



# Dancing with Chef

廚師與伺服器

Tom Tsai @ TrendMicro



# Self Introduction

- My name is Tom
- I'm Nobody in



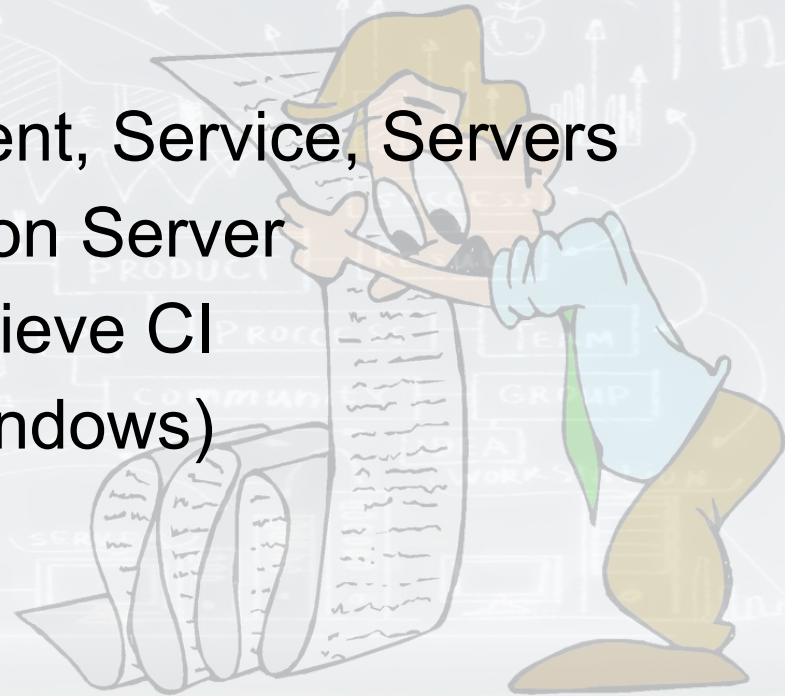
# Opinion Poll

The background features a light gray field filled with faint, white line-art icons representing various IT and business concepts such as servers, clouds, charts, and arrows. At the bottom, there is a stylized crowd of people represented by overlapping circles in shades of purple, blue, green, and yellow.

- What is Configuration Management?
- Has your company used Chef, Puppet, Ansible or Slat Stack?

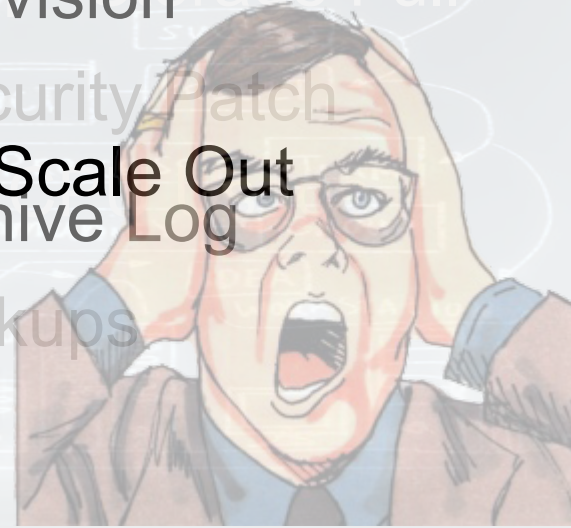
# Outline

- What Challenge We Face Everyday?
- Basic Concept About Chef
- Manage Numerous Environment, Service, Servers
- Auto-Scale For Your Application Server
- Integrate With Jenkins To Achieve CI
- Cross Platform (Linux V.S. Windows)
- Q & A



# What Challenge We Face Everyday?

Security Patch Modify Config High CPU Usage  
Archive Log Deployment High CPU Usage Provision  
Scale Out Backups  
Modify Config Security Patch Scale Out  
Provision Archive Log  
Storage Full Backups  
High CPU Usage Storage Full  
Provision Backups Archive Log



# Basic Concept About CM

- Infrastructure as Code


Before

**1**



**STEP ONE**  
Download and unzip the WordPress package

**2**



**STEP TWO**  
Create a database for WordPress on your web server, as well as a MySQL user who has all privileges for accessing and modifying it.

