

# Workstation Setup

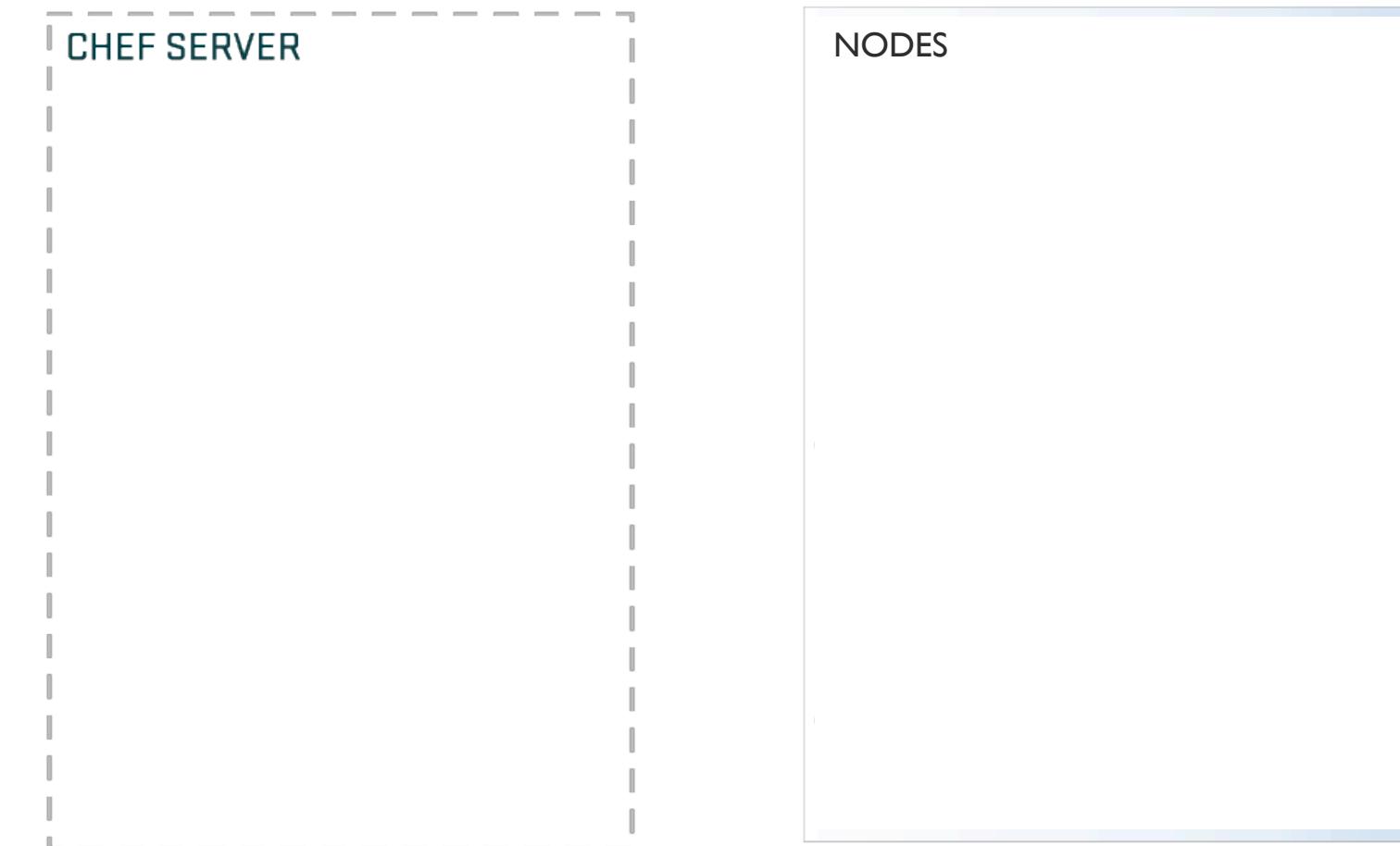
Getting started

# Lesson Objectives

---

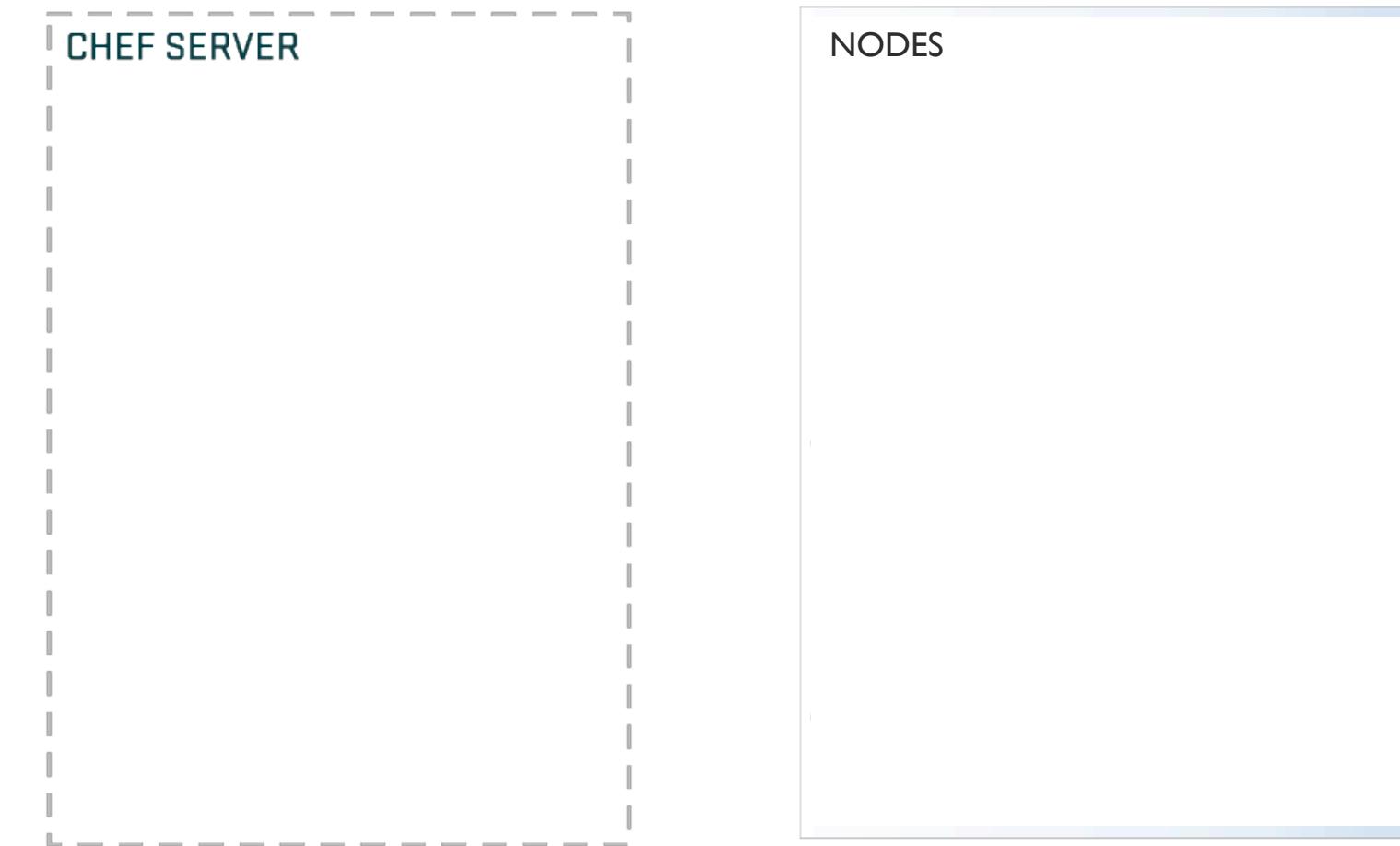
- After completing the lesson, you will be able to
  - Login to Enterprise Chef
  - View your Organization in Enterprise Chef
  - Describe Knife, the Chef command line utility
  - Use Knife on your Workstation

# Landscape of Chef-managed Infrastructure



ADMINISTRATOR'S WORKSTATION

# Landscape of Chef-managed Infrastructure



Install Chef

# Install Chef

- Install Chef (if not already installed)
- <http://www.opscode.com/chef/install>

# Install Chef

## Download options

Chef Client

Chef Server

### Installing the Chef Client

Select the kind of system you would like to install the Chef Client on.

The versions listed have been tested and are supported.

[Select an Operating System] ▾

[Select a Version] ▾

[Select an Architecture] ▾

# Workstation Setup - Windows

- Windows
- 2008 (Windows 7) or 2012 (Windows 8)
- i686 (32-bit) or x86\_64 (64-bit)
- 11.6.2

## Download options

Chef Client    Chef Server

Installing the Chef Client

Select the kind of system you would like to install the Chef Client on. The versions listed have been tested and are supported.

