

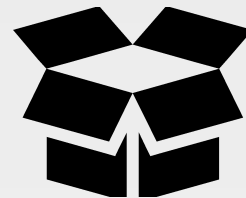
# Hosted Chef

*Adding nodes to your Chef Server*

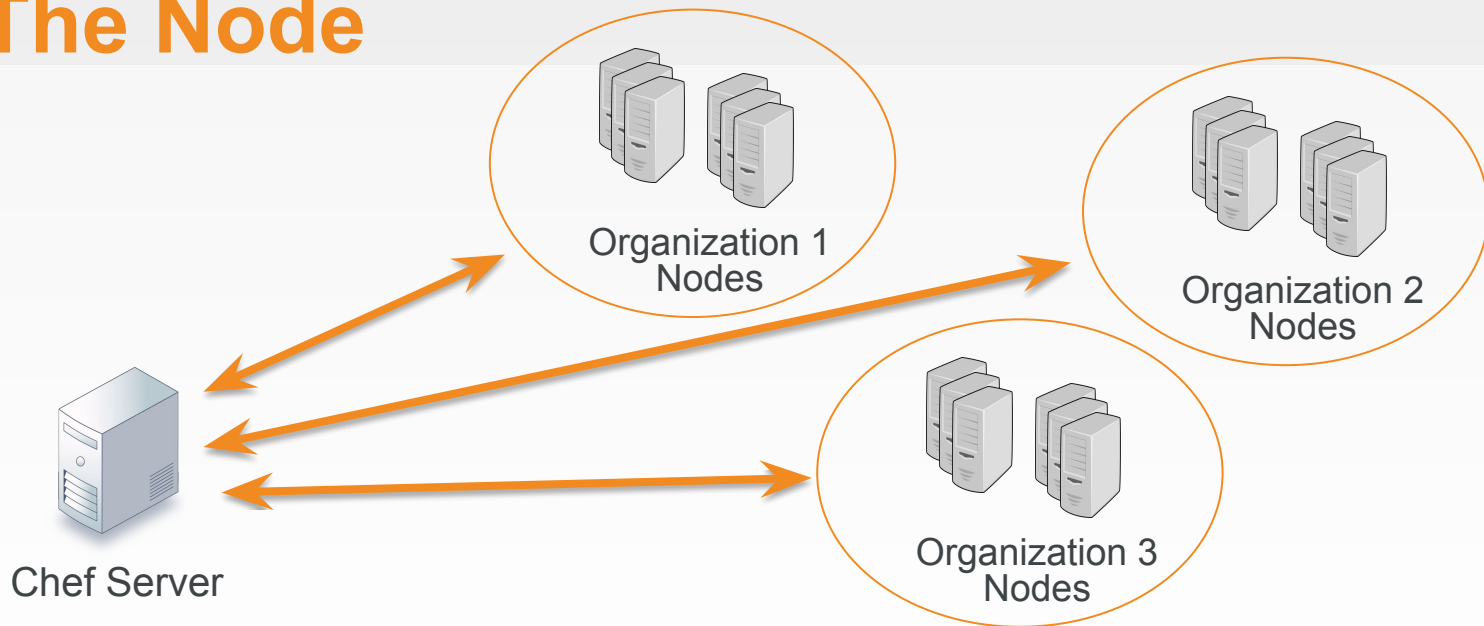
## Objective:

- ✓ Create a Hosted Chef Account
- ✓ Upload your cookbooks to the Hosted Chef Server
- ✓ Bootstrap a node and update its runlist

