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Client Platform Engineer at Facebook HQ

Automation at Hacker School

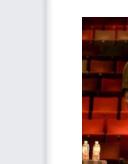
Lives in San Francisco, California

From San Jose, California

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Status Photo Place Life Event

What's on your mind?



Mike Dodge

21 hours ago

Cant wait to give my talk



facebook

1601 Willow Road



CHEF



CHEF

Advanced



CHEF

Made easy





Not All Sun Shine and Rainbows...



Not All Sun Shine and Rainbows... **LAST YEAR**

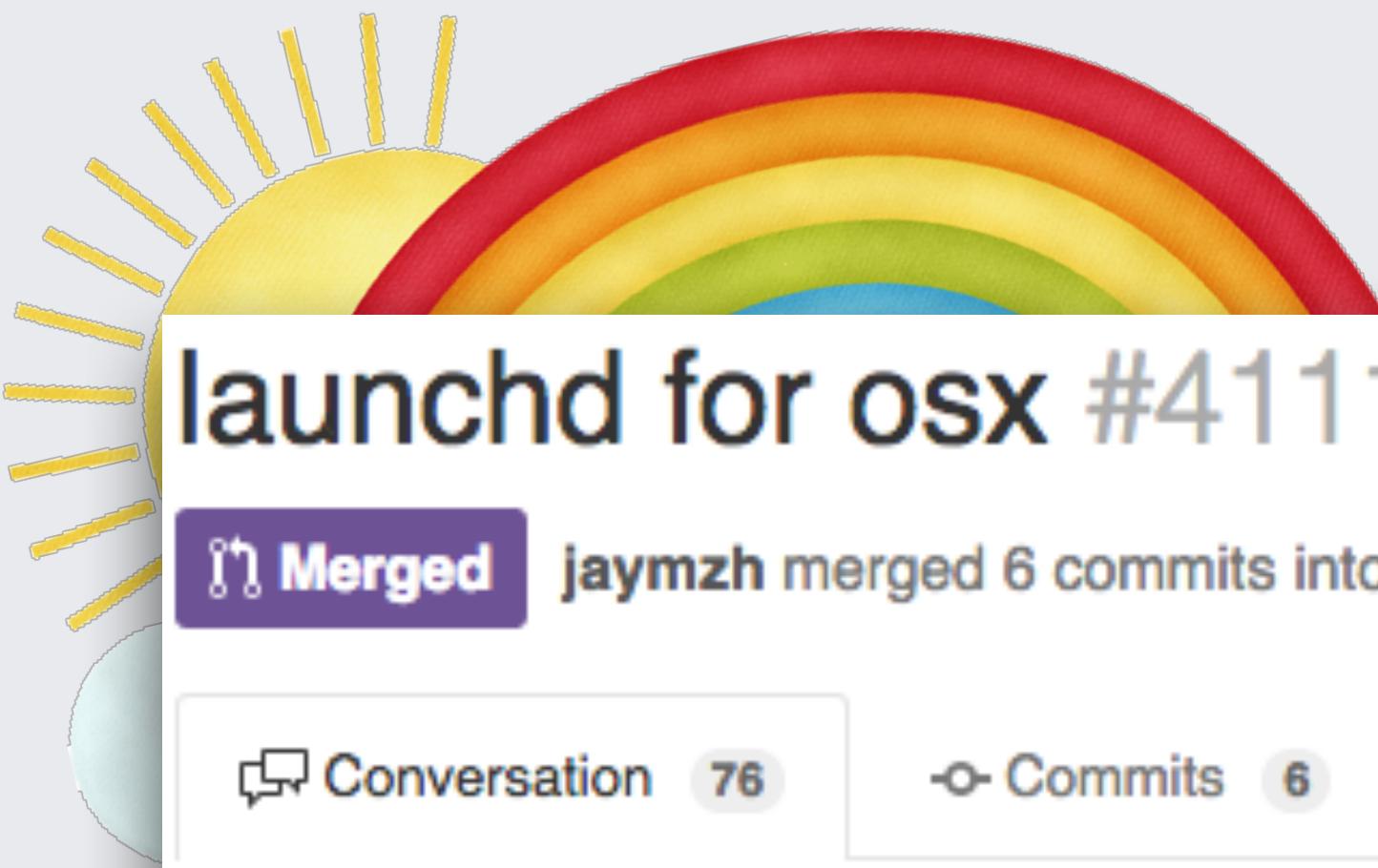


~~Not All Sun Shine and Rainbows...~~

~~Not All Sun Shine and Rainbows...~~







launchd for osx #4111

Merged [jaymzh](#) merged 6 commits into [chef:master](#) from [mikedodge04:launchd](#) on Feb 17

Conversation 76

Commits 6

Files changed 6



mikedodge04 commented on Oct 27, 2015



@jaymzh will merge under his CCLA once it's passed review by @chef / @client-core

launchd

This resource installs/removes Launch Daemons and Agents

Actions

- :create
- :create_if_missing



launchd for osx #4111

Added profile provider for OS X #4078

Merged

jaymzh merged 1 commit into `chef:master` from `natewalck:profiles` on Dec 20, 2015



Conversation 90

Commits 1

Files changed 8



natewalck commented on Oct 20, 2015



New provider to install configuration profiles on OS X.

Once fully reviewed and approved, @jaymzh will merge the changes under his CLA.

- `:create`
- `:create_if_missing`

launchd for osx #4111

Added profile provider for OS X #4078

Add support for OS X 10.11 SIP paths #3704

Merged

jaymzh merged 1 commit into chef:master from natewalck:elcap-sipfix on Aug 11, 2015

Conversation 29

Commits 1

Files changed 3

natewalck commented on Jul 23, 2015



Currently, Chef will fail to create /usr/local as /usr is no longer writable on OS X 10.11.

To work around this, If a path cannot be written, we do the following:

- Check to see if the path is writable. If is, continue as we normally would.
- Check to see if we are on 10.11 and if it is a SIP path.
- If it is 10.11 and it is a SIP path, check to see if it is on the exception list. If so, return true.
- If it is not 10.11 or a SIP path, return false as you normally would.

launchd for osx #4111

Added profile provider for OS X #4078

Add support for OS X 10.11 SIP paths #3704

Added support for 10.11 and added function for evaluating X version... #3594

Merged jaymzh merged 5 commits into chef:master from natewalck:master on Jul 23, 2015

Conversation 22

Commits 5

Files changed 2



natewalck commented on Jun 25, 2015



Hey Chef folks! This is a simple fix to the Mac OS X Service provider that adds support for OS X >= 10.11 and also allows us to compare OS Versions going forward for feature gating.

(I am a Facebook employee and PhilD will do the final merge on this PR.)