Windows

2008r2

x86\_64



## Downloads

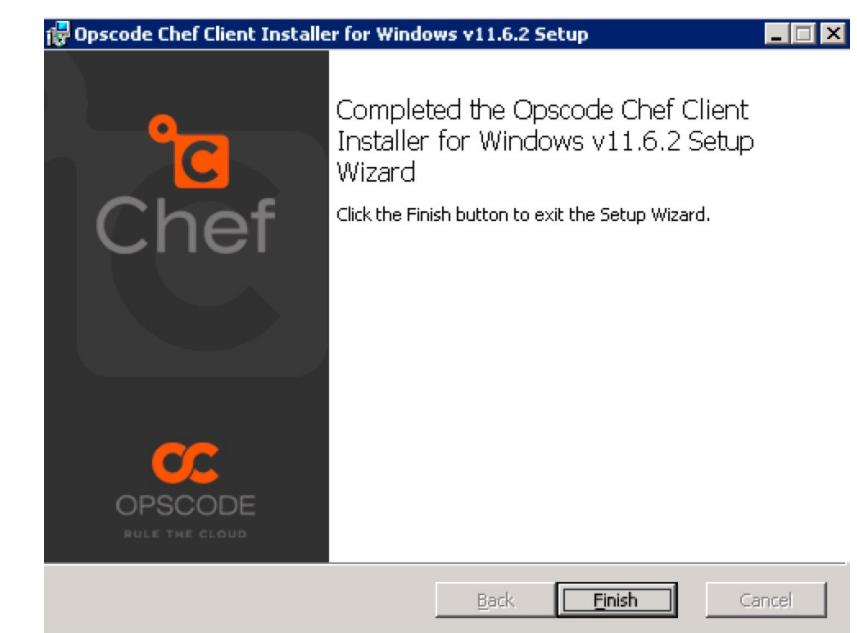
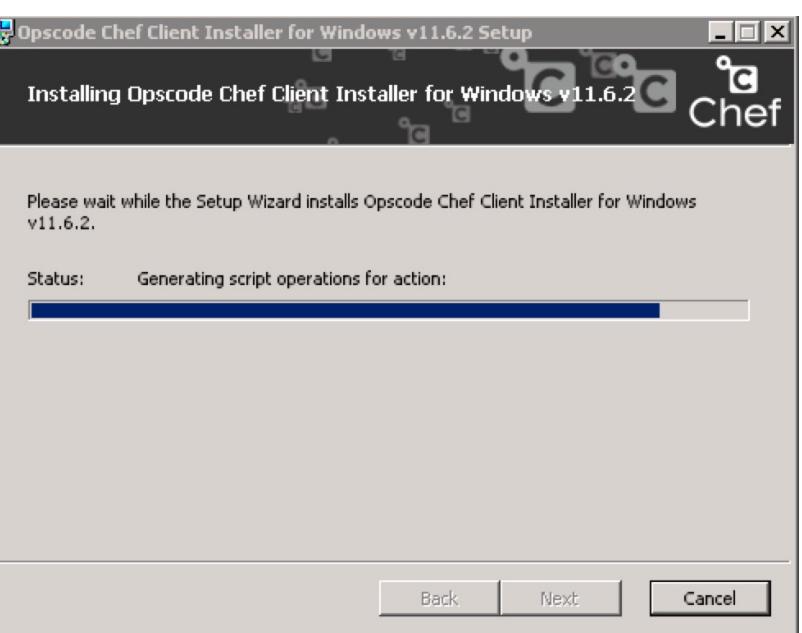
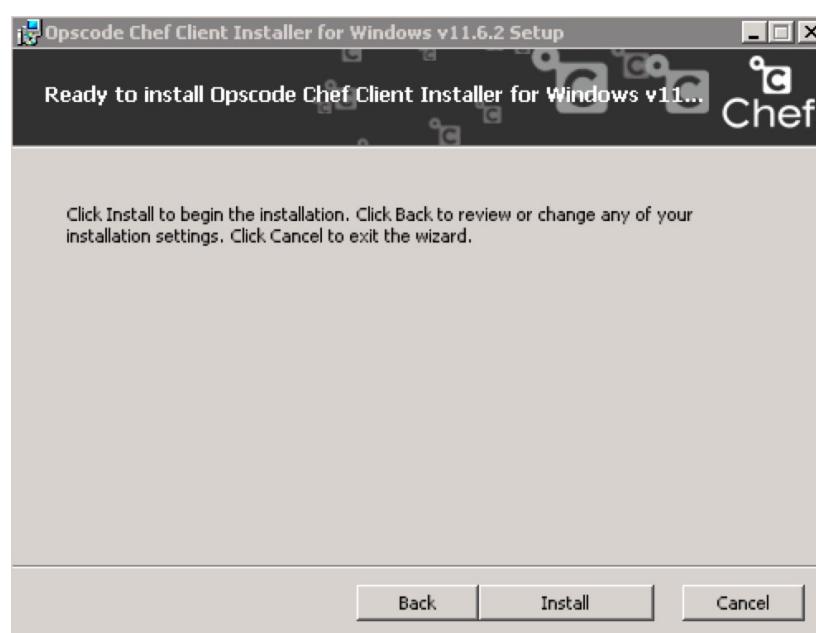
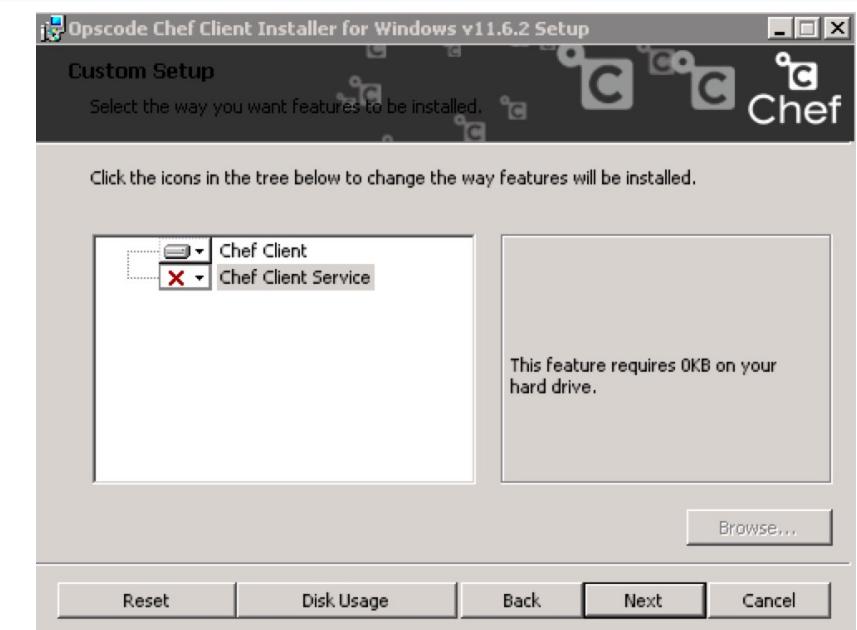
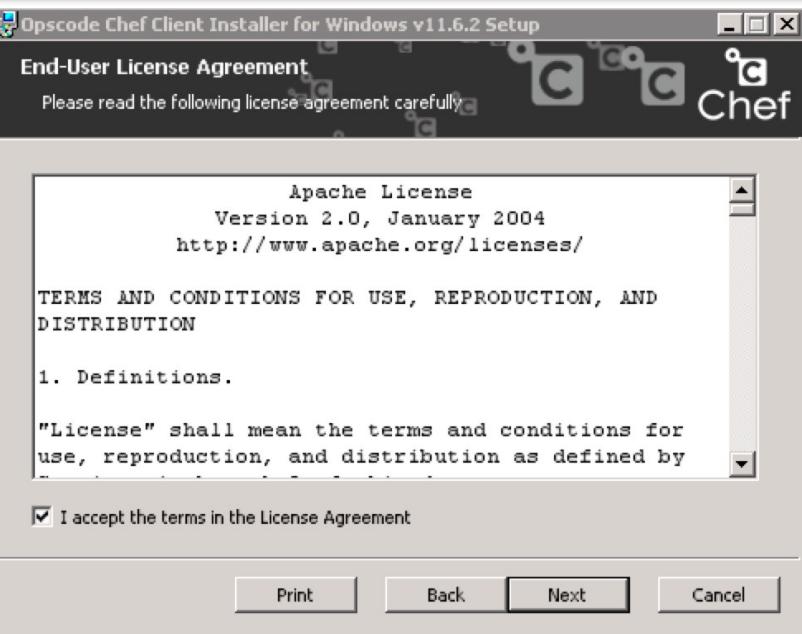
You can install manually by downloading the package below after information about manual installation, [please read the documentation](#)

11.6.2-1

[chef-client-11.6.2-1.windows.msi](#)

**Download and install this file**

# Install on Windows



# Install on Mac OSX

## Download options

Chef Client

Chef Server

### Installing the Chef Client

Select the kind of system you would like to install the Chef Client on.

The versions listed have been tested and are supported.

OS X

10.7

x86\_64

### Quick Install Instructions

Open a shell on the target system and run the following command to download and install the latest version of the Chef client:

```
curl -L https://www.opscode.com/chef/install.sh | sudo bash
```

### Downloads

You can install manually by downloading the package below after you have selected a Chef version. For more information about manual installation, [please read the documentation](#).

11.6.2-1

[chef-11.6.2-1.mac\\_os\\_x.10.7.2.sh](#)

# Install on Enterprise Linux

## Download options

Chef Client

Chef Server

### Installing the Chef Client

Select the kind of system you would like to install the Chef Client on. The versions listed have been tested and are supported.

Enterprise Linux

6

x86\_64

### Quick Installation Instructions

Open a root shell on the target system and run the following command to download and install the latest version of the Chef client:

```
curl -L https://www.opscode.com/chef/install.sh | bash
```

### Downloads

You can install manually by downloading the package below after you have selected a Chef version. For more information about manual installation, [please read the documentation](#).