**3**



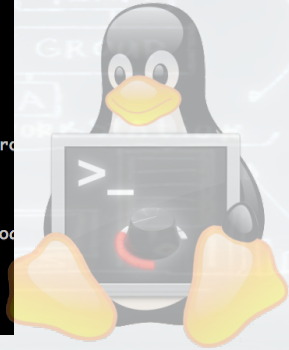
**STEP THREE**  
Upload the WordPress files to the desired location on your web server.

Now

```
package 'apache2' do
  package_name node['apache']['package']
end

service 'apache2' do
  service_name node['apache']['package']
  case node['platform_family']
  when 'rhel'
    reload_command '/sbin/service httpd graceful'
  when 'debian'
    provider Chef::Provider::Service::Debian
  when 'arch'
    service_name 'httpd'
  end
  supports [:start, :restart, :reload, :status]
  action [:enable, :start]
  only_if "![node['apache']['binary']] -t", :environment => {
    > node['apache']['log_dir'] }, :timeout => 10
  end

  %w(sites-available sites-enabled mods-available mod-enabled).each do |dir|
    directory "#{node['apache']['dir']}/#{dir}" do
      mode '0755'
    end
  end
end
```



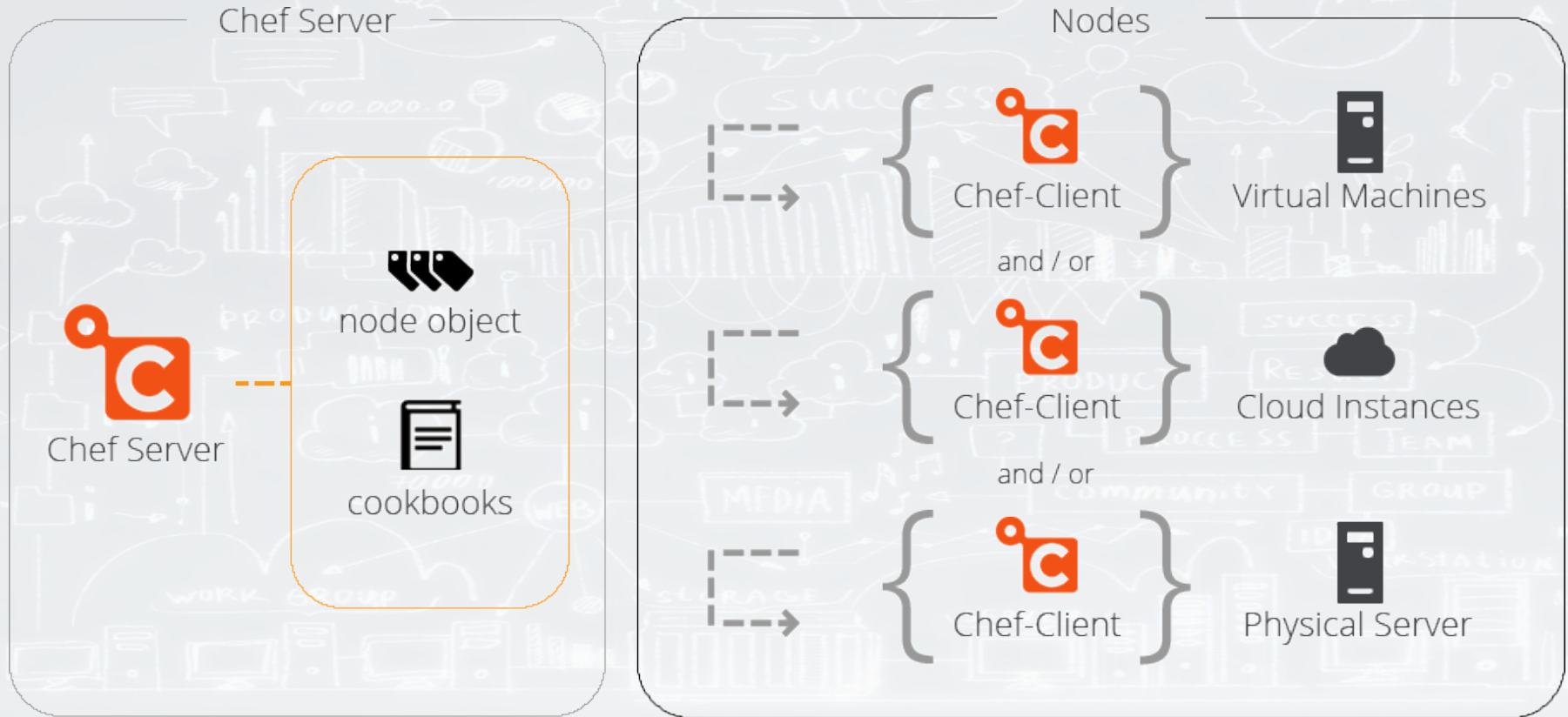
# Chef Terminology

- Role, e.g. DB, Web, Queue...
- Environment, e.g. Dev, Beta, Production...
- Cookbook
  - Recipe, a series of resource need to be generated
  - Template, configuration file template
  - Attribute, variable