Added support for 10.11 and added function for evaluating OS X versio... ...

✓ 27dc8b7

launchd for osx #4111

n Added profile provider for OS X #4078

n Add support for OS X 10.11 SIP paths #3704

n Added support for 10.11 and added function for evaluating X version... #3594

For OS X, move symlink to an 10.11 friendly location #439

Merged jaymzh merged 2 commits into chef:master from natewalck:master on Jul 23, 2015

Conversation 18

Commits 2

Files changed 2



natewalck commented on Jul 20, 2015



This patch will allow the Chef Omnibus installer to run correctly on 10.11. It is reverse compatible with prior OS X versions as /usr/local/bin is in the search path.

For OS X, move symlink to an 10.11 friendly location

35b0feb

DONE! THE END!

DONE! THE END!

ok... Not really...

There is still one issue...

There is still one issue...

There is still one issue...

- * All Config Management tools
Manage individual settings, not entire systems
Ex: (Profiles, Launchd).

There is still one issue...

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Ex: (Profiles, Launchd).
- * manages each Launchdaemon separately

There is still one issue...

- * All Config Management tools
Manage individual settings, not entire systems
Ex: (Profiles, Launchd).
- * manages each Launchdaemon separately
- * not Launchd as whole

launchd Example


```
launchd 'com.facebook.some_script' do
  program '/Library/some_script.sh'
  start_calendar_interval
    'Weekday' => 7,
    'Hourly'  => 10
  time_out 300
  action :enable
end
```



```
launchd 'com.facebook.some_script' do
  program '/Library/some_script.sh'
  start_calendar_interval
    'Weekday' => 7,
    'Hourly'  => 10
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launchd 'com.facebook.some_script' do
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  program '/Library/some_script.sh'
  start_calendar_interval
    'Weekday' => 7,
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  time_out 300
  action :enable
end
```

```
launchd 'com.facebook.some_script' do
  program '/Library/some_script.sh'
  start_calendar_interval
    'Weekday' => 7,
    'Hourly' => 10
  time_out 300
  action :enable
end
```

```
launchd 'com.facebook.some_script' do
  program '/Library/some_script.sh'
  start_calendar_interval
    'Weekday' => 7,
    'Hourly'  => 10
  time_out 300
  action :enable
end
```

launchd 'com.facebook.some_script' do
NO
 program 'com.facebook.calendar'
 command '/bin/sh -c "cd /tmp; ./some_script.sh"'
 interval 300
 calendar 'Weekly' =>
 day 'Sunday' =>
 time '10:00'
 end
 action :enable
 end
end

```
launchd 'com.facebook.some_script' do
  program '/Library/some_script.sh'
  start_calendar_interval
    'Weekday' => 7,
    'Hourly' => 10
  time_out 300
  action :enable
end
```



```
# Please Remove on 7/30/16
launchd 'com.facebook.some_script' do
  action :delete
end

launchd 'com.facebook.some_script' do
  program '/Library/some_script.sh'
  start_calendar_interval
    'Weekday' => 7,
    'Hourly'  => 10
  time_out 300
  action :enable
end
```

Please Remove on 7/30/16

```
launchd 'com.facebook.some_script' do
  action :delete
end
```

```
launchd 'com.facebook.some_script' do
  program '/Library/some_script.sh'
  start_calendar_interval
    'Weekday' => 7,
    'Hourly'  => 10
  time_out 300
  action :enable
end
```

```
# Please Remove on 7/30/16
launchd 'com.facebook.some_script' do
  action :delete
end
```

```
launchd 'com.facebook.some_script' do
  program '/Library/some_script.sh'
  start_calendar_interval
    'Weekday' => 7,
    'Hourly'  => 10
  time_out 300
  action :enable
end
```

cpe_launchd Example


```
# In any recipe, Add to cpe_launched hash
node.default['cpe_launched']['com.facebook.some_script'] = {
  'program' => '/Library/some_script.sh',
  'start_calendar_interval' => {
    'Weekday' => 6,
    'Hourly' => 10,
  },
  'time_out' => 300,
}
```

cpe_profiles Example


```
node.default['cpe_profiles']['com.facebook.chef.passwordrestriction'] = {  
  'PayloadIdentifier'          => 'com.facebook.chef.passwordrestriction',  
  'PayloadRemovalDisallowed'   => true,  
  'PayloadScope'               => 'System',  
  'PayloadType'                => 'Configuration',  
  'PayloadUUID'                => '48a39070-1e4c-0131-c321-3cc8002a441a',  
  'PayloadOrganization'        => 'Fb',  
  ...  
}
```

```
node.default['cpe_profiles']['com.facebook.chef.passwordrestriction'] = {  
    'PayloadIdentifier'          => 'com.facebook.chef.passwordrestriction',  
    'PayloadRemovalDisallowed'   => true,  
    'PayloadScope'               => 'System',  
    'PayloadType'                => 'Configuration',  
    'PayloadUUID'                => '48a39070-1e4c-0131-c321-3cc8002a441a',  
    'PayloadOrganization'        => 'Fb',  
    ...  
}
```