11.6.2-1

[chef-11.6.2-1.el6.x86\\_64.rpm](#)

# Workstation Setup - Mac OS X / Linux

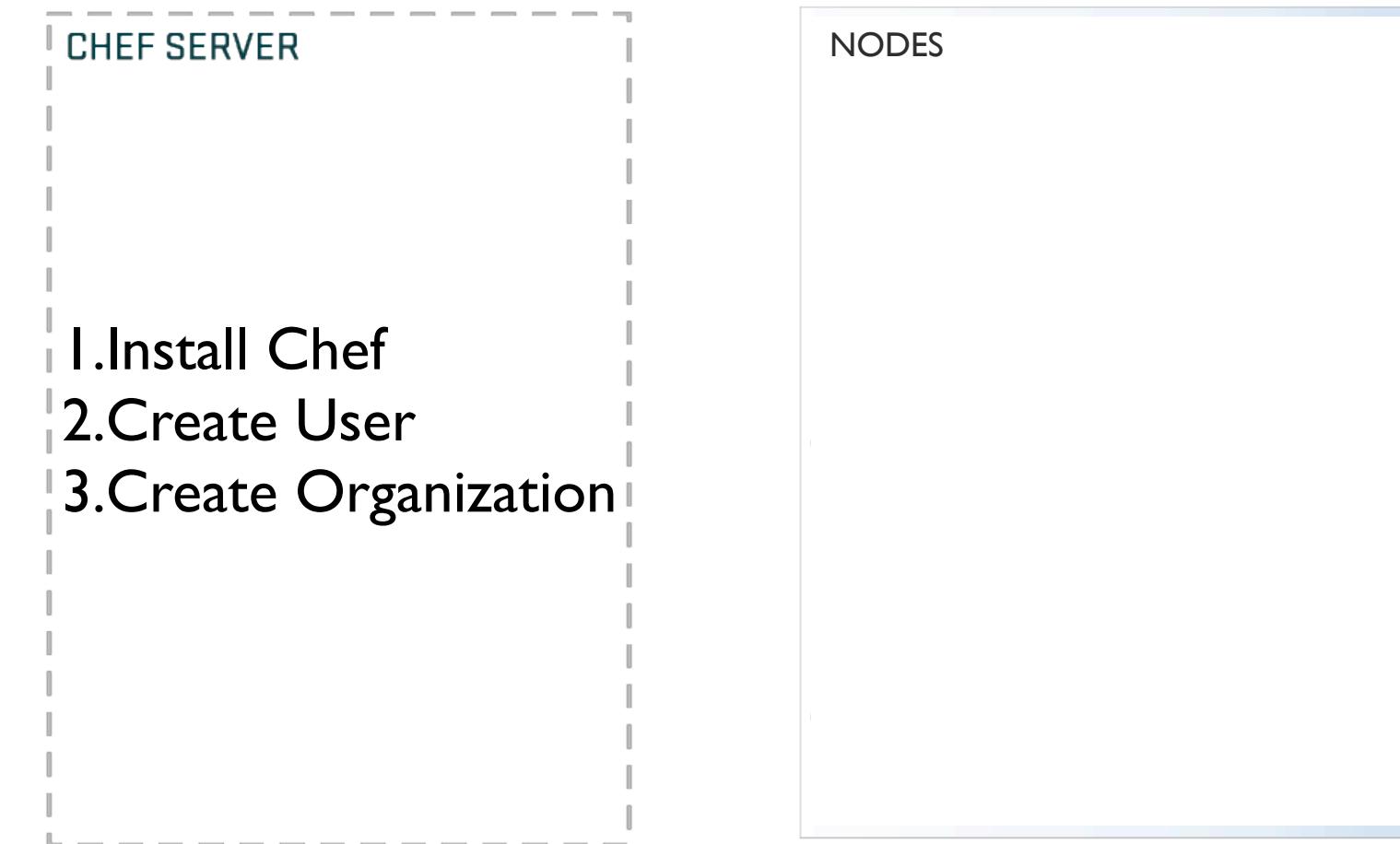
```
$ curl -L http://www.opscode.com/chef/install.sh | sudo bash
```

```
% Total    % Received % Xferd  Average Speed   Time     Time     Time  Current
                                         Dload  Upload   Total   Spent   Left  Speed
100  6515  100  6515      0       0  20600      0 --:--:-- --:--:-- --:--:-- 31172
Downloading Chef for ubuntu...
Installing Chef
Selecting previously unselected package chef.
(Reading database ... 47446 files and directories currently installed.)
Unpacking chef (from .../tmp.MqRJP6lz/chef_amd64.deb) ...
Setting up chef (11.4.4-2.ubuntu.11.04) ...
Thank you for installing Chef!
Processing triggers for initramfs-tools ...
update-initramfs: Generating /boot/initrd.img-3.2.0-48-virtual
```

# What just happened?

- Chef and all of its dependencies installed via an operating system-specific package ("omnibus installer")
- Installation includes
  - The Ruby language - used by Chef
  - knife - Command line tool for administrators
  - chef-client - Client application
  - ohai - System profiler
  - ...and more

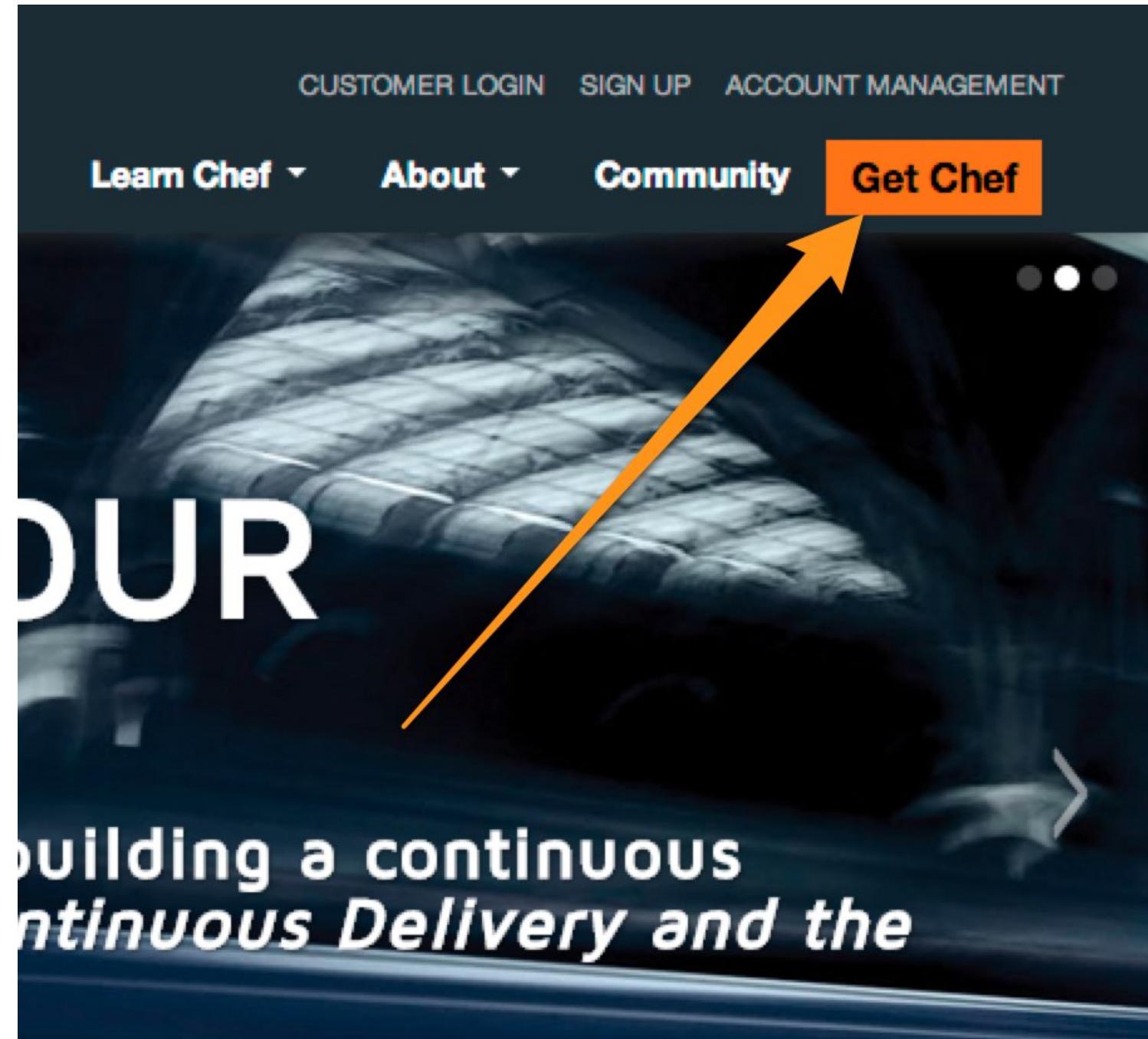
# Landscape of Chef-managed Infrastructure



Chef Installed

# Your Chef Server for this class...

- Hosted Enterprise Chef
- <http://opscode.com>



# Create new account

- Sign up for a new account
- Chef Organization
  - provides multi-tenancy
  - name must be globally unique

## Start your free trial of Enterprise Chef

You're one step away from access to all the power and flexibility of Chef, hosted and supported by Opscode. Get ready to automate your infrastructure to accelerate your time to market, manage complexity, and safeguard your systems. Just complete the form to get started.

