

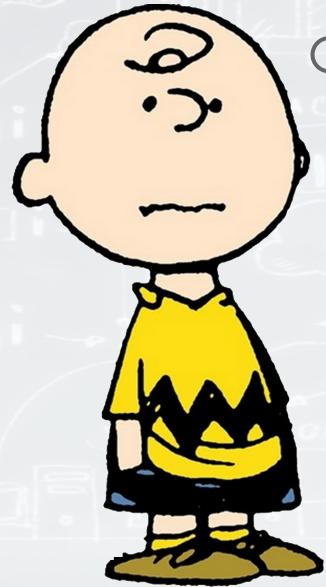
Dancing with Chef

廚師與伺服器

Tom Tsai @ TrendMicro



Who Am I ?



Self Introduction

- My name is Tom
- I'm Nobody in



Opinion Poll

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

Deployment High CPU Usage Provision

Scale Out Backups

Modify Config Security Patch Scale Out

Storage Full

High CPU Usage

Provision Backups

Storage Full Archive Log

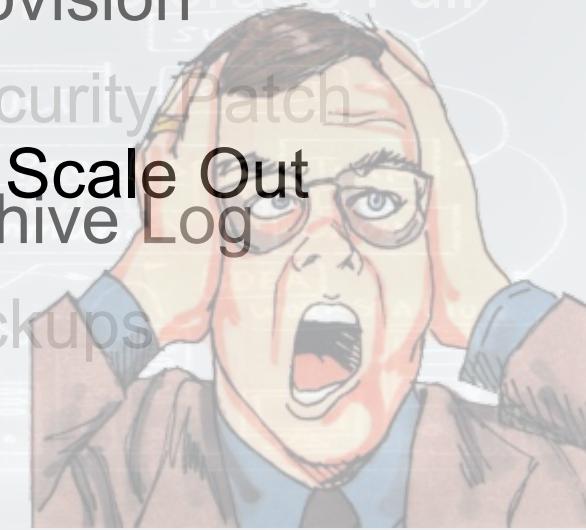
Archive Log

Scale Out

Security Patch

Backups

Server



Basic Concept About CM

- Infrastructure as Code

Before



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", :envir
> node['apache']['log_dir'], :timeout => 10
end