API's

Chef

Attributes

Recipes

Resources

**** Drastic Oversimplification of **Compile Time vs Run Time** ****

Chef

Attributes

Recipes

Resources

Recipes

Compile Time

Run Time

**** Drastic Oversimplification of **Compile Time** vs **Run Time** ****

Chef

1

Attributes

Recipes

Resources

idle_time = 300

Recipes

Compile Time

Run Time

**** Drastic Oversimplification of **Compile Time** vs **Run Time** ****

Chef

1

Attributes

Recipes

Resources

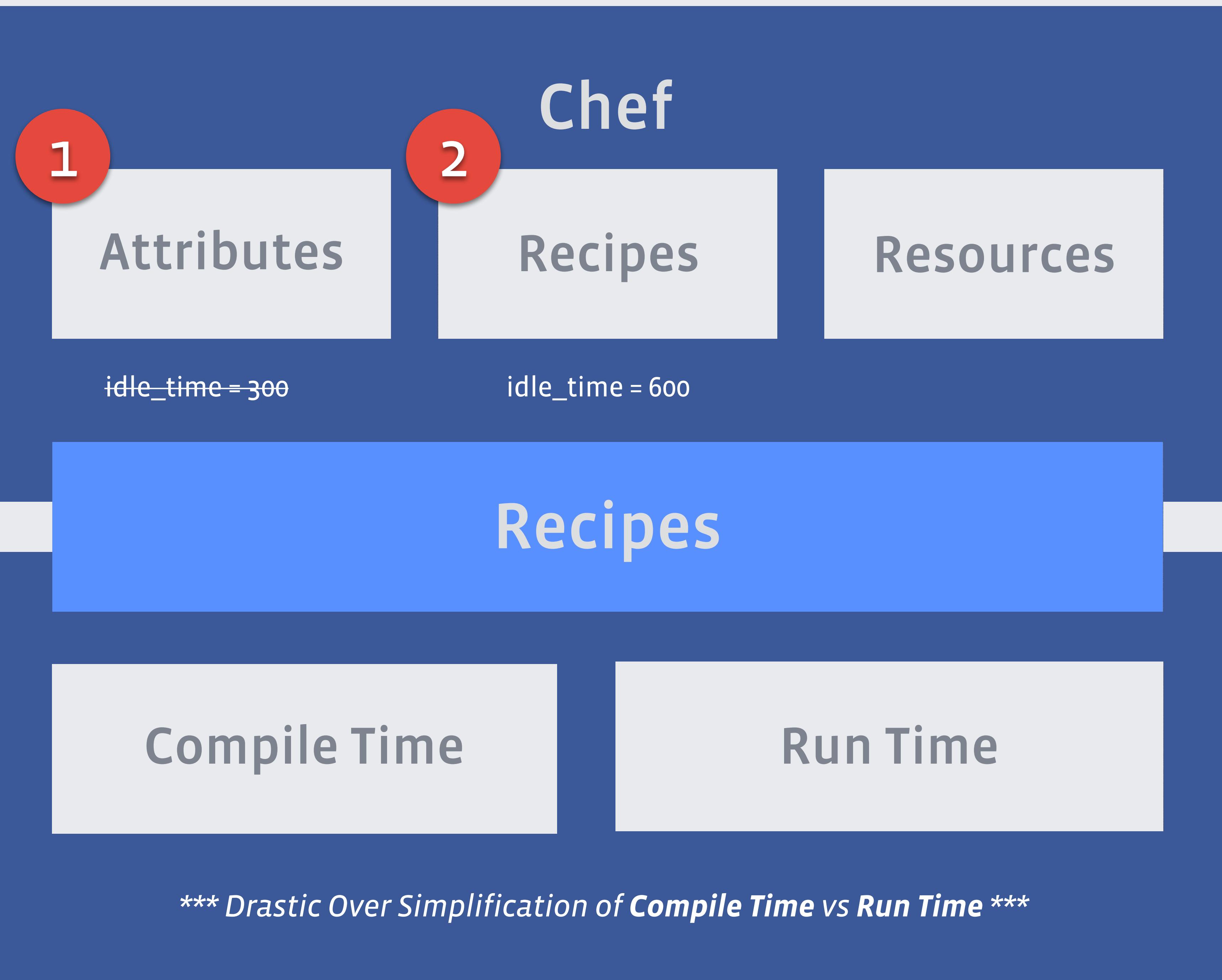
~~idle_time = 300~~

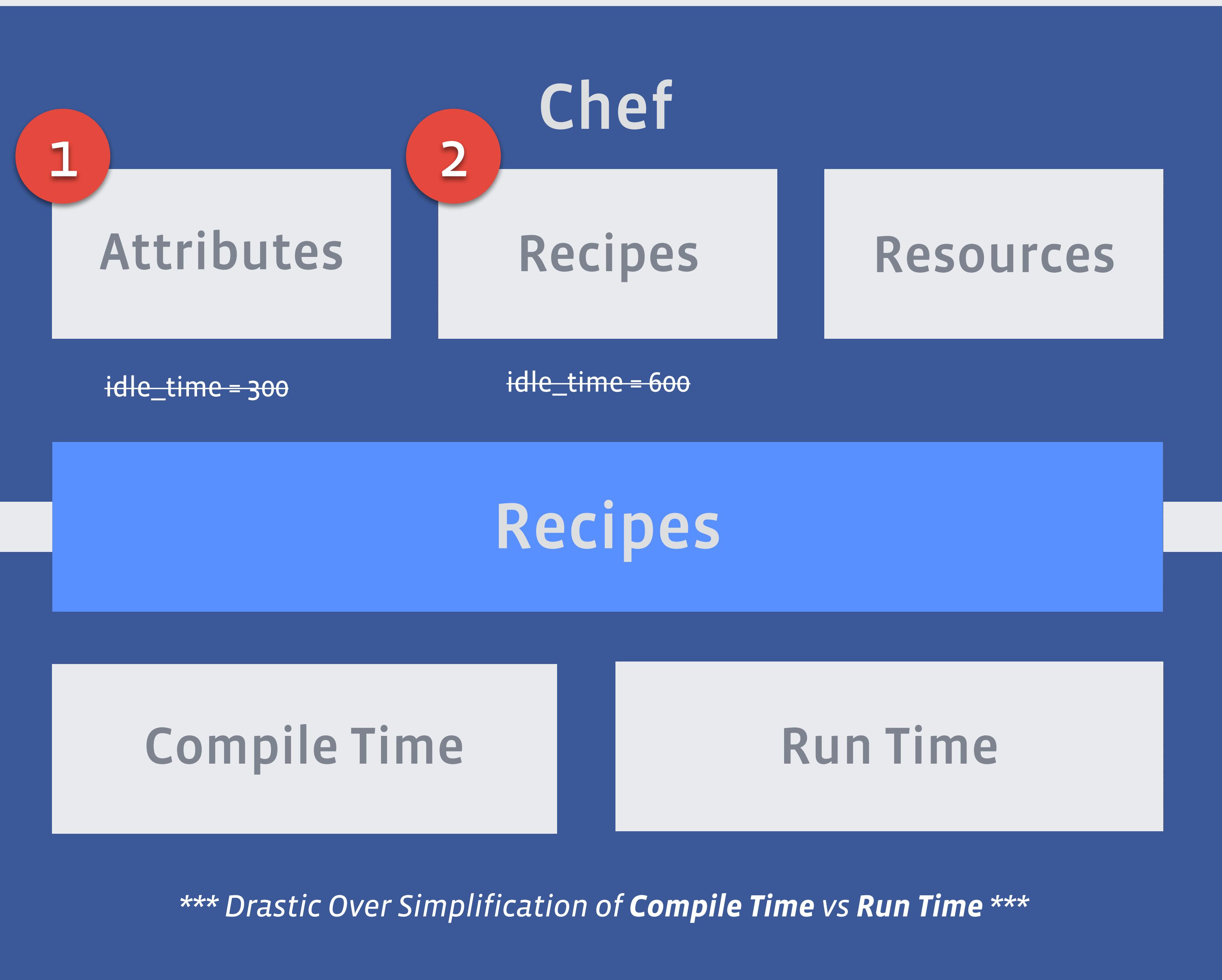
Recipes

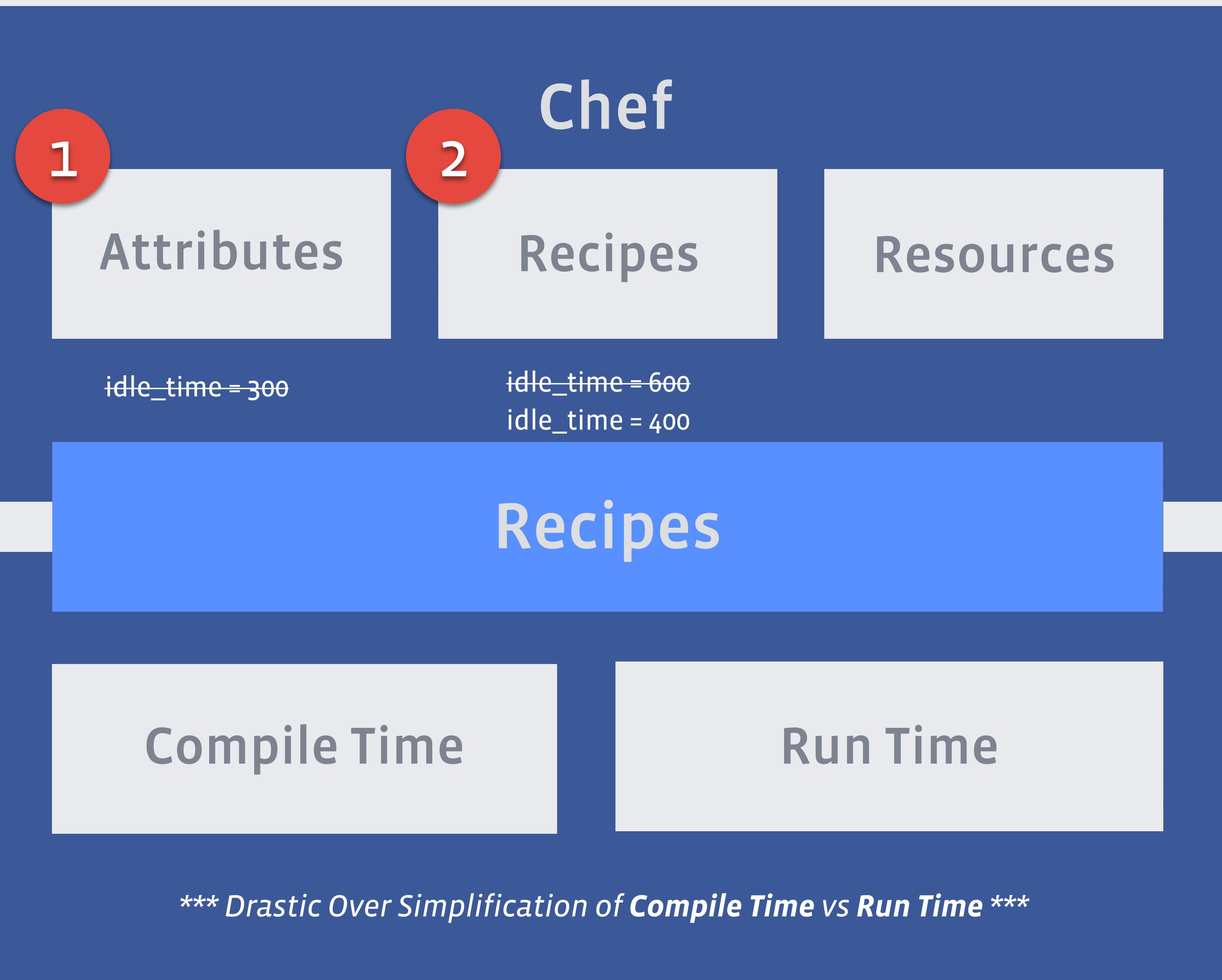
Compile Time

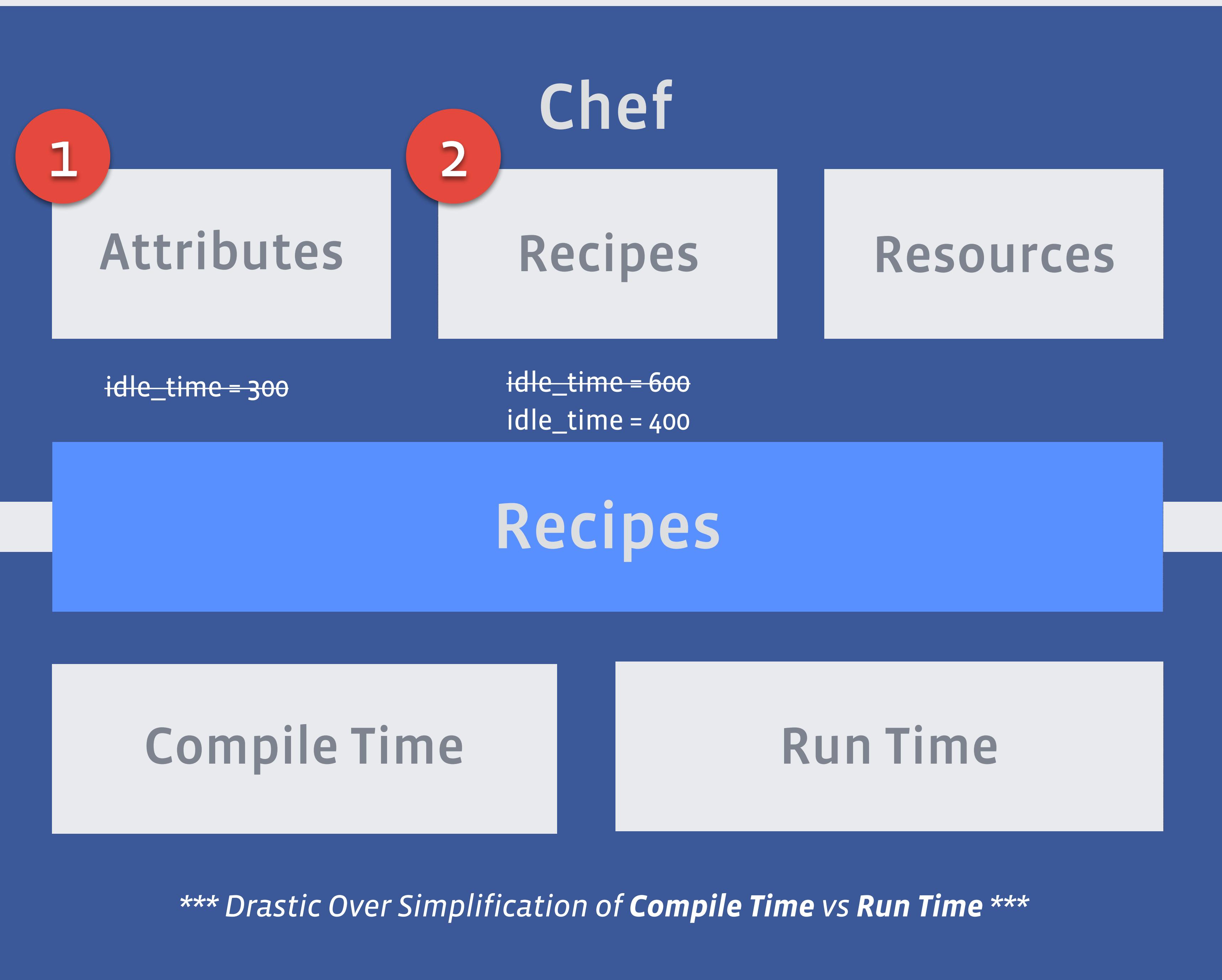
Run Time

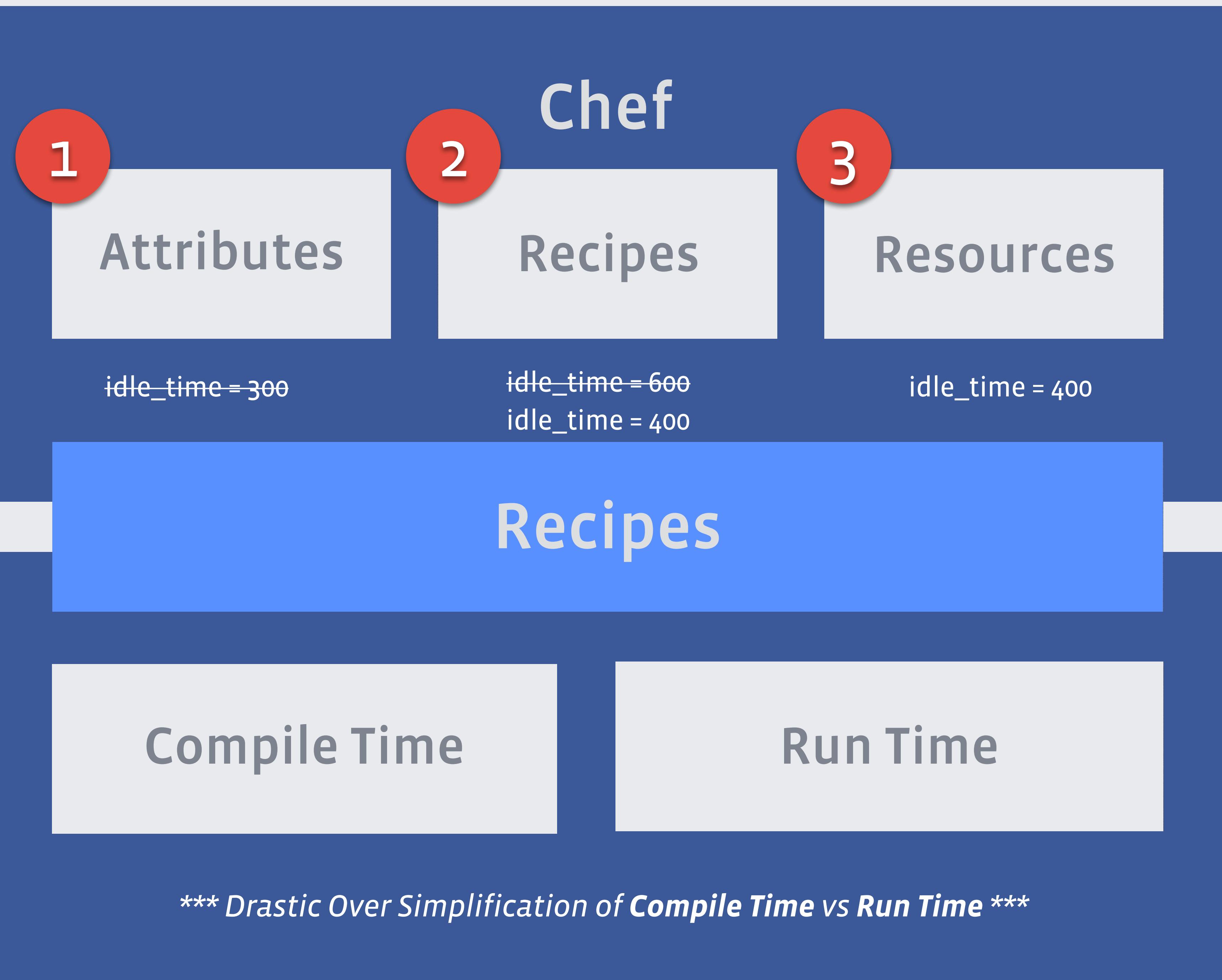
**** Drastic Over Simplification of **Compile Time** vs **Run Time** ****











Chef API's How do they work?


```
# cpe_bluetooth/attributes/default.rb
# Disable bluetooth setup assistant for mouse and keyboard
default['cpe_bluetooth']['BluetoothAutoSeekKeyboard'] = nil
default['cpe_bluetooth']['BluetoothAutoSeekPointingDevice'] = nil
```



