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Course and Video from Technical Guftgu channel on YouTube.

**CHEF** A person standing in front of a whiteboard

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CHEF – Configuration Management Tool

We have two types of Configuration Management Tools that are push based and pull based.

Chef is a pull based, while Ansible is a push based.

In case of Ansible, we have the central server pushing changes/updates/installations of softwares or files to multiple node systems at a time.

While, in case of Chef, there are multiple cookbooks created at the central server aka chef-server and there are multiple node systems which pull the changes/updates/installations of softwares through recipes created in cookbooks at chef-server. Refer above diagram.

Chef server 🡪 creates a central folder whose name must be ‘cookbooks’ this server can be hosted on AWS EC2. Within the cookbooks folder, we can create multiple cookbooks and within those cookbooks we can create multiple recipes (recipes are code snippets which inform the client machines to install or update changes)

* Chef server is going to be a mediator for the code or cookbooks.
* Firstly, create one account in chef-server 🡪 manage.chef.io
* Then, attach your workstation to chef-server
* Now, upload your cookbooks from workstation to chef-server
* Now, attach nodes to chef-server via bootstrap process.
* Apply cookbooks from chef-server.

Node systems 🡪 consists of Ohai, knife and Chef-client. Here, ohai keeps the records of all the files or folders or softwares installed or present in the system. Chef-client internally uses knife(command line tool) to get the updates or changes from chef server. It first checks for the changes in ohai and only retrieves the changes not present previously in ohai. That is how the node systems stay up to date with chef server.

**NOTE:**

If you want to create a cookbook or a recipe in the cook book switch to admin user first in the chef workstation.

Commands:

* To generate a cookbook, first cd into ‘cookbooks’ folder and type the below command:
  + chef generate cookbook cookbookname
* To generate a recipe, first cd into a specific cookbook folder and type the below command:
  + cd cookbookname
  + chef generate recipe recipename
  + here the recipes will be in ruby language

Here, the recipename recipe will be in cookbooks/cookbookname/recipes/recipename.rb

* After generating a recipe, we have to check for its syntax and then execute it. First cd back to ‘cookbooks’ folder.
  + Check for syntax:
    - chef exec ruby -c cookbookname/recipes/recipename.rb
      * This will give a Syntax OK message if everything is alright. Then proceed to next step.
  + Now node systems can run the below command to execute the recipes and make the updates/changes/installations required:
    - chef-client -zr “recipe[cookbookname::recipename]”

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**Running Commands in recipe, creating user and groups.**

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Shortcut to create users and files instead of writing the whole ruby script is to write

user “username”

file “filename”

**Runlist:**

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**Run Multiple Recipes from a single cookbook or multiple cookbooks at a time:**

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Even if you don’t include the recipe name, it will execute the default recipe IF all other recipes of that cookbook are included into default recipe.

**Installing Chef Server, WINSCP and Connecting it with workstation:**

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**Bootstrap Node to Chef-server:**

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**Upload to server and apply to node from workstation:**

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Upload cookbook: knife cookbook upload sample-cookbook

To check list of cookbooks on server: knife cookbook list

Set recipe run list on a certain node: knife node run\_list set node1 “recipe[sample-cookbook::sample-recipe]”

To show the run lists on a certain node: knife node show node1

**Automate node tasks using CRON:**

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**Commands to delete and clean Chef-Server:**

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**Chef Roles:**

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