# CONCEPT



## The Node



# Change to the chef-repo



```
$ cd ~/chef-repo
```



# Run 'knife node --help'



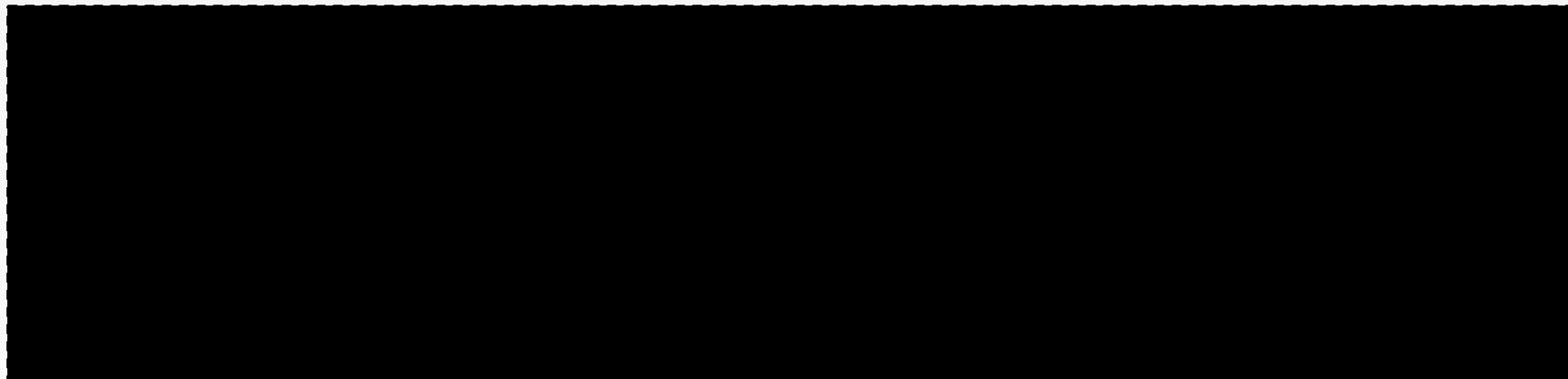
```
$ knife node --help
```

```
** NODE COMMANDS **  
  
knife node bulk delete REGEX (options)  
knife node create NODE (options)  
knife node delete NODE (options)  
knife node edit NODE (options)  
knife node environment set NODE ENVIRONMENT  
knife node from file FILE (options)  
knife node list (options)  
knife node run_list add [NODE] [ENTRY[,ENTRY]] (options)  
knife node run_list remove [NODE] [ENTRY[,ENTRY]] (options)  
knife node run_list set NODE ENTRIES (options)  
knife node show NODE (options)
```

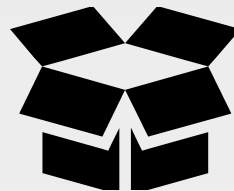
# Run 'knife node list'



```
$ knife node list
```



# CONCEPT



## Bootstrapping a Node

The node may not have Chef installed. It may also not have details of where the Chef Server is located or the credentials to securely talk to that Server. To add those credentials we can **bootstrap** that node to install all those components.

<https://learn.chef.io/skills/beyond-essentials-1>

# Run 'knife bootstrap -help'



```
$ knife bootstrap --help
```

```
knife bootstrap FQDN (options)
  --bootstrap-curl-options OPTIONS
                                Add options to curl when install chef-client
  --bootstrap-install-command COMMANDS
                                Custom command to install chef-client
  --bootstrap-no-proxy [NO_PROXY_URL|NO_PROXY_IP]
                                Do not proxy locations for the node being
bootstrapped; this option is used internally by Opscode
  --bootstrap-proxy PROXY_URL  The proxy server for the node being bootstrapped
  -t TEMPLATE,                 Bootstrap Chef using a built-in or custom
template. Set to the full path of an erb
template or use one of the built-in templates.
```

# Bootstrap Your Node - options



```
$ knife bootstrap FQDN -x USER -P PWD --sudo -N node_name
```

Creating new client for node1

Creating new node for node1

Fully Qualified Domain  
Name

user name

password

sudo flag

node name

ec2-54-175-46-24.compute-1.amazonaws.com

ec2-54-175-46-24.compute-1.amazonaws.com

ec2-54-175-46-24.compute-1.amazonaws.com resolving cookbooks for run list: []

ec2-54-175-46-24.compute-1.amazonaws.com Synchronizing Cookbooks:

ec2-54-175-46-24.compute-1.amazonaws.com Compiling Cookbooks...

ec2-54-175-46-24.compute-1.amazonaws.com [2016-09-16T16:51:21+00:00] WARN: Node node1

has an empty run list.

ec2-54-175-46-24.compute-1.amazonaws.com Converging 0 resources

ec2-54-175-46-24.compute-1.amazonaws.com

ec2-54-175-46-24.compute-1.amazonaws.com Running handlers:



# Verify the port and identity file for web1



```
$ vagrant ssh-config web1
```

```
Host web1
```

```
  HostName 127.0.0.1
```

```
  User vagrant
```

```
  Port 2200
```

```
  UserKnownHostsFile /dev/null
```

```
  StrictHostKeyChecking no
```

```
  PasswordAuthentication no
```

```
  IdentityFile /Users/USER/chef-repo/.vagrant/machines/web1/virtualbox/private_key
```

```
  IdentitiesOnly yes
```

```
  LogLevel FATAL
```

# Bootstrap Your Node



```
$ knife bootstrap localhost --ssh-port WEB1_PORT --ssh-user vagrant --sudo  
--identity-file PATH_TO_KEY -N web1
```

```
Creating new client for web1  
Creating new node for web1  
Connecting to localhost  
localhost -----> Installing Chef Omnibus (-v 12)  
localhost downloading https://omnitruck-direct.chef.io/chef/install.sh  
localhost to file /tmp/install.sh.12058/install.sh  
localhost trying wget...  
localhost el 7 x86_64  
localhost Getting information for chef stable 12 for el...  
localhost downloading  
https://omnitruck-direct.chef.io/stable/chef/metadata?v=12&p=el&pv=7&m=x86_64  
localhost to file /tmp/install.sh.12063/metadata.txt  
localhost trying wget...
```

# Run 'knife node list' Again



```
$ knife node list
```

```
web1
```

# View More Information About Your Node



```
$ knife node show web1
```

```
Node Name:    web1
Environment:  _default
FQDN:         web1
IP:           10.0.2.15
Run List:
Roles:
Recipes:
Platform:    centos 7.2.1511
Tags:
```

Notice that the IPAddress is not what we defined in the Vagrantfile. It's the internal IP instead.

# Add a Recipe to web1's Run List



```
$ knife node run_list add web1 "recipe[workstation],recipe[apache]"
```

Web1:

```
run_list: recipe[workstation]
```

```
run_list: recipe[apache]
```

# View More Information About Your Node



```
$ knife node show web1
```

```
Node Name:    web1
Environment:  _default
FQDN:         web1
IP:           10.0.2.15
Run List:     recipe[workstation], recipe[apache]
Roles:
Recipes:
Platform:    centos 7.2.1511
Tags:
```

Your Run List for web1 should  
contain the workstation and apache  
cookbooks

# Login to web1



```
$ vagrant ssh web1
```

```
Last login: Sat Dec 31 02:59:27 2016 from 10.0.2.2  
[vagrant@web1 ~]$
```

# Run chef-client to converge web1



```
[vagrant@web1 ~]$ sudo chef-client
```

```
Starting Chef Client, version 12.17.44
resolving cookbooks for run list: ["workstation", "apache"]
Synchronizing Cookbooks:
  - apache (0.2.1)
  - workstation (0.2.1)
Installing Cookbook Gems:
Compiling Cookbooks...
Converging 8 resources....
```



# Verify the state of your web application



```
[vagrant@web1 ~]$ curl localhost
```

```
<html>
  <body>
    <h1>Hello, world!</h1>
    <h2>ipaddress: 192.168.10.43</h2>
    <h2>hostname: web1</h2>
  </body>
</html>
```

# Return to your Workstation



```
[vagrant@web1 ~]$ exit
```

```
logout
```

```
Connection to 127.0.0.1 closed.
```

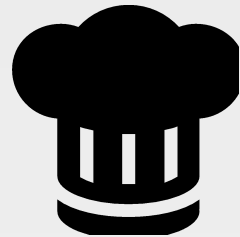
# View More Information About Your Node



```
$ knife node show web1
```

```
Node Name:    web1
Environment:  _default
FQDN:         web1
IP:           192.168.10.43
Run List:     recipe[workstation], recipe[apache]
Roles:
Recipes:      workstation, workstation::default, apache, apache::default,
workstation::vagrant, workstation::setup, apache::server
Platform:     centos 7.2.1511
Tags:
```

The IPAddress should now match what we defined in the Vagrantfile.



# Hosted Chef

*More easily manage multiple nodes*

## Objective:

- ✓ Create a Hosted Chef Account
- ✓ Upload your cookbooks to the Hosted Chef Server
- ✓ Add web1 as a managed node

# DISCUSSION



## Discussion

What is the benefit of storing cookbooks in a central repository?

What is the primary tool for communicating with the Chef Server?

How did you add a node to your organization?