# Basic Concept About Chef



# Manage Numerous Environment, Service, Servers

1. Define Role for each server
2. Define Environment for each server
3. Assign Cookbook to Role

Role\_A

Cookbook\_Apache2  
Cookbook\_MySQL  
Cookbook\_PHP

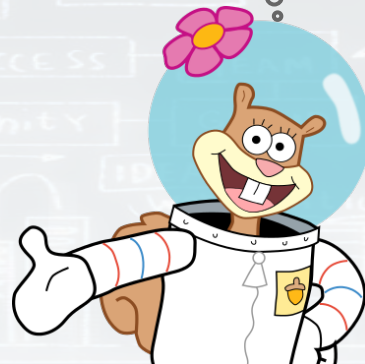
Role\_B

Cookbook\_Elastic  
Cookbook\_Logstash  
Cookbook\_Kibana

Chef Server:  
No Problem



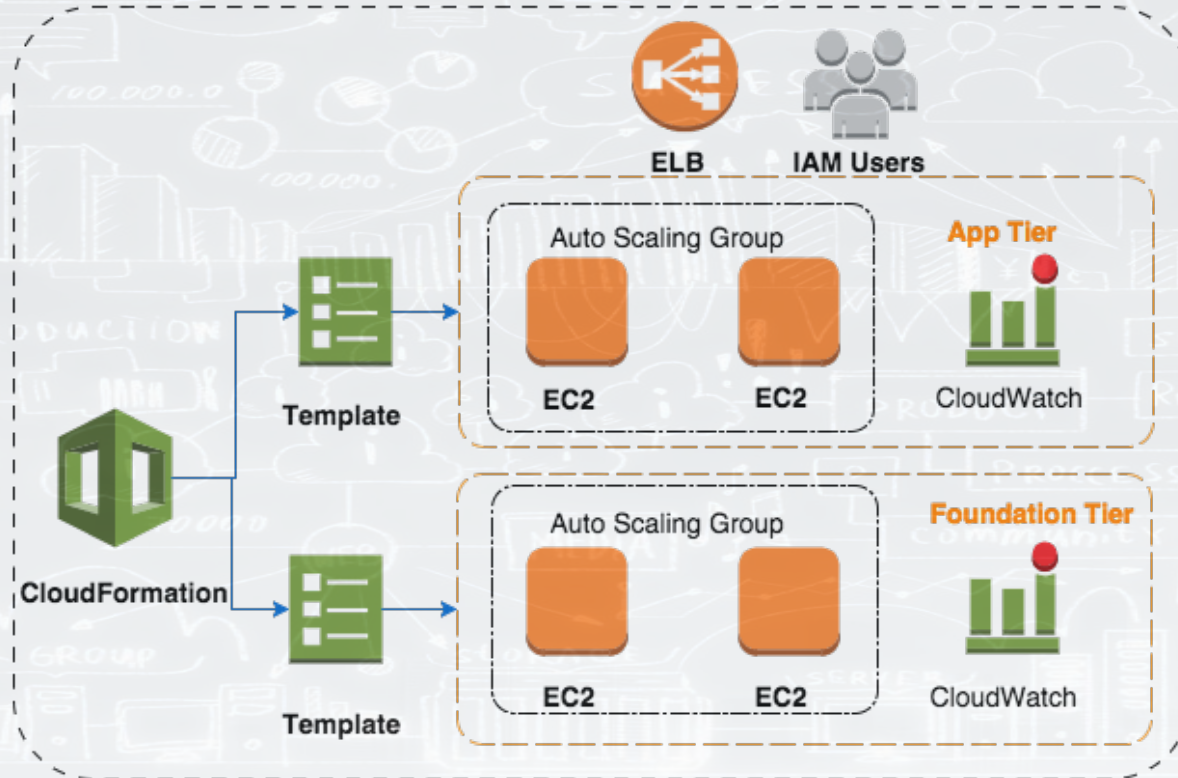
APP Server:  
I Am Role\_A!