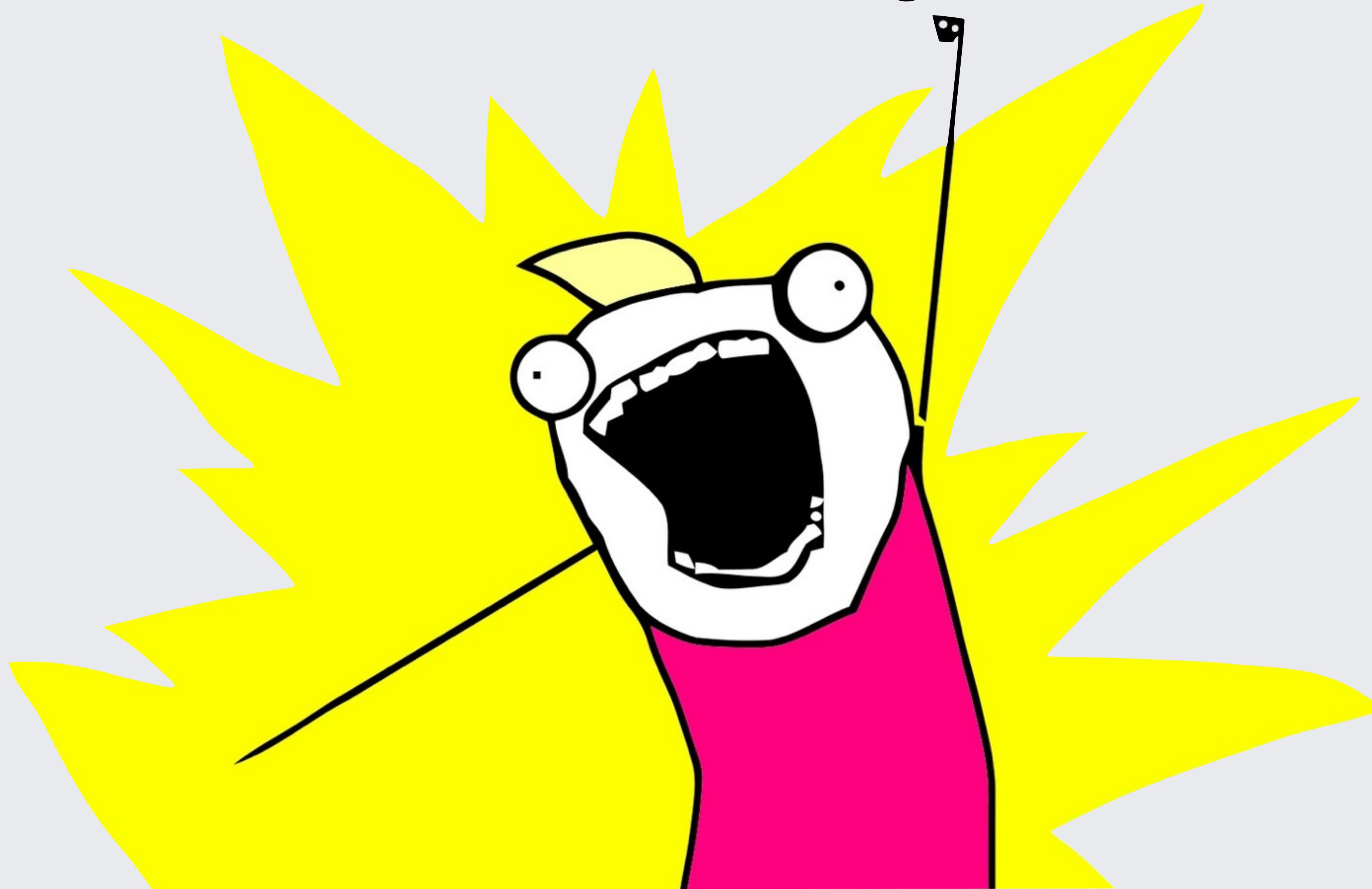
```
# cpe_bluetooth/recipes/default.rb
ruby_block 'bt_prefs' do
  block do
    bt_prefs = node['cpe_bluetooth'].reject { |k, v| v.nil? }
    return if bt_prefs.empty?
    prefix = node['cpe_profiles']['prefix']
    node.default['cpe_profiles']["#{prefix}.bluetooth"] = {
      'PayloadIdentifier' => "#{prefix}.bluetooth",
      'PayloadRemovalDisallowed' => true,
      'PayloadScope' => 'System',
      'PayloadType' => 'Configuration',
      'PayloadUUID' => '2E33AB8C-AFF6-4BA7-8110-412EC841423E',
      'PayloadOrganization' => node['organization'],
      'PayloadVersion' => 1,
      'PayloadDisplayName' => 'Bluetooth',
      'PayloadContent' => [
        {
          'PayloadType' => 'com.apple.ManagedClient.preferences',
          'PayloadVersion' => 1,
```



```
# cpe_bluetooth/recipes/default.rb
ruby_block 'bt_prefs' do
  block do
    bt_prefs = node['cpe_bluetooth'].reject { |k, v| v.nil? }
    return if bt_prefs.empty?
    prefix = node['cpe_profiles']['prefix']
    node.default['cpe_profiles']["#{prefix}.bluetooth"] = {
      'PayloadIdentifier' => "#{prefix}.bluetooth",
      'PayloadRemovalDisallowed' => true,
      'PayloadScope' => 'System',
      'PayloadType' => 'Configuration',
      'PayloadUUID' => '2E33AB8C-AFF6-4BA7-8110-412EC841423E',
      'PayloadOrganization' => node['organization'],
      'PayloadVersion' => 1,
      'PayloadDisplayName' => 'Bluetooth',
      'PayloadContent' => [
        {
          'PayloadType' => 'com.apple.ManagedClient.preferences',
          'PayloadVersion' => 1,
```


API All the things!

API All the things!




```
# Override Default ScreenSaver Settings
node.default['cpe_screensaver']['idleTime'] = 600
node.default['cpe_screensaver']['askForPasswordDelay'] = 1
```



```
# Append to System Path
node.default['cpe_paths'] << "/usr/local/munki"
```






+



CHEF

=



+



CHEF

=




```
# Install munki
node.default['cpe_munki']['install'] = true
# Configure munki
node.default['cpe_munki']['configure'] = true
```



```
# Install munki
node.default['cpe_munki']['install'] = true
# Configure munki
node.default['cpe_munki']['configure'] = true

# Override default munki settings
node.default['cpe_munki']['preferences']['SoftwareRepoURL'] =
  'https://munki.MYCOMPANY.com/repo'
node.default['cpe_munki']['preferences']['InstallAppleSoftwareUpdates'] = true
```



```
# Install munki
node.default['cpe_munki']['install'] = true
# Configure munki
node.default['cpe_munki']['configure'] = true

# Override default munki settings
node.default['cpe_munki']['preferences']['SoftwareRepoURL'] =
  'https://munki.MYCOMPANY.com/repo'
node.default['cpe_munki']['preferences']['InstallAppleSoftwareUpdates'] = true

# Manage Munki's Local Only Manifest
[
  'Dropbox',
  'GoogleChrome',
  'iTerm2',
].each do |item|
  node.default['cpe_munki']['local']['managed_installs'] << item
end
```