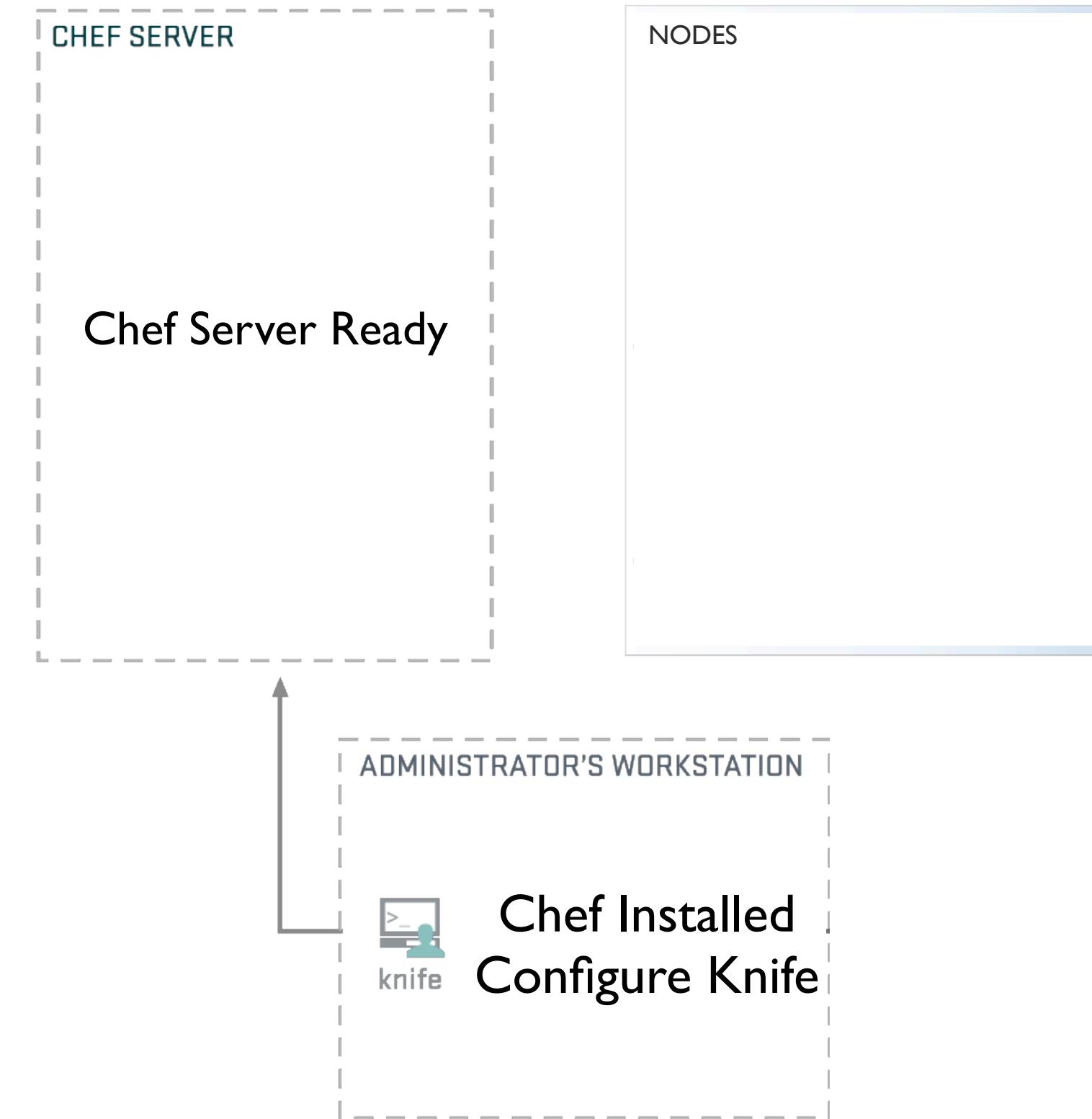
Full Name	<input type="text"/>
Username	<input type="text"/>
Email	<input type="text"/>
Password	<input type="password"/>
Company	<input type="text"/> (Optional)
Chef Organization	<input type="text"/>

Organization is the name of your instance of Enterprise Chef.

I agree to the [Terms of Service](#) and the [Master License and Services Agreement](#).

[Get Started](#)

# Landscape of Chef-managed Infrastructure



# Download “Starter Kit”

- You get a .zip file from clicking this
- Unzip the zipfile - you'll get a “chef-repo”
- Put the “chef-repo” somewhere, e.g.:
  - C:\Users\you\chef-repo (Win)
  - /Users/you/chef-repo (Mac)
  - /home/you/chef-repo (Linux)

Thank you for choosing Enterprise

Follow these three steps to be on your way to

[Download Starter Kit](#)

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.

Set up your

# Knife is the command-line tool for Chef

- Knife provides an interface between a local Chef repository and the Chef Server
- Knife lets you manage:
  - Nodes
  - Cookbooks and recipes
  - Roles
  - Stores of JSON data (data bags), including encrypted data
  - Environments
  - Cloud resources, including provisioning
  - The installation of Chef on management workstations
  - Searching of indexed data on the Chef Server

# Legend

# Legend: Do I run that command on my workstation?

This is an example of a command to run on your workstation

```
$ whoami  
i-am-a-workstation
```

This is an example of a command to run on your target node via SSH.

```
user@hostname:~$ whoami  
i-am-a-chef-node
```

# Legend: Example Terminal Command and Output

```
$ ifconfig
```

```
lo0: flags=8049<UP,LOOPBACK,RUNNING,MULTICAST> mtu 16384
    options=3<RXCSUM,TXCSUM>
    inet6 fe80::1%lo0 prefixlen 64 scopeid 0x1
        inet 127.0.0.1 netmask 0xff000000
            inet6 ::1 prefixlen 128
gif0: flags=8010<POINTOPOINT,MULTICAST> mtu 1280
stf0: flags=0<> mtu 1280
en0: flags=8863<UP,BROADCAST,SMART,RUNNING,SIMPLEX,MULTICAST> mtu 1500
    ether 28:cf:e9:1f:79:a3
    inet6 fe80::2acf:e9ff:fef1:79a3%en0 prefixlen 64 scopeid 0x4
        inet 10.100.0.84 netmask 0xffffffff broadcast 10.100.0.255
            media: autoselect
            status: active
p2p0: flags=8843<UP,BROADCAST,RUNNING,SIMPLEX,MULTICAST> mtu 2304
    ether 0a:cf:e9:1f:79:a3
    media: autoselect
    status: inactive
```

# Legend: Example of editing a file on your workstation



**OPEN IN EDITOR:** ~/hello\_world

Hi!

I am a friendly file.

**SAVE FILE!**

# A quick tour of the chef-repo

- Every infrastructure managed with Chef has a Chef Repository (“chef-repo”)
- Type all commands in this class from the chef-repo directory
- Let’s see what’s inside the chef-repo...

# Verify that knife is working

```
$ cd chef-repo
```

```
[ ~/chef-repo ]$
```

# A quick tour of the chef-repo

```
$ ls -al
```

```
total 40
drwxr-xr-x@ 11 opscode  opscode  374 Aug 15 09:42 .
drwxr-xr-x+ 92 opscode  opscode 3128 Aug 15 09:43 ..
drwxr-xr-x@  3 opscode  opscode  102 Aug 15 2013 .berkshelf
drwxr-xr-x@  5 opscode  opscode  170 Aug 15 2013 .chef
-rw-r--r--@   1 opscode  opscode  495 Aug 15 2013 .gitignore
-rw-r--r--@   1 opscode  opscode 1433 Aug 15 2013 Berksfile
-rw-r--r--@   1 opscode  opscode 2416 Aug 15 2013 README.md
-rw-r--r--@   1 opscode  opscode 3567 Aug 15 2013 Vagrantfile
-rw-r--r--@   1 opscode  opscode  588 Aug 15 2013 chefignore
drwxr-xr-x@  3 opscode  opscode  102 Aug 15 2013 cookbooks
drwxr-xr-x@  3 opscode  opscode  102 Aug 15 2013 roles
```

# What's inside the .chef directory?

```
$ ls .chef
```

ORGNAME-validator.pem  
USERNAME.pem  
knife.rb

# What's inside the .chef directory?

- `knife.rb` is the configuration file for Knife.
- The other two files are certificates for authentication with the Chef Server
  - We'll talk more about that later.

# knife.rb

- Default location
  - `~/.chef/knife.rb`
  - `%HOMEDRIVE%: %HOME PATH%\ .chef` (Windows)
- Use a project specific configuration
  - `.chef/knife.rb` of the current directory
  - `chef-repo/.chef/knife.rb`
- [http://docs.opscode.com/config\\_rb\\_knife.html](http://docs.opscode.com/config_rb_knife.html)

# knife.rb



**OPEN IN EDITOR:** chef-repo/.chef/knife.rb

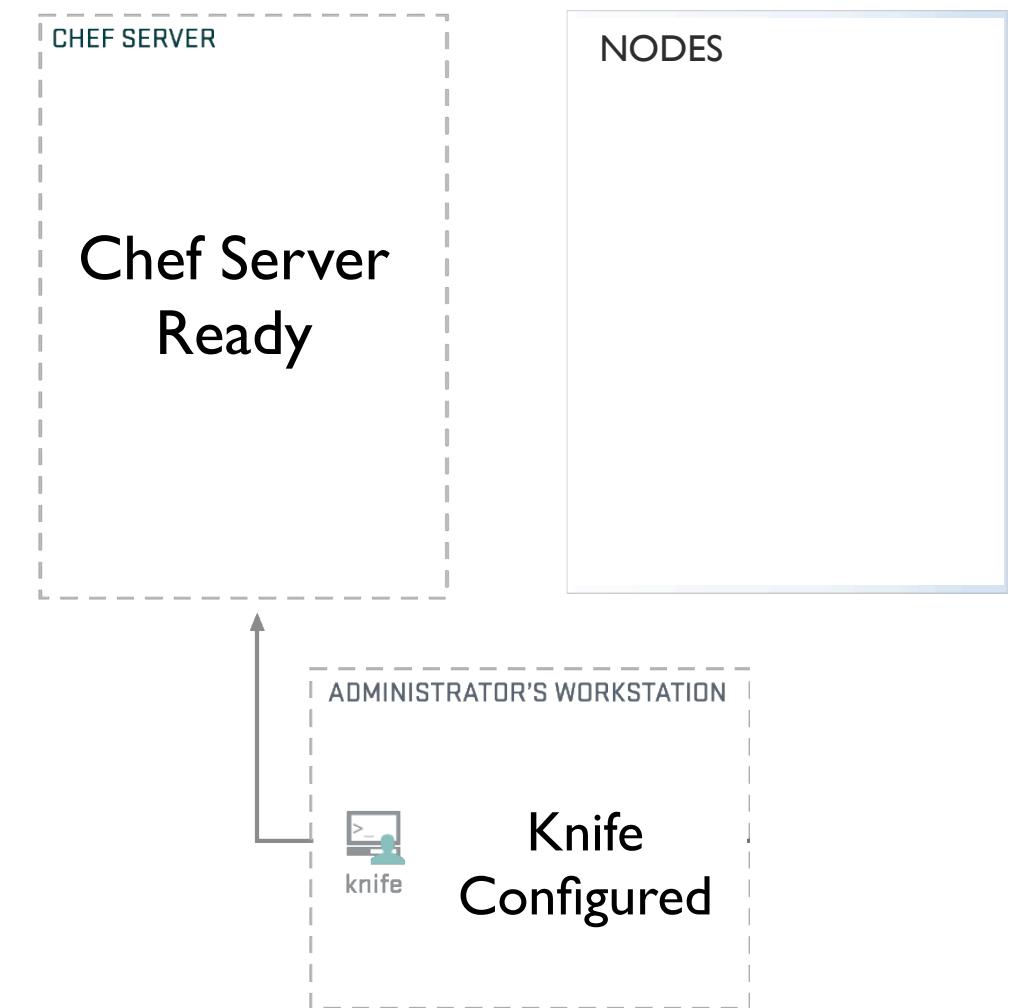
```
current_dir = File.dirname(__FILE__)
log_level           :info
log_location        STDOUT
node_name           "USERNAME"
client_key          "#{current_dir}/USERNAME.pem"
validation_client_name "ORGNAME-validator"
validation_key       "#{current_dir}/ORGNAME-validator.pem"
chef_server_url    "https://api.opscode.com/organizations/ORGNAME"
cache_type          'BasicFile'
cache_options( :path => "#{ENV['HOME']}/.chef/checksums" )
cookbook_path        ["#{current_dir}/../cookbooks"]
```