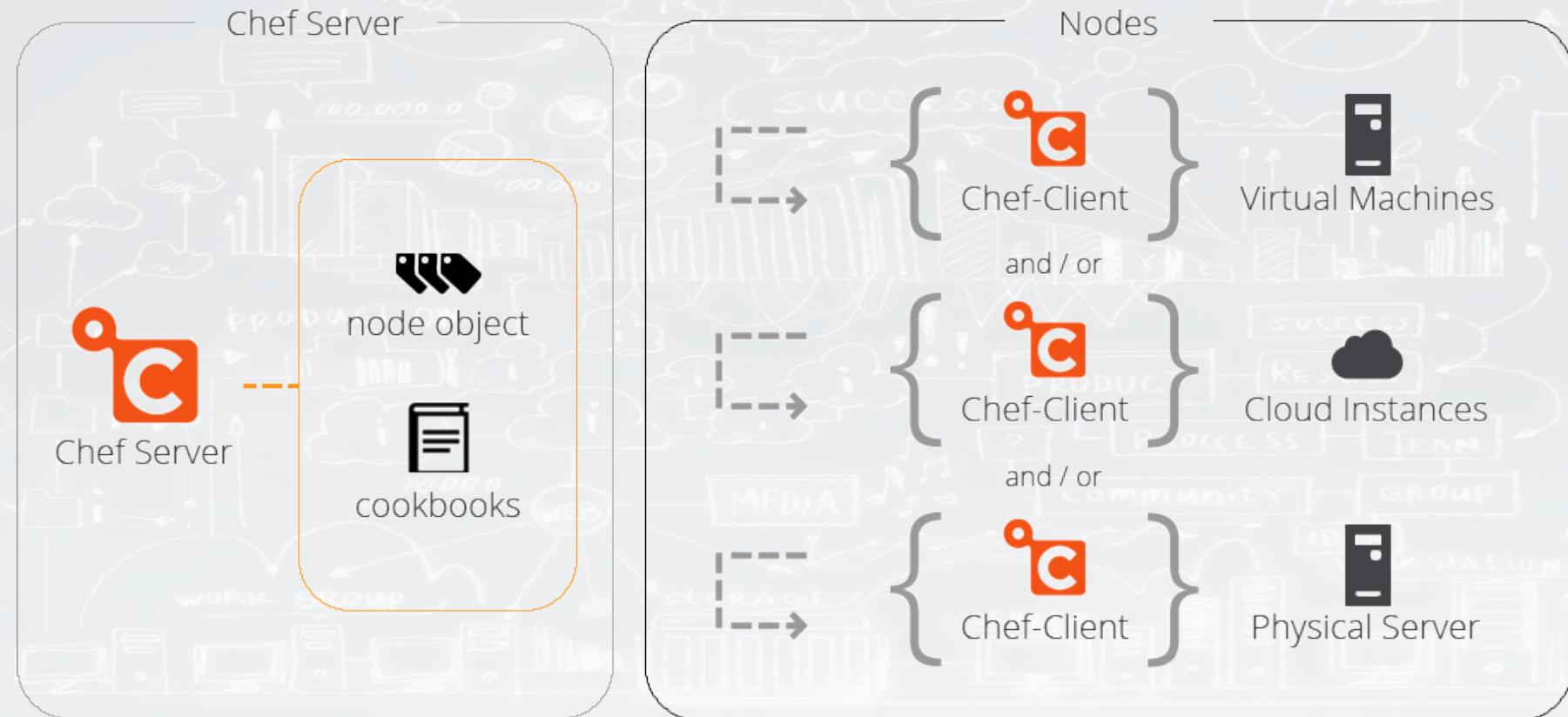
%w(sites-available sites-enabled mods-available mod
-enabled).each do |dir|
  directory "#{node['apache']['dir']}/#{dir}" do
    mode '0755'
```



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_SQL
Cookbook_PHP

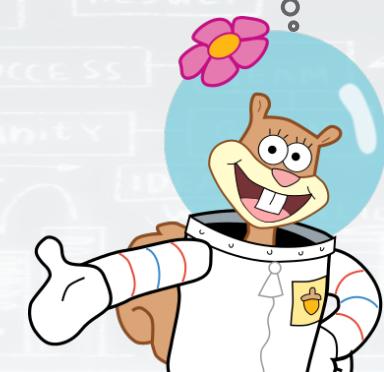
Role_B

Cookbook_Elastic
Cookbook_Logstash
Cookbook_Kibana



Chef Server:
No Problem

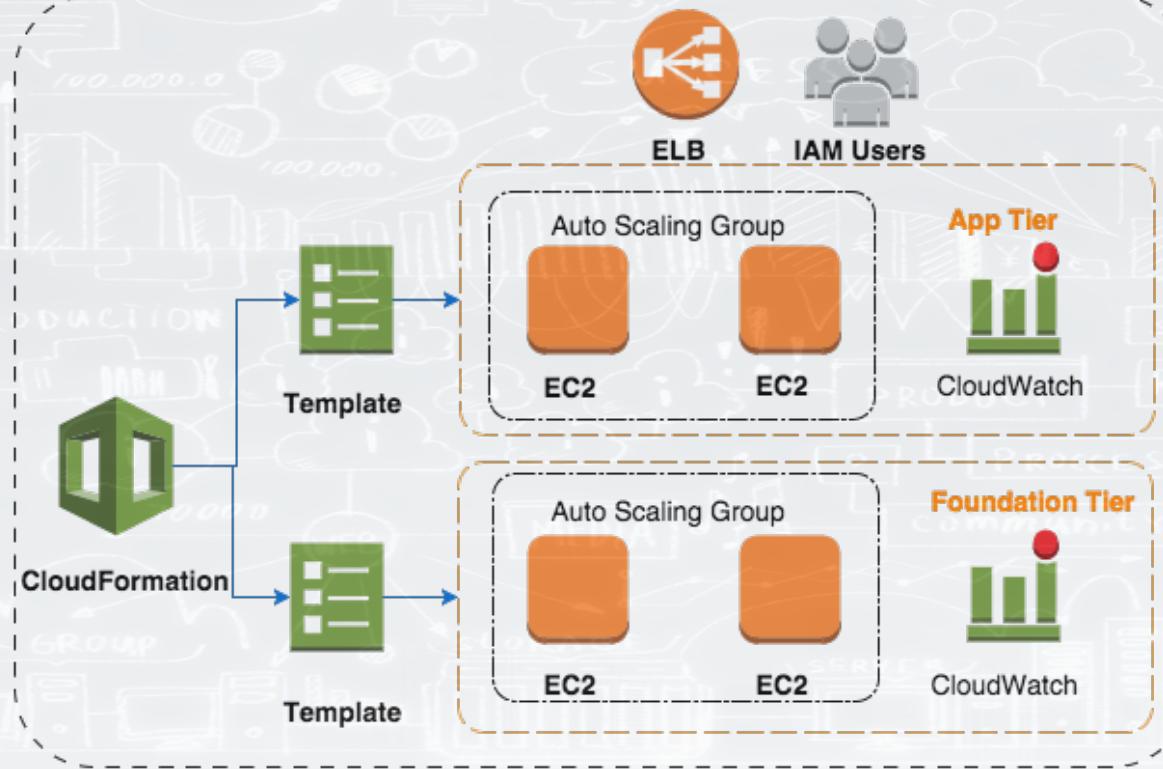
APP Server:
I Am Role_A !



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

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

- When the scale out policy meet...

New EC2 Launch

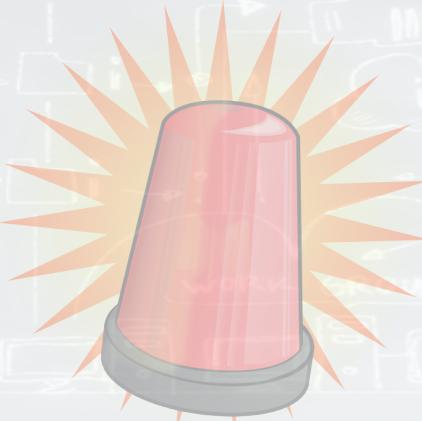
Prepare client.rb,
role.js for register

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]
```

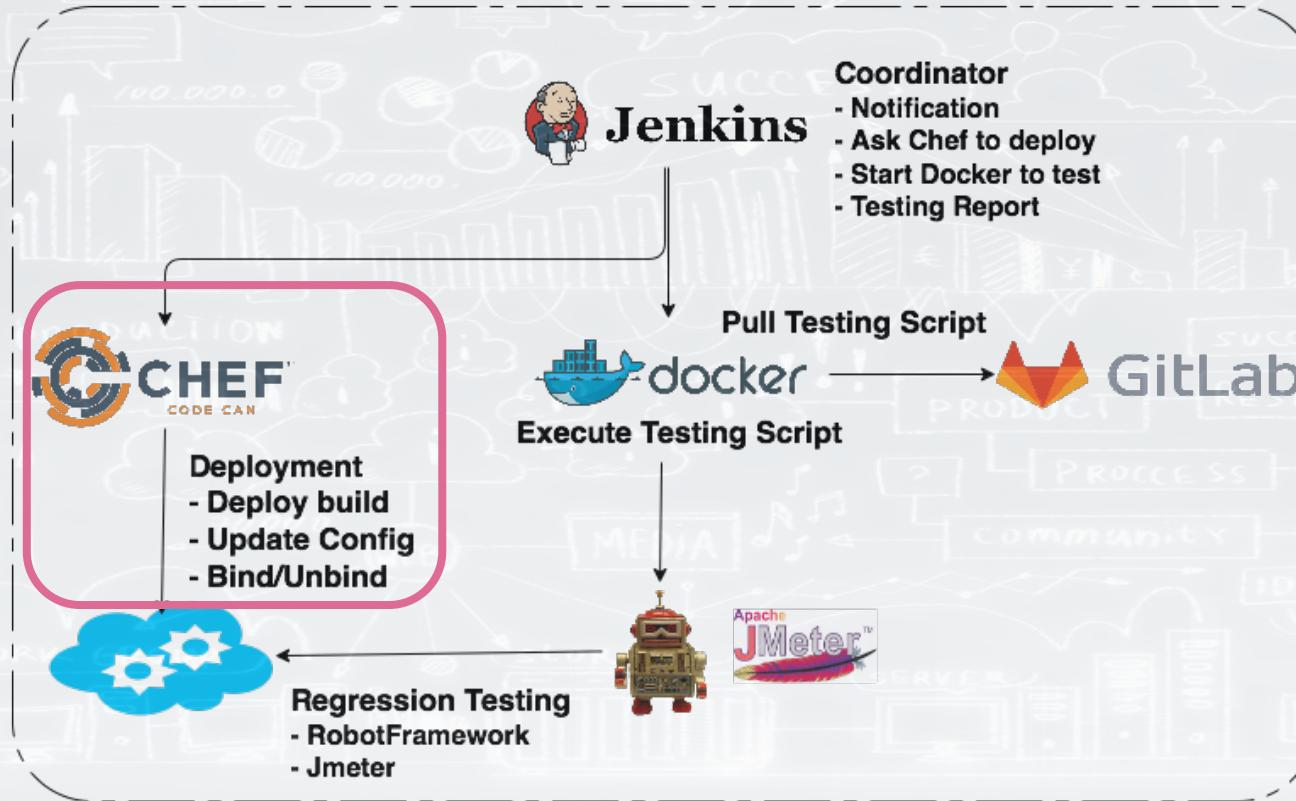


Fells About Auto-Scale...

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

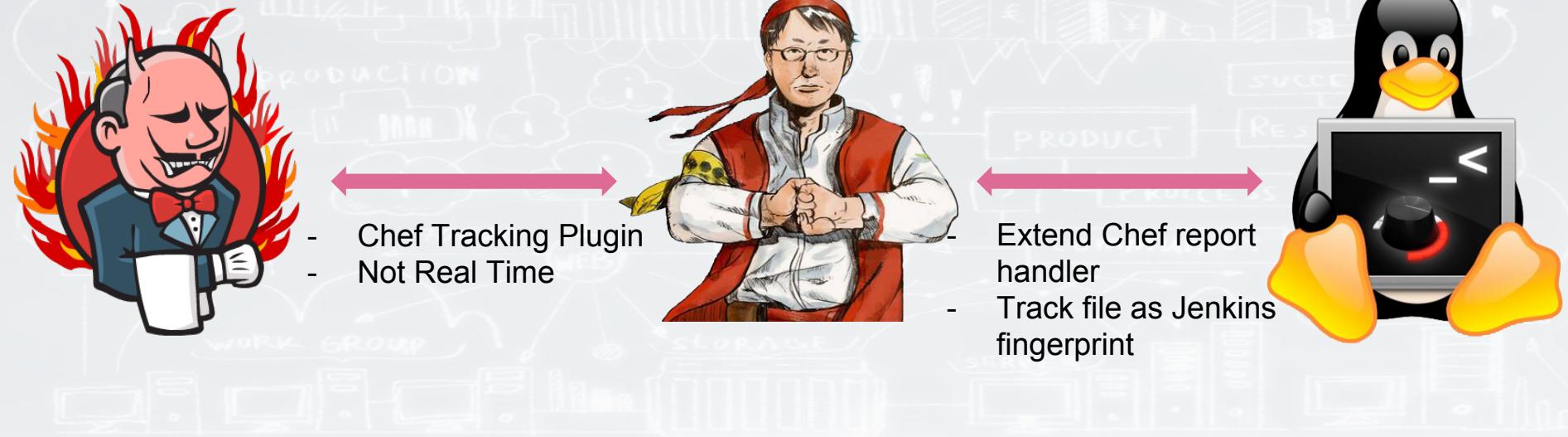


Integrate With Jenkins To Achieve CI



Two Ways To Integrate With Jenkins(1/2)

- CloudBees Jenkins Plugin and extend Chef report handler



Two Ways To Integrate With Jenkins(2/2)

- Official Chef Push Job mechanism



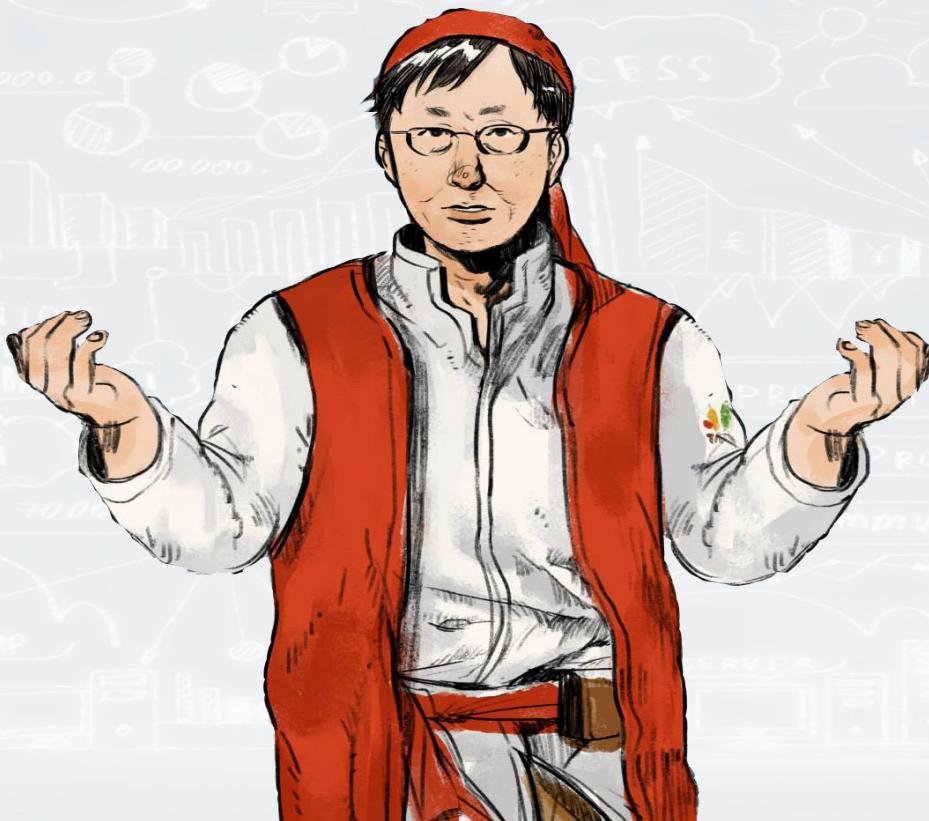
- HTTP Restful API
- Real Time



- 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