Putting it
All Together


```
# Company Defaults
node.default['organization'] = 'MYCOMPANY'
node.default['cpe_launchd']['prefix'] = "com.#{node['organization']} .chef"
node.default['cpe_profiles']['prefix'] = "com.#{node['organization']} .chef"
```



```
# Company Defaults
node.default['organization'] = 'MYCOMPANY'
node.default['cpe_launchd']['prefix'] = "com.#{node['organization']} .chef"
node.default['cpe_profiles']['prefix'] = "com.#{node['organization']} .chef"
node.default['cpe_munki']['install'] = true
node.default['cpe_munki']['configure'] = true
node.default['cpe_munki']['preferences']['SoftwareRepoURL'] =
  "https://munki.#{node['organization']}.com/repo"
node.default['cpe_munki']['preferences']['InstallAppleSoftwareUpdates'] =
  true
```



```
# Company Defaults
node.default['organization'] = 'MYCOMPANY'
node.default['cpe_launchd']['prefix'] = "com.#{node['organization']} .chef"
node.default['cpe_profiles']['prefix'] = "com.#{node['organization']} .chef"
node.default['cpe_munki']['install'] = true
node.default['cpe_munki']['configure'] = true
node.default['cpe_munki']['preferences']['SoftwareRepoURL'] =
  "https://munki.#{node['organization']}.com/repo"
node.default['cpe_munki']['preferences']['InstallAppleSoftwareUpdates'] =
  true
node.default['cpe_screensaver']['idleTime'] = 600
node.default['cpe_screensaver']['askForPasswordDelay'] = 5
```



```
# Company Defaults
node.default['organization'] = 'MYCOMPANY'
node.default['cpe_launchd']['prefix'] = "com.#{node['organization']} .chef"
node.default['cpe_profiles']['prefix'] = "com.#{node['organization']} .chef"
node.default['cpe_munki']['install'] = true
node.default['cpe_munki']['configure'] = true
node.default['cpe_munki']['preferences']['SoftwareRepoURL'] =
  "https://munki.#{node['organization']}.com/repo"
node.default['cpe_munki']['preferences']['InstallAppleSoftwareUpdates'] =
  true
node.default['cpe_screensaver']['idleTime'] = 600
node.default['cpe_screensaver']['askForPasswordDelay'] = 5
node.default['cpe_munki']['local']['managed_installs'] << 'GoogleChrome'

# By Department Overrides
include_recipe node['department']
...
```



```
# By Department Overrides
include_recipe node['department']
...
...
```

```
# By Department Overrides
include_recipe node['department']
...
...
```

```
# By Department Overrides
include_recipe node['department']

...
# sales.rb
node.default['cpe_screensaver']['idleTime'] = 300
node.default['cpe_munki']['local']['managed_installs'] << 'Excel'
```

```
# By Department Overrides
include_recipe node['department']

...
# sales.rb
node.default['cpe_screensaver']['idleTime'] = 300
node.default['cpe_munki']['local']['managed_installs'] << 'Excel'
```

```
# By Department Overrides
include_recipe node['department']

...
# sales.rb
node.default['cpe_screensaver']['idleTime'] = 300
node.default['cpe_munki']['local']['managed_installs'] << 'Excel'

