified artifacts all from within their preferred development environment with Chef Workstation.

Chef Infra is a framework for system and cloud infrastructure automation that makes it simple to deploy servers and apps to any physical, virtual, or cloud location, regardless of infrastructure size. Each organization is made up of one (or more) Chef Workstation installations, a single server, and every node that Chef Infra Client will configure and maintain. Cookbooks (and

recipes) are used to instruct Chef Infra Client on how to configure each node in your business. The actual setup is handled by the Chef Infra Client, which is installed on each node.

Chef Workstation comes with:

- Chef Infra Client,
- Chef Habitat,
- Chef InSpec,
- Testing tools such as Test Kitchen and Cook style,
- chef and knife command line tools,
- Everything else which is required to author cookbooks and upload these cookbooks to the Chef Infra Server.

Supported Platforms

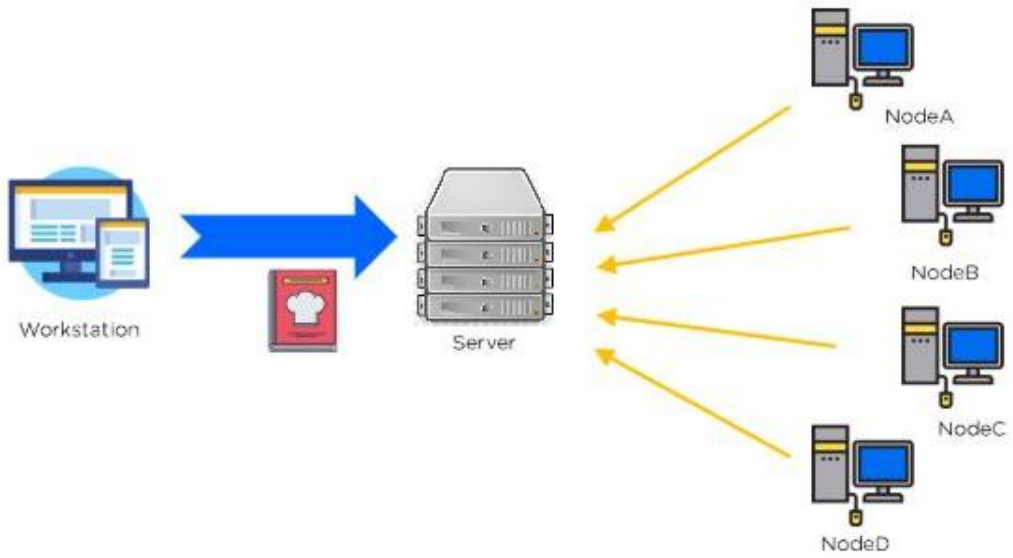
Supported Host Operating Systems:

Platform	Version
Amazon Linux	2
Apple macOS	10.15, 11, 12
Windows	10, 11, Server 2012, Server 2012 R2, Server 2016, Server 2019, Server 2022
Red Hat Enterprise Linux / CentOS	7.x, 8.x
Ubuntu	16.04, 18.04, 20.04
Debian	9, 10, 11

Architecture & Components of the Chef:

The architecture of Chef can be divided into three components:

1. Workstation
2. Chef Server
3. Nodes



Step by Step Installation of Chef WorkStation on Linux Server.

Step1: Launch the 2 or 3 AWS EC2 Linux Instances

-Connect to the Instances using putty

- Name the instances as

-Chef-WorkStation

-Chef Node(Client Machines)

Step2:

- Sign up and user in https://manage.chef.io/
- Create an Organization and Download the Chef-Starter Kit of the Organization.
- Install the winscp software from the following link

https://winscp.net/eng/download.php to upload the files into AWS EC2 instances

Step3: Download the Chefdk or Chef Workstation from the following link

https://www.chef.io/downloads/tools/workstation?os=amazon

- After download the chef workstation i.e., rpm file. Move the file into AWS EC2 instance using **WINSCP** application.

Step4:

Connect to the AWS EC2 instance(Chef-WorkStation).

[root@chefworkstation ec2-user]# yum update -y

[root@chefworkstation ec2-user]#

yum install chef-workstation-23.5.1040-1.el7.x86_64.rpm

root@chefworkstation ec2-user]# which chef

/bin/chef

[root@chefworkstation ec2-user]# chef -v

Chef Workstation version: 23.5.1040
Chef CLI version: 5.6.11
Chef Habitat version: 1.6.652
Test Kitchen version: 3.5.0
Cookstyle version: 7.32.2
Chef Infra Client version: 18.2.7
Chef InSpec version: 5.21.29

Step 6:

- copy the <keypair.pem> into chef-starter/chef-repo location
- using winscp move the keypair.pem file into the chef-repo location

Step7:

- Create the Node in the Chef Server https://manage.chef.io/

[root@chefworkstation chef-repo]#

knife bootstrap 10.7.1.132 --ssh-user ec2-user --sudo -i aws-classroomkp.pem -N CNode1

Step 8:

Check the node in chef sever

[**root@chefworkstation chef-repo]#** knife node list