# Hands On



# Auto-Scale For Your Application Server in AWS(1/3)



# Auto-Scale For Your Application Server in AWS(2/3)

- [Integrating AWS CloudFormation with Opscode Chef](#) (Out of date document, Don't trust it !)
  - cfn-init, cfn-signal, cfn-get-metadata, cfn-hup: the bridge between CloudFormation and AWS resource
  - User Data: the easiest and most complete way to send instructions to an instance at launch

The AWS logo is a stylized orange cloud shape with the letters "AWS" in white, positioned in the bottom right corner of the slide.

AWS

# Auto-Scale For Your Application Server in AWS(3/3)

- When the scale out policy meet...

New EC2 Launch

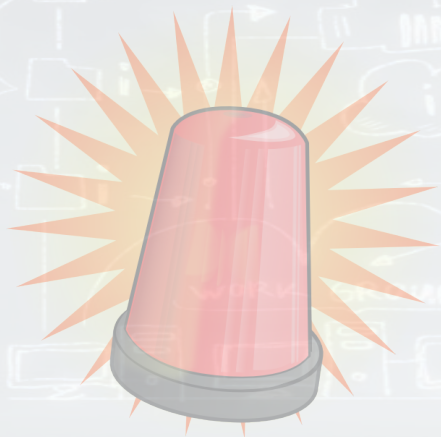
Prepare client.rb,  
role.js for register

Register Chef server  
by role.js for provision

Install the latest  
APP build

```
~$ chef-client --once -j /path/role.js
```

```
~$ chef-client --once -o recipe[cookbook::recipe]
```

