

Objectives:

- Update chef resources in the default recipe to bring the instance to the desired state
- Check desired state by writing test cases

```
/home/ubuntu/chef-repo/cookbooks/apache/recipes
```

1. Edit the default.rb file, found in the directory above, to add the following chef resources:

- a. **Package resource:** to install httpd

```
package 'httpd'
```

- b. **File resource:** to create a file in the directory
“/var/www/html/index.html”

```
file '/var/www/html/index.html' do  
  content '<h1>Welcome Home!</h1>'  
end
```

- c. **Service resource:** to start and enable service

```
service 'httpd' do  
  action [:enable, :start]  
end
```

The default.rb file should display the following:

```
# Cookbook:: apache
# Recipe:: default
#
# Copyright:: 2021, The Authors, All Rights Reserved.

package 'httpd'

file '/var/www/html/index.html' do
  content '<h1>Welcome Home!</h1>'
end

service 'httpd' do
  action [:enable, :start]
end
```

2. Execute kitchen commands:

*NOTE : make sure kitchen command is executed from the root of the cookbook directory (~/**chef-repo/cookbooks/apache**)*

a. Execute the **\$ kitchen converge** command.

Expected output:

```
Converging 3 resources
Recipe: apache::default
 * yum_package[httpd] action install (up to date)
 * file[/var/www/html/index.html] action create (up to date)
 * service[httpd] action enable (up to date)
 * service[httpd] action start (up to date)

Running handlers:
Running handlers complete
Chef Infra Client finished, 0/4 resources updated in 22 seconds
  Finished converging <default-centos-7> (0m27.01s).
-----> Test Kitchen is finished. (0m28.01s)
```

b. Execute the **\$ kitchen verify** command.

Expected output:

```
Version: (not specified)
Target:  docker://f513747cd85f157fe44908c81632e672f6dafa0caa201ff9d79d9938e2813e91

Port 80
  ✓ is expected to be listening
Command: `curl http://localhost`
  ✓ stdout is expected to match /Welcome Home/

Test Summary: 2 successful, 0 failures, 0 skipped
Finished verifying <default-centos-7> (0m2.95s).
-----> Test Kitchen is finished. (0m3.84s)
```

- c. Execute the `$ kitchen test` command. This command combines and runs the following:

1. kitchen destroy
2. kitchen create
3. kitchen converge
4. kitchen verify
5. kitchen destroy

Expected output:

```
Version: (not specified)
Target:  docker://2f0b7397d11bd4097e1b749afb51088a960755b5ef696a448b206fbd30b4e02f

Port 80
  ✓ is expected to be listening
Command: `curl http://localhost`
  ✓ stdout is expected to match /Welcome Home/

Test Summary: 2 successful, 0 failures, 0 skipped
Finished verifying <default-centos-7> (0m2.80s).
-----> Destroying <default-centos-7>...
Deleting kitchen sandbox at /home/ubuntu/.dokken/kitchen_sandbox/fa3b5de57d-default-centos-7
Deleting verifier sandbox at /home/ubuntu/.dokken/verifier_sandbox/fa3b5de57d-default-centos-7
Finished destroying <default-centos-7> (0m10.44s).
Finished testing <default-centos-7> (1m4.76s).
-----> Test Kitchen is finished. (1m5.79s)
```

3. Update default.rb to check whether an index.html file created through the default recipe **exists** or not.

HINT: Use inspec file resource, <https://docs.chef.io/inspec/resources/file/>

The solution can be found at the end of this lab.

4. What is the next step? How can one make sure that the changes to the test file are working as expected?

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- a. Execute the `$kitchen verify` command.

5. The test summary should now show 3 successful tests after executing

\$kitchen verify:

```
Version: (not specified)
Target:  docker://224d146fb372c6971cd703b5ea1a966fba9f3419465624244d663cc772c2150d

Port 80
  ✓ is expected to be listening
Command: `curl http://localhost`
  ✓ stdout is expected to match /Welcome Home/
File /var/www/html/index.html
  ✓ is expected to exist

Test Summary: 3 successful, 0 failures, 0 skipped
  Finished verifying <default-centos-7> (0m3.47s).
-----> Destroying <default-centos-7>...
  Deleting kitchen sandbox at /home/ubuntu/.dokken/kitchen_sandbox/fa3b5de57d-default-centos-7
  Deleting verifier sandbox at /home/ubuntu/.dokken/verifier_sandbox/fa3b5de57d-default-centos-7
  Finished destroying <default-centos-7> (0m10.53s).
  Finished testing <default-centos-7> (0m52.53s).
-----> Test Kitchen is finished. (0m53.60s)
```

Notify your instructor that you are done with the lab

END OF LAB

6. Solution to problem statement defined at step 3:

```
describe port(80) do
  it { should be_listening }
end

describe command('curl http://localhost') do
  its(:stdout) { should match(/Welcome Home/) }
end

describe file('/var/www/html/index.html') do
  it { should exist }
end
```