# Verify Knife

```
$ knife --version  
Chef: 11.6.2
```

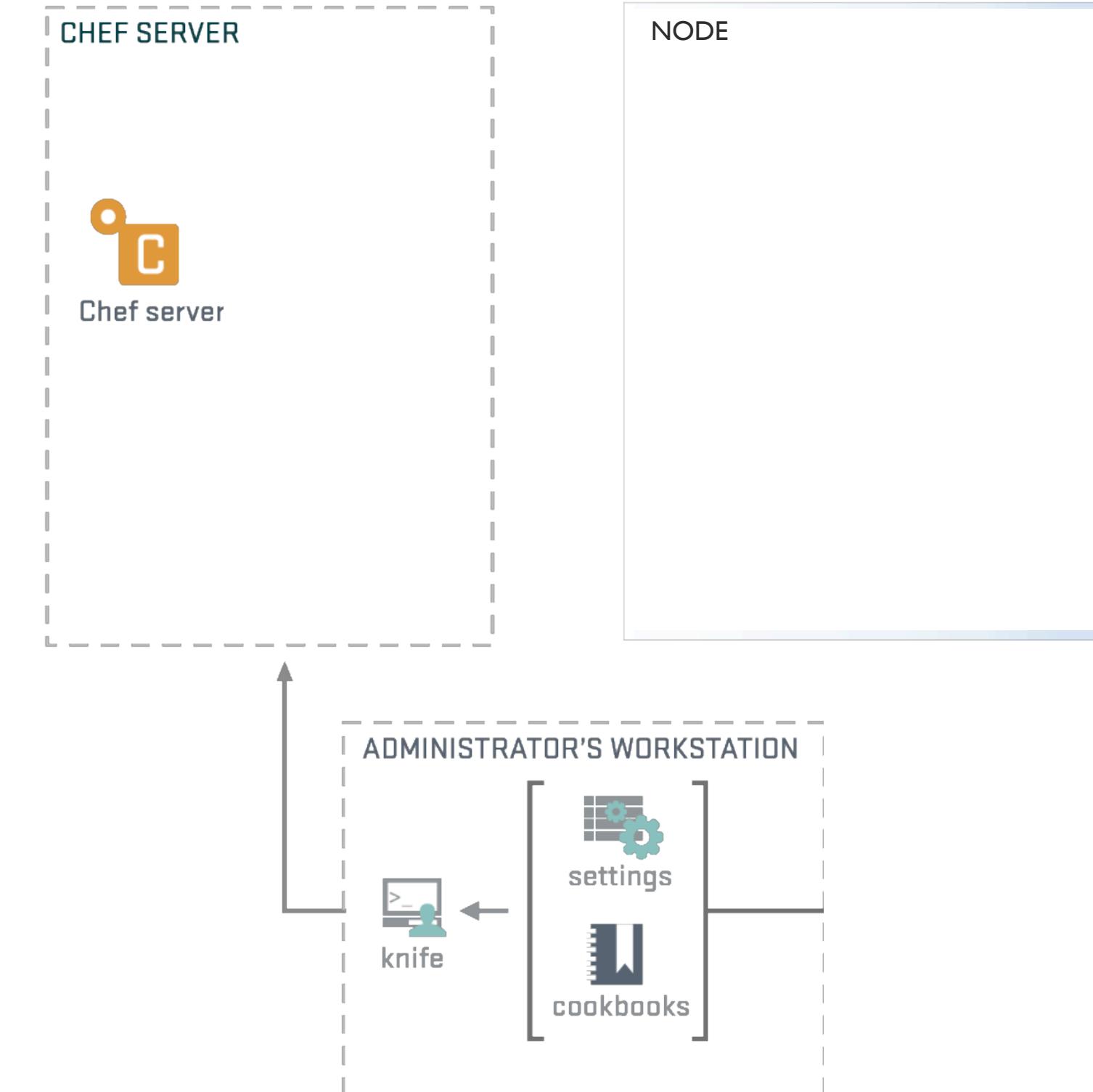
```
$ knife client list  
ORGNAME-validator
```

- Your version may be different, that's ok!