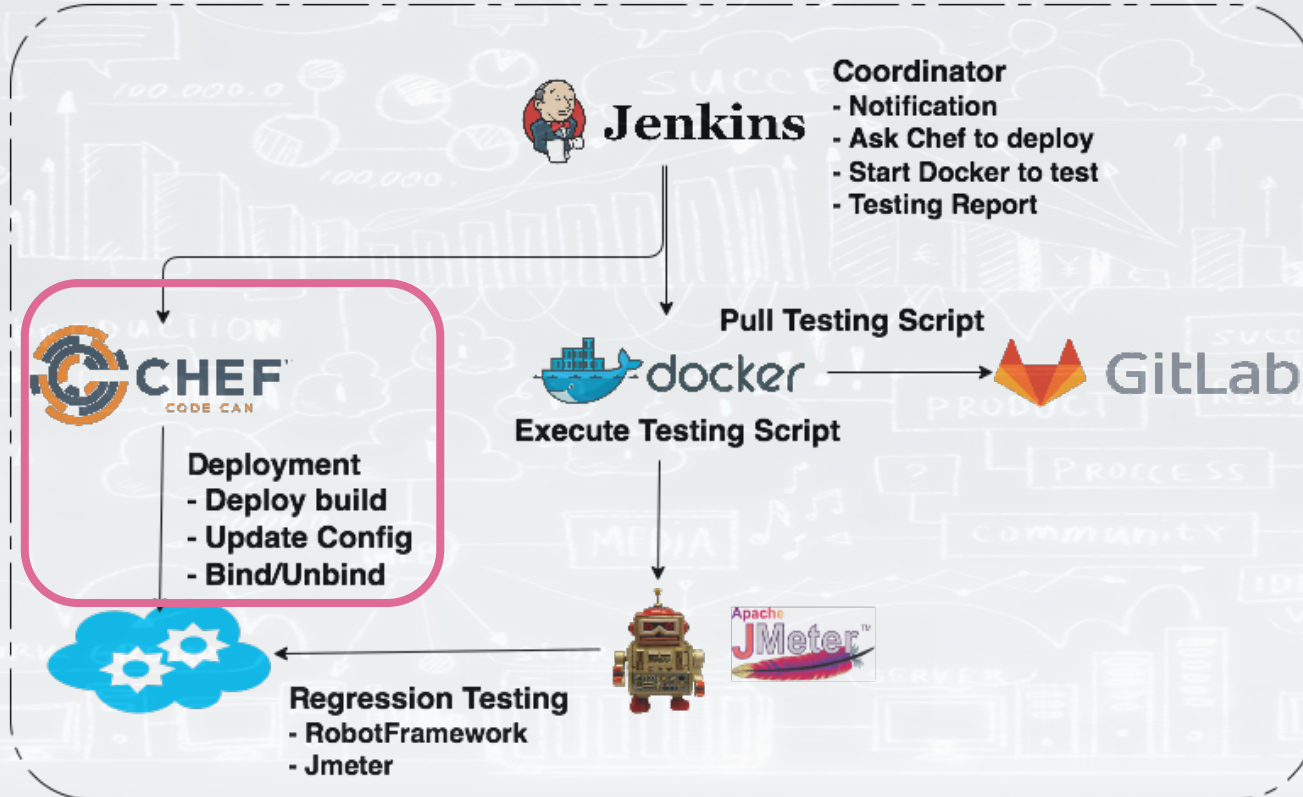


# Fells About Auto-Scale...

- Provision V.S. Archive AMI
- AWS CloudFormation is really hard to debug
- Stackoverflow sometimes is better than AWS official document.



# Integrate With Jenkins To Achieve CI





# Two Ways To Integrate With Jenkins(1/2)

- CloudBees Jenkins Plugin and extend Chef report handler



- Chef Tracking Plugin
- Not Real Time



- Extend Chef report handler
- Track file as Jenkins fingerprint



# Two Ways To Integrate With Jenkins(2/2)

- Official Chef Push Job mechanism



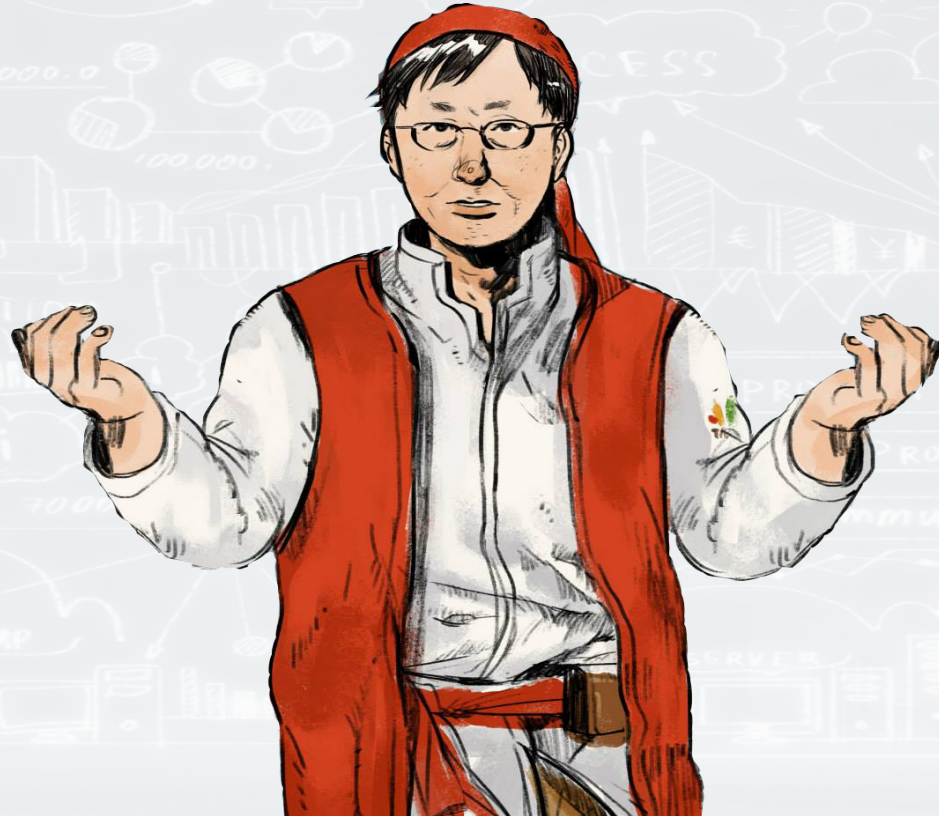
- HTTP Restful API
- Real Time



- Define job in Client.rb



# Hands On



# Fells About Integrate With Jenkins...

- Official Chef Push Job mechanism
  - For windows, sometimes the job will crash, need to implement retry mechanism
- CloudBees Jenkins Plugin
  - There is bug in the extend of chef report handler  
([fixing version](#))



# Cross Platform (Linux V.S. Windows)

- Chef's resource support Linux & Windows platform
- If not, you could write LWPR (light weight provider resource) by yourself



# ~~Q & A~~



# Q & A

