**Lab-Bootstrapping new Chef nodes without knife bootstrap**

There may be a time when you don’t want to (or cannot) make use of knife bootstrap to set up a new Chef node or a whole fleet of hundreds of nodes. If that’s the case, and you already have a “hook” into the hosts you want to turn into Chef nodes (such as an existing CM tool), you have an option.

1. Install the proper Chef client [package](http://www.opscode.com/chef/install/) for the OS
2. mkdir /etc/chef
3. Drop your “[validator](http://docs.opscode.com/essentials_chef_client_validator.html)“, typically validation.pem in /etc/chef
4. Drop a basic client.rb in /etc/chef
5. Drop a JSON file somewhere that includes the node attributes you want to set for the new node
6. Run chef-client -E some-environment -j /your/json/file
7. When you’re happy, rm -f /etc/chef/validation.pem

What’s interesting here (bug?) is that, when running chef-client, specifying -E some-environment will assign some-environment to the node and persist that setting on the Chef server. Trying to use -o 'role[myrole]' to prime *and persist* a run list for the node will not work (hence the JSON hack).

You should end up with a new client and node defined on your Chef server and the node should have the environment and run list set the way you specified.

**Example files**

# /etc/chef/client.rb

log\_level :auto

log\_location STDOUT

chef\_server\_url "https://your-chef-server.example.com"

validation\_client\_name "chef-validator"

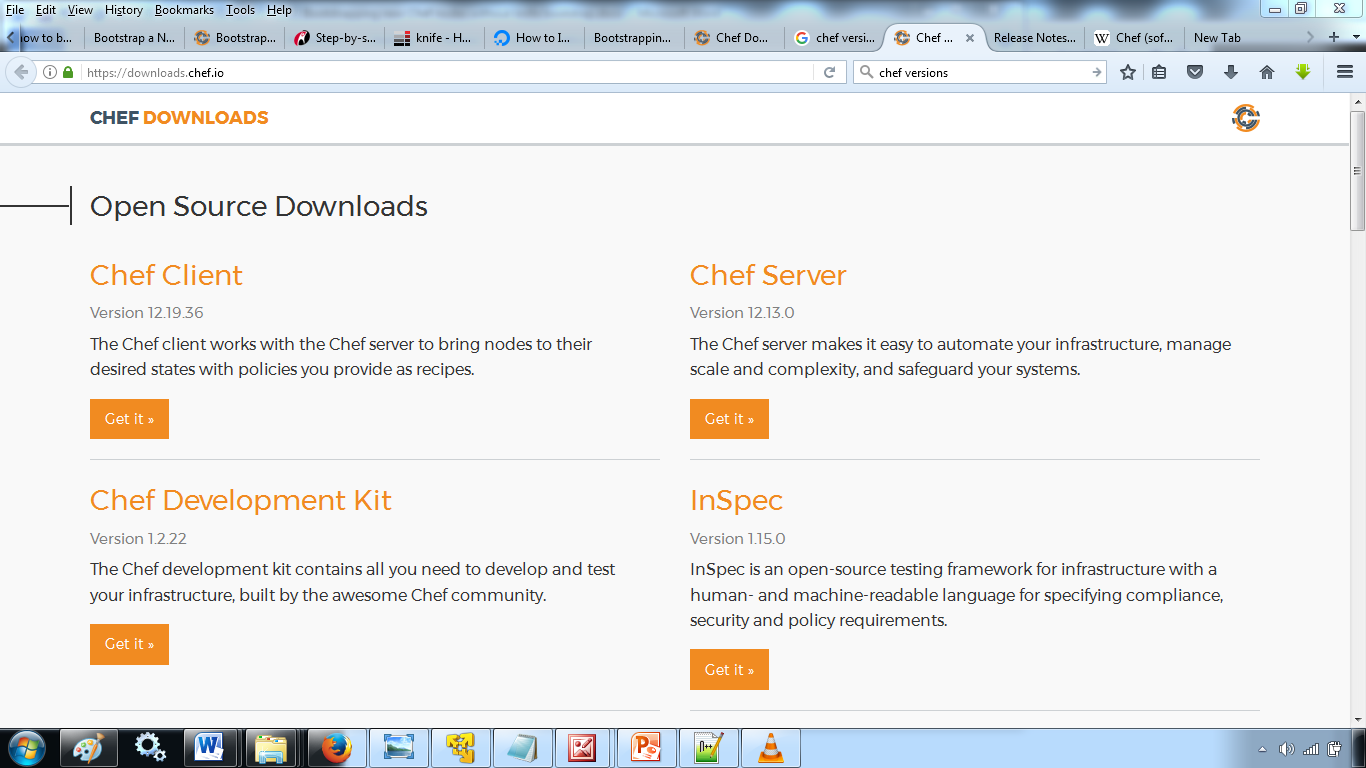
# /tmp/boot.json