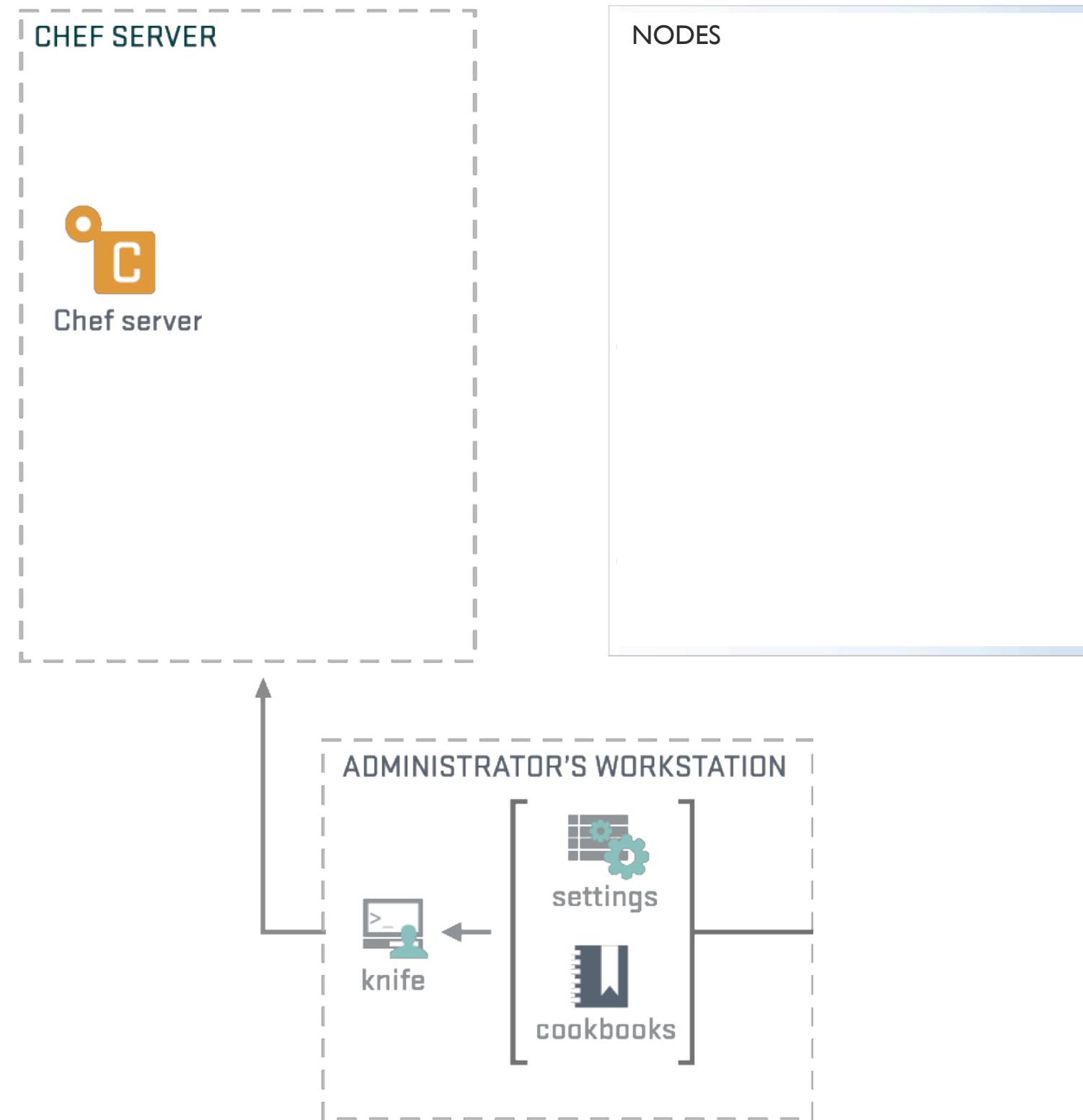


# knife client list

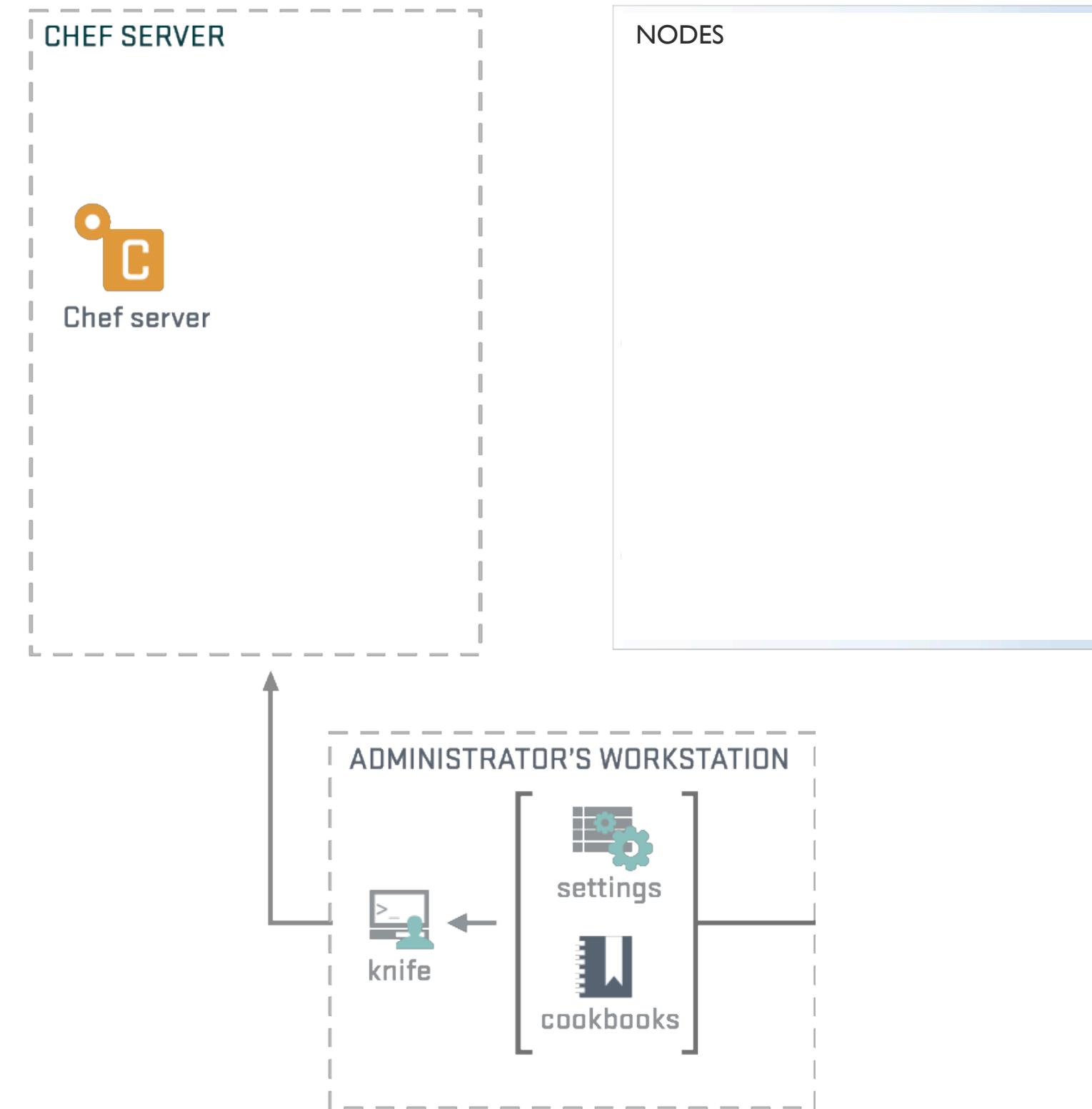
- Read the `chef_server_url` from `knife.rb`
- HTTP GET to `#{{chef_server_url}}/clients`
- Display the result



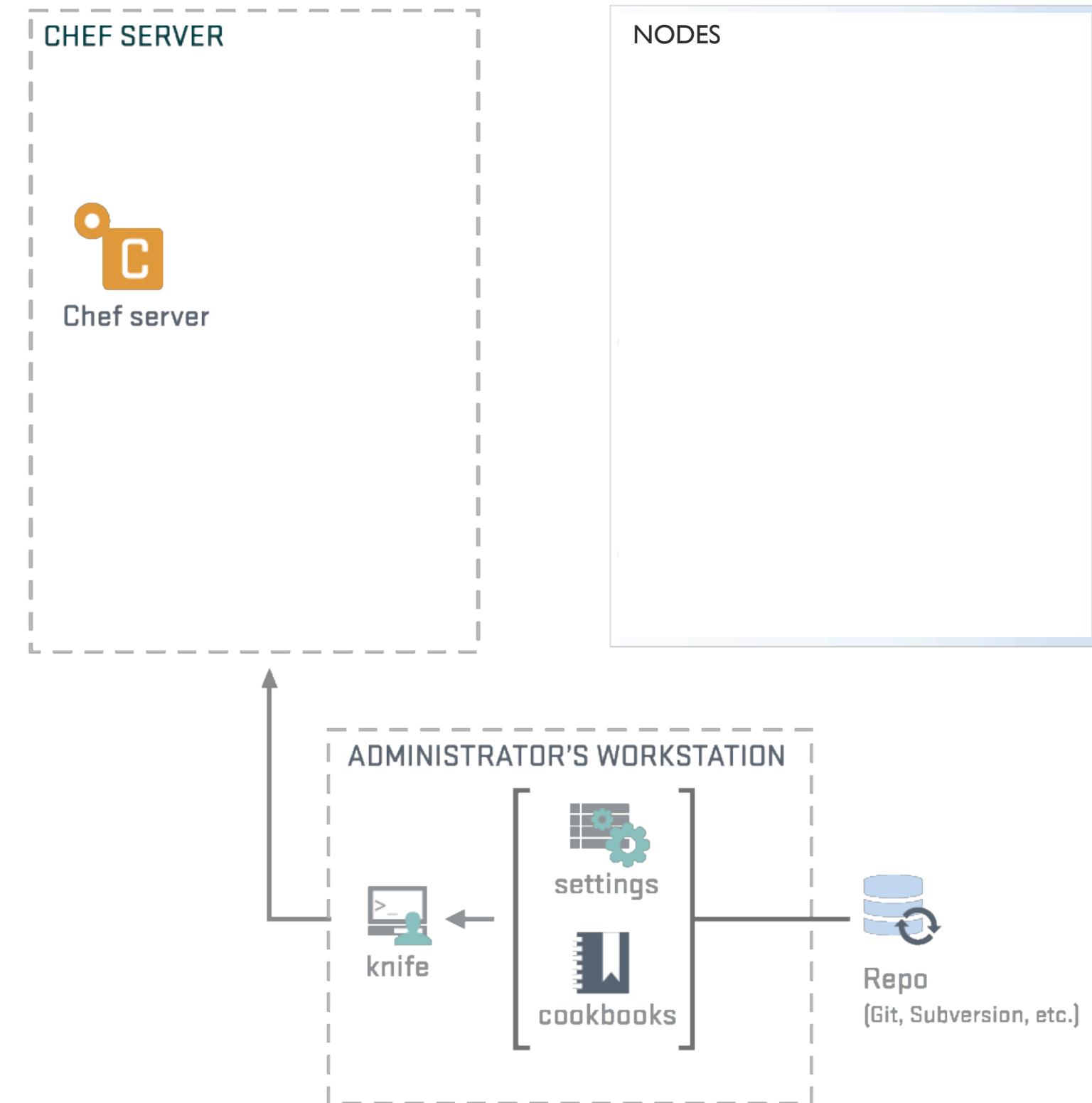
# Checkpoint



# What's Next?



# Source Code Repository



# Initialize a git repository

```
$ git init
```

```
Initialized empty Git repository in /  
Users/opscode/chef-repo/.git/
```

# Check git status

```
$ git status
```

```
# On branch master
#
# Initial commit
#
# Untracked files:
#   (use "git add <file>..." to include in what will be committed)
#
#       .berkshelf/
#       .chef/
#       .gitignore
#       Berksfile
#       README.md
#       Vagrantfile
#       chefignore
#       cookbooks/
#       roles/
nothing added to commit but untracked files present (use "git add" to track)
```

# Add all files to git

```
$ git add .
```

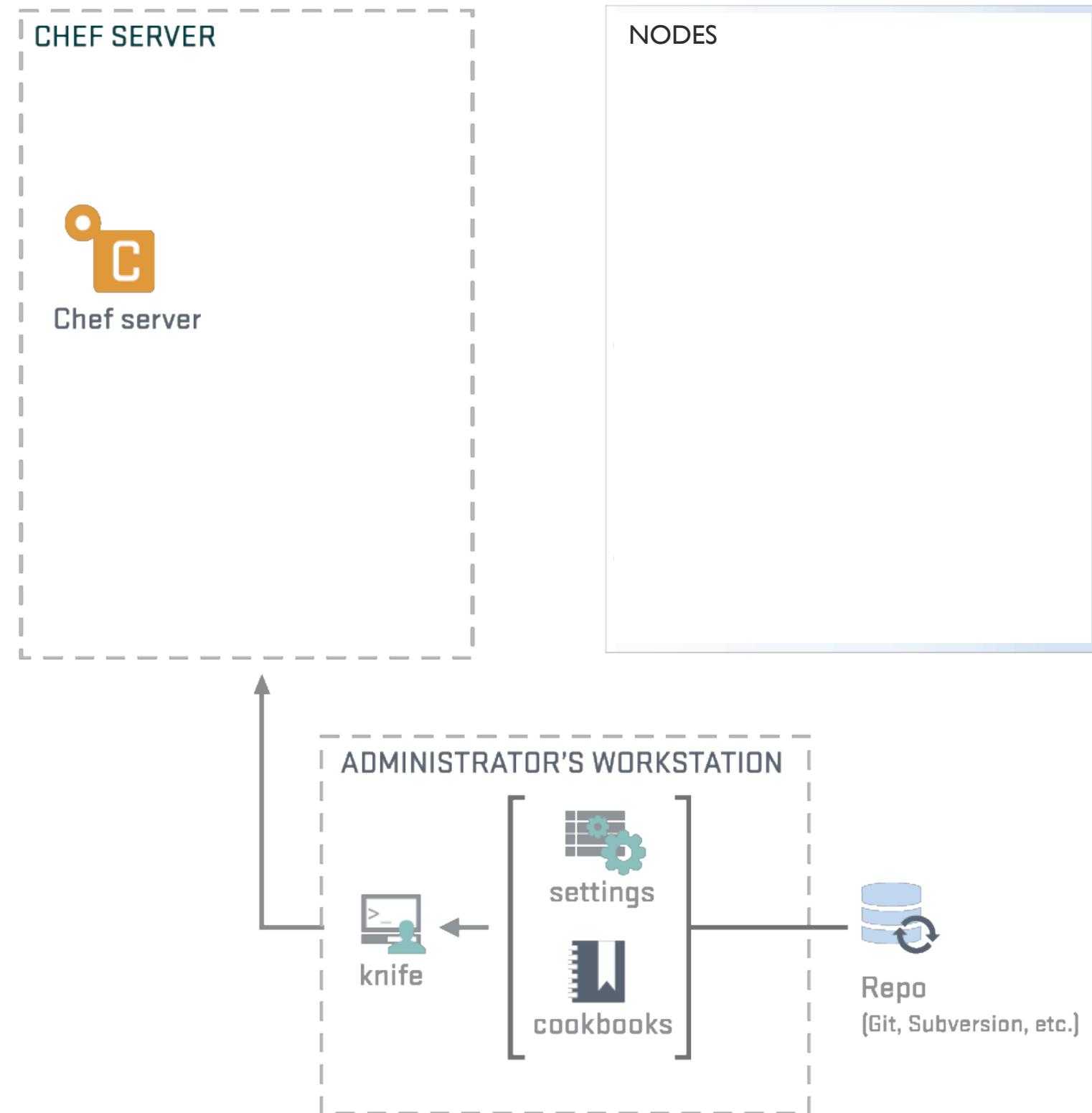
```
[ ~/chef-repo ]$
```

# Add files to git

```
$ git commit -m "add the starter kit from Chef"
```

```
[master (root-commit) 2af68fb] add the starter kit from Chef
 13 files changed, 360 insertions(+)
 create mode 100644 .berkshelf/config.json
 create mode 100644 .chef/knife.rb
 create mode 100644 .gitignore
 create mode 100644 Berksfile
 create mode 100644 README.md
 create mode 100644 Vagrantfile
 create mode 100644 chefignore
 create mode 100644 cookbooks/starter/attributes/default.rb
 create mode 100644 cookbooks/starter/files/default/sample.txt
 create mode 100644 cookbooks/starter/metadata.rb
 create mode 100644 cookbooks/starter/recipes/default.rb
 create mode 100644 cookbooks/starter/templates/default/sample.erb
 create mode 100644 roles/starter.rb
```

# Checkpoint



# Organization Setup

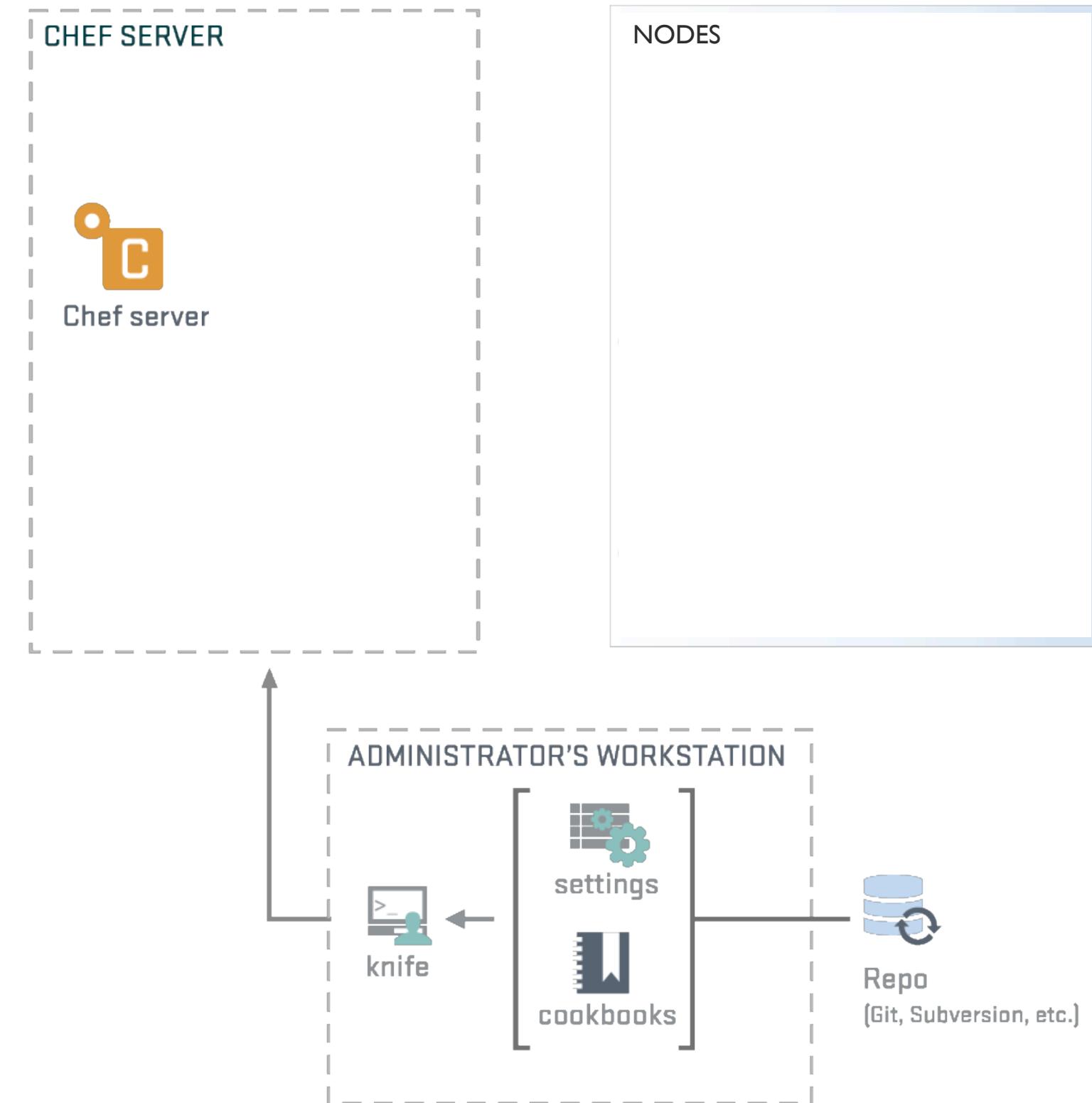
Setup an Organization

# Lesson Objectives

---

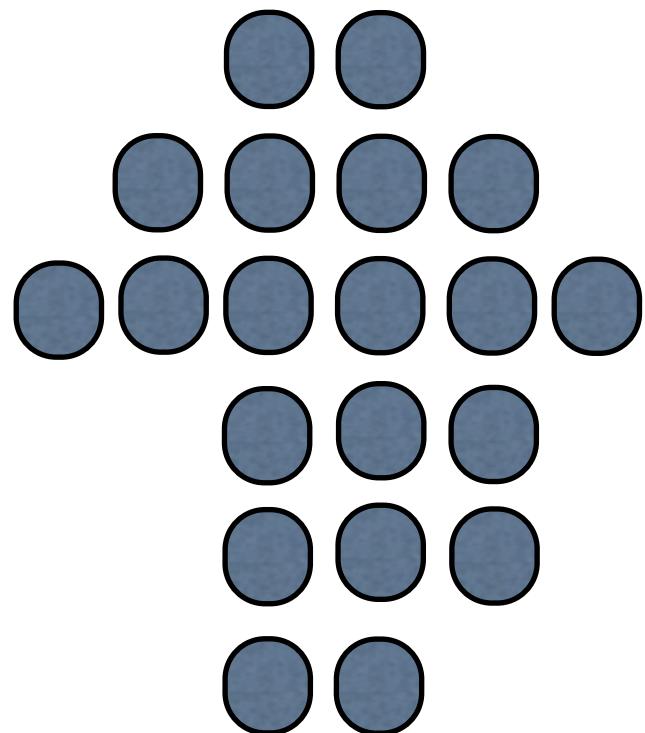
- After completing the lesson, you will be able to
  - Explain the purpose of Organizations
  - Manage your Chef Organization

