K. J. Somaiya College of Engineering, Mumbai-77
(Autonomous College Affiliated to University of Mumbai)

Batch: A1	**Roll No.: 16010120015** **16010120013** **16010120020**
Experiment / assignment / tutorial No. 8	

Title: Study Experiment on Software Management Configuration Tools.

Objective: To study about Software Configuration Management Tools.

Expected Outcome of Experiment:
CO :

Books/ Journals/ Websites referred:

1. Roger Pressman, Software Engineering: A practitioner's Approach, McGraw Hill, 2010 ,6th edition
2. Ian Somerville , Software Engineering , Addison Wesley,2011,9th edition
3 http://en.wikipedia.org/wiki/Software_requirements_specification

Software Management Configuration Tool Selected:
CHEF: https://www.chef.io/products/chef-infra

Chef:

Chef is a popular tool for configuration management of IT infrastructure. Its flagship enterprise solution, Chef, is a strong choice for experienced DevOps teams who want to automate their development and deployment infrastructure.
Chef Infra configuration management software eliminates manual efforts and ensures infrastructure remains consistent and compliant over its lifetime, even in the most complex, heterogenous, and large-scale environments.Chef has Client-server architecture and it supports multiple platforms like Windows, Ubuntu, Centos, and Solaris etc. It can also be integrated with cloud platforms like AWS, Google Cloud Platform, and OpenStack etc.

Features of Chef

Following are the most prominent features of Chef −

- Chef uses the popular Ruby language to create a domain-specific language.
- Chef does not make assumptions on the current status of a node. It uses its mechanisms to get the current status of the machine.
- Chef is ideal for deploying and managing the cloud server, storage, and software.

Advantages of Chef

Chef offers the following advantages −

- Lower barrier for entry − As Chef uses native Ruby language for configuration, a standard configuration language it can be easily picked up by anyone having some development experience.
- Excellent integration with cloud − Using the knife utility, it can be easily integrated with any of the cloud technologies. It is the best tool for an organization that wishes to distribute its infrastructure in a multi−cloud environment.

Disadvantages of Chef

Some of the major drawbacks of Chef are as follows −

- One of the huge disadvantages of Chef is the way cookbooks are controlled. It needs constant babying so that people who are working should not mess up with others cookbooks.
- Only Chef solo is available.

- In the current situation, it is only a good fit for AWS cloud.
- It is not very easy to learn if the person is not familiar with Ruby.
- Documentation is still lacking.

Applications of Chef:

- Accelerating Software Delivery

  Analysts measure speed in terms of both how frequently the software is deployed and the period of time between a new commit to the code base and the subsequent deployment.

- Increasing Service Resiliency

  Catching bugs and issues before they occur and monitoring for problems, infrastructure automation increases your system's resiliency just as much as it accelerates delivery speed.

- Improving Risk Management

  Chef's infrastructure automation capabilities are able to lower risk and improve compliance at all stages of development. Your compliance and security policies can be encoded as part of a Chef recipe and tested automatically before deployment.

- Accelerating Cloud Adoption

  Chef frees up time for your DevOps team to be more agile and efficient. Your applications and workloads can be moved quickly and smoothly, while your servers and infrastructure are automatically installed, configured, and provisioned according to Chef recipes that you write ahead of time.

- Managing Both Data Center and Cloud Environments

  Under the Chef umbrella, you can manage all your cloud and on-premises environments at once, including servers running the Windows, Linux, IBM AIX, and Solaris operating systems. Chef is also a "cloud agnostic" solution, allowing you to keep using it even as you change cloud providers.

- Delivering All Your Infrastructure – Any App, Everywhere, Continuously

  Chef is able to cut through this complexity to streamline your IT operations and workflow. From building and testing all the way through delivery, monitoring, and

troubleshooting, Chef provides a pipeline for continuous deployment that you can use to achieve more and make better decisions.