# engineering.rb
node.default['cpe_screensaver']['idleTime'] = 1200
node.default['cpe_screensaver']['askForPasswordDelay'] = 0
node.default['cpe_munki']['local']['managed_installs'] << 'iTerm2'
```

```
# By Department Overrides
include_recipe node['department']

...
# sales.rb
node.default['cpe_screensaver']['idleTime'] = 300
node.default['cpe_munki']['local']['managed_installs'] << 'Excel'

# engineering.rb
node.default['cpe_screensaver']['idleTime'] = 1200
node.default['cpe_screensaver']['askForPasswordDelay'] = 0
node.default['cpe_munki']['local']['managed_installs'] << 'iTerm2'
```



```
# By User/Node Overrides
include_recipe "cpe_user_customizations::#{node.console_user}"
include_recipe "cpe_node_customizations::#{node.name}"
```

```
# By User/Node Overrides
include_recipe "cpe_user_customizations::#{node.console_user}"
include_recipe "cpe_node_customizations::#{node.name}"
```

```
# By User/Node Overrides
include_recipe "cpe_user_customizations::#{node.console_user}"
include_recipe "cpe_node_customizations::#{node.name}"

# mikedodge.rb
default['cpe_screensaver']['idleTime'] = 60
default['cpe_screensaver']['askForPasswordDelay'] = 0

%w(Quip Dropbox iTerm2 Mosh VLC).each do |item|
  node.default['cpe_munki']['local']['managed_installs'] << item
end
node.default['cpe_pathsd'] << '/usr/local/munki'
```

```
# By User/Node Overrides
include_recipe "cpe_user_customizations::#{node.console_user}"
include_recipe "cpe_node_customizations::#{node.name}"

# mikedodge.rb
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default['cpe_screensaver']['askForPasswordDelay'] = 0

%w(Quip Dropbox iTerm2 Mosh VLC).each do |item|
  node.default['cpe_munki']['local']['managed_installs'] << item
end
node.default['cpe_pathsd'] << '/usr/local/munki'

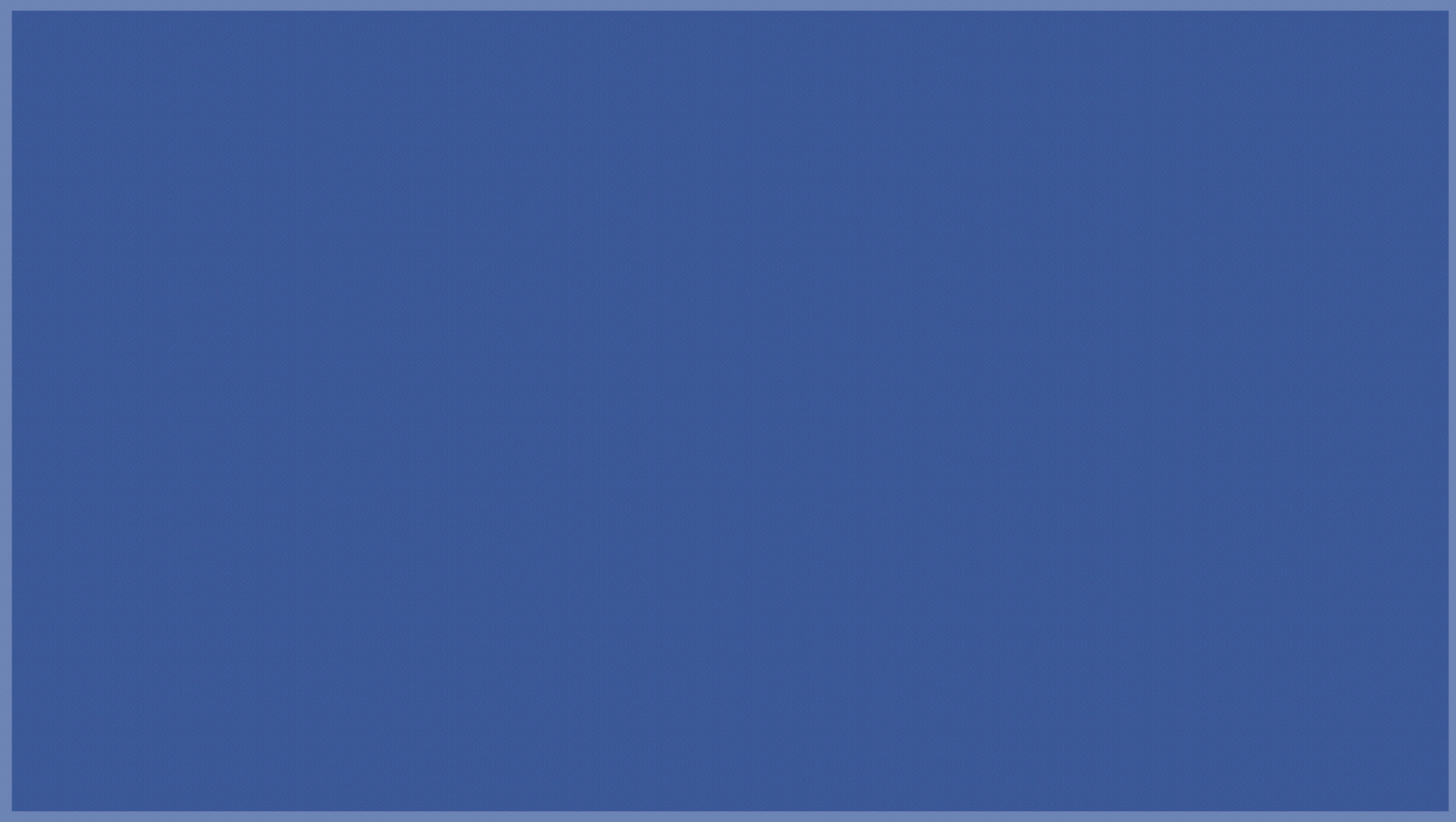
# nate.rb
node.default['cpe_screensaver']['idleTime'] = 300
include_recipe 'cpe_chef_dev::default'
```

```
# By User/Node Overrides
include_recipe "cpe_user_customizations::#{node.console_user}"
include_recipe "cpe_node_customizations::#{node.name}"

# mikedodge.rb
default['cpe_screensaver']['idleTime'] = 60
default['cpe_screensaver']['askForPasswordDelay'] = 0

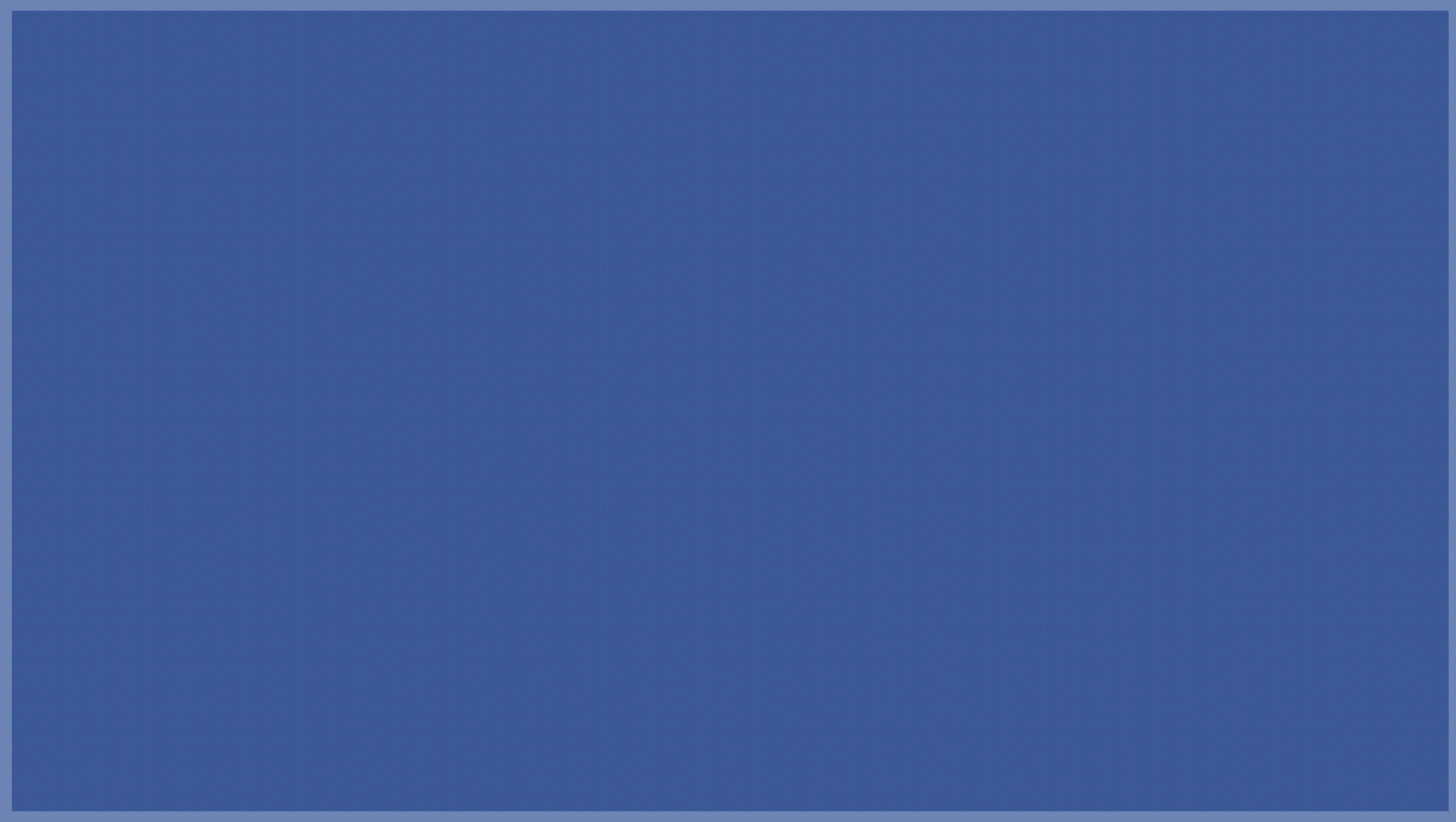
%w(Quip Dropbox iTerm2 Mosh VLC).each do |item|
  node.default['cpe_munki']['local']['managed_installs'] << item
end
node.default['cpe_pathsd'] << '/usr/local/munki'

# nate.rb
node.default['cpe_screensaver']['idleTime'] = 300
include_recipe 'cpe_chef_dev::default'
```



You Get Code!

You Get Code!
YOU GET CODE!



Everybody Gets CODE!

Everybody Gets CODE!
All Open Sourced !



https://github.com/facebook/IT-CPE/tree/master/chef/cookbooks/cpe_init



Group: fb.me/groups/TheITThinkTank/
Slack: slack.itthinktank.io

Group: fb.me/groups/macbrained/
Slack: macadmins.herokuapp.com

GitHub: github.com/facebook/IT-CPE
Web: facebook.com/IT

**THIS JOURNEY
1% FINISHED**

facebook