# Checkpoint

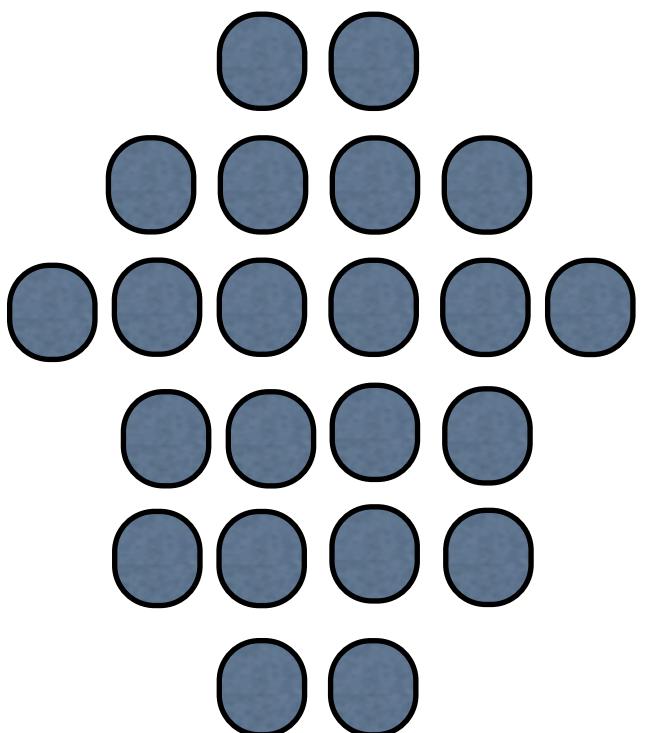


# Organizations

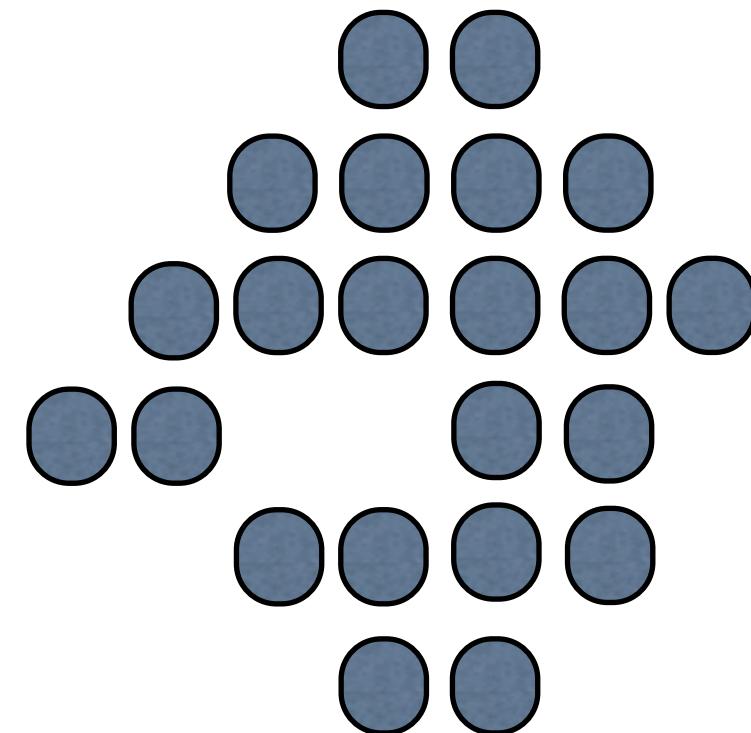
My Infrastructure



Your Infrastructure



Their Infrastructure



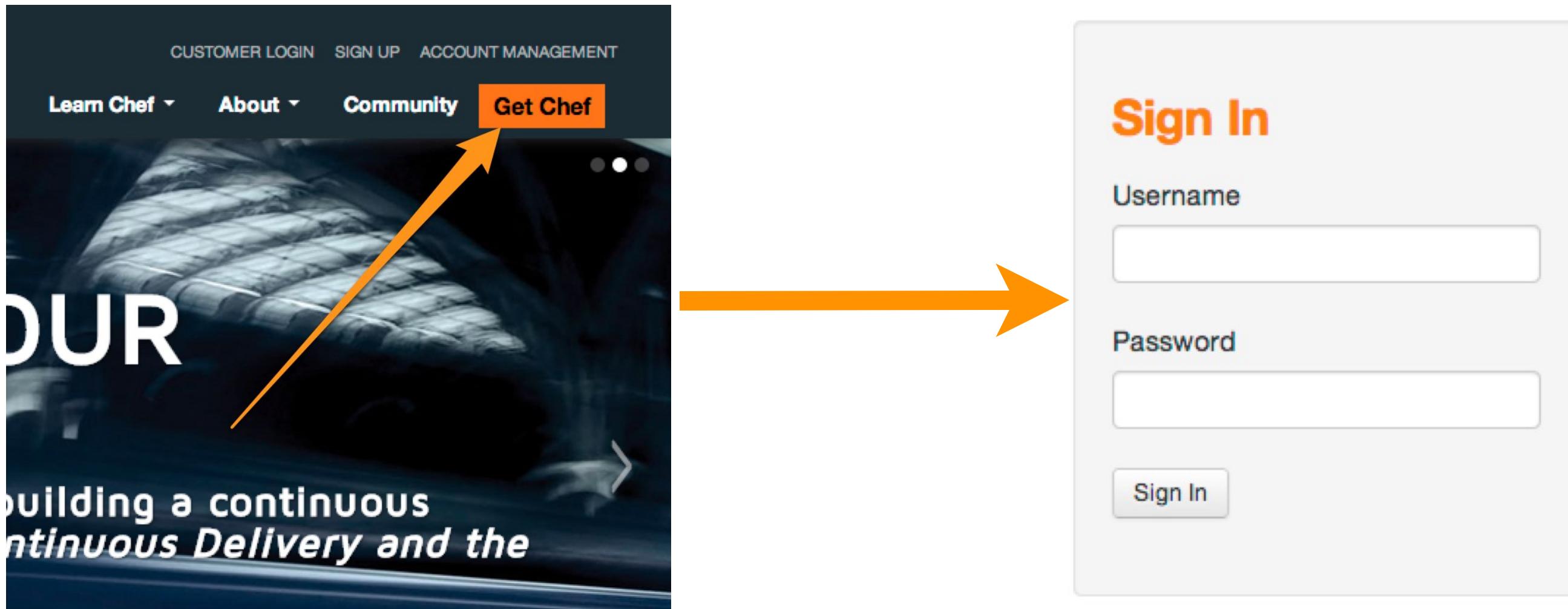
# Organizations

---

- Provide multi-tenancy in Enterprise Chef
- Nothing is shared between Organizations - they're completely independent
- May represent different
  - Companies
  - Business Units
  - Departments

# Manage Organizations

- Login to your Hosted Enterprise Chef



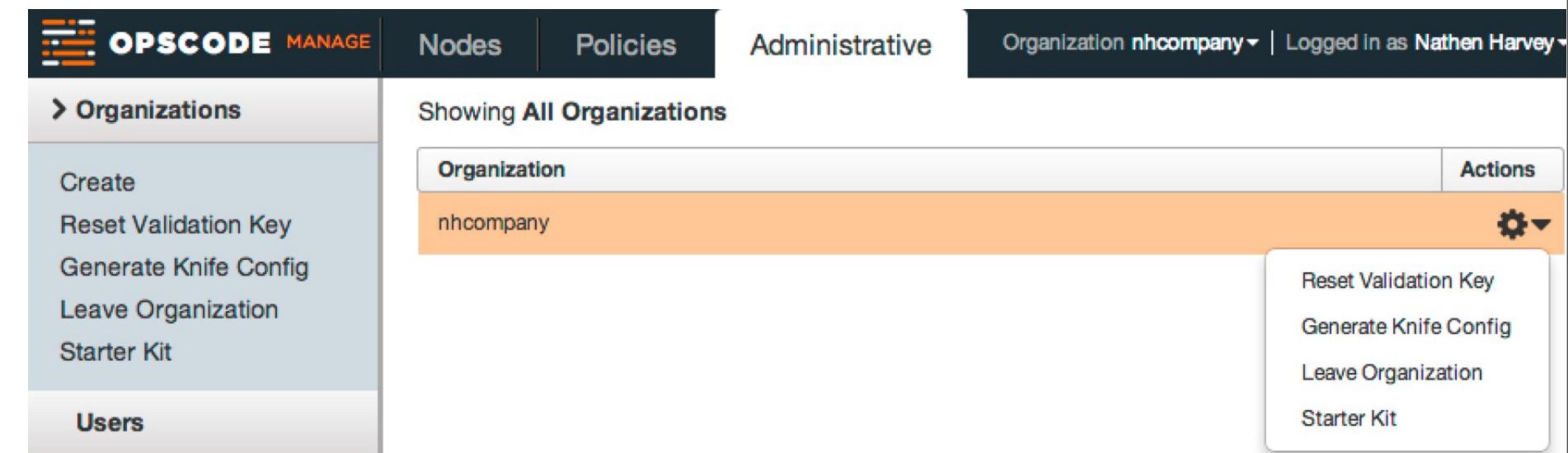
# Organizations

The screenshot shows the Opscode Manage interface with the following details:

- Header:** OPSCODE MANAGE
- Top Navigation:** Nodes, Policies, **Administrative** (highlighted in orange)
- Left Sidebar:**
  - Organizations:** Create, Reset Validation Key, Generate Knife Config, Leave Organization, Starter Kit
  - Users**
  - Groups**
  - Global Permissions**
- Main Content:** Showing All Organizations, listing one organization: nhcompany

# Manage Organization

- Reset Validation Key
- Generate Knife Config
- Leave Organization
- Starter Kit



# Review Questions

---

- What is an Organization?
- How do you regenerate the Starter Kit for your Organization?

# End of Module 2

---

- By now, you should be able to:
  - Login to Enterprise Chef
  - View your Organization in Enterprise Chef
  - Describe Knife, the Chef command line utility
  - Use Knife on your Workstation
  - Explain the purpose of Organizations
  - Manage your Chef Organization

# Module 3

---

- Set up a Node
- Write your first Cookbook

# Training Node

---

- The labs require a node to be managed
- We allow for three different options
  - Bring your own Node
  - Launch an instance of a public AMI on EC2
  - Use the Chef Fundamentals training lab

# Bring Your Own Node

---

- Use your own Virtual Machine (VM) or Server
- Required for the labs:
  - Ubuntu 10.04+
  - 512 MB RAM
  - 15 GB Disk
  - sudo or root level permissions

# EC2 Public AMI

- Opscode publishes a public AMI on EC2 that may be used
  - Search for ‘oc-training-public’
  - m1.small should be sufficient
  - Open ports 22, 80-90 in security group

# Chef Fundamentals Webinar Lab

---

- A limited number of Training Labs will be made available for use during next week's webinar
- Watch your email for further instructions

# What Questions Do You Have?

Nathen Harvey

Technical Community Manager, Opscode

[nharvey@opscode.com](mailto:nharvey@opscode.com)

@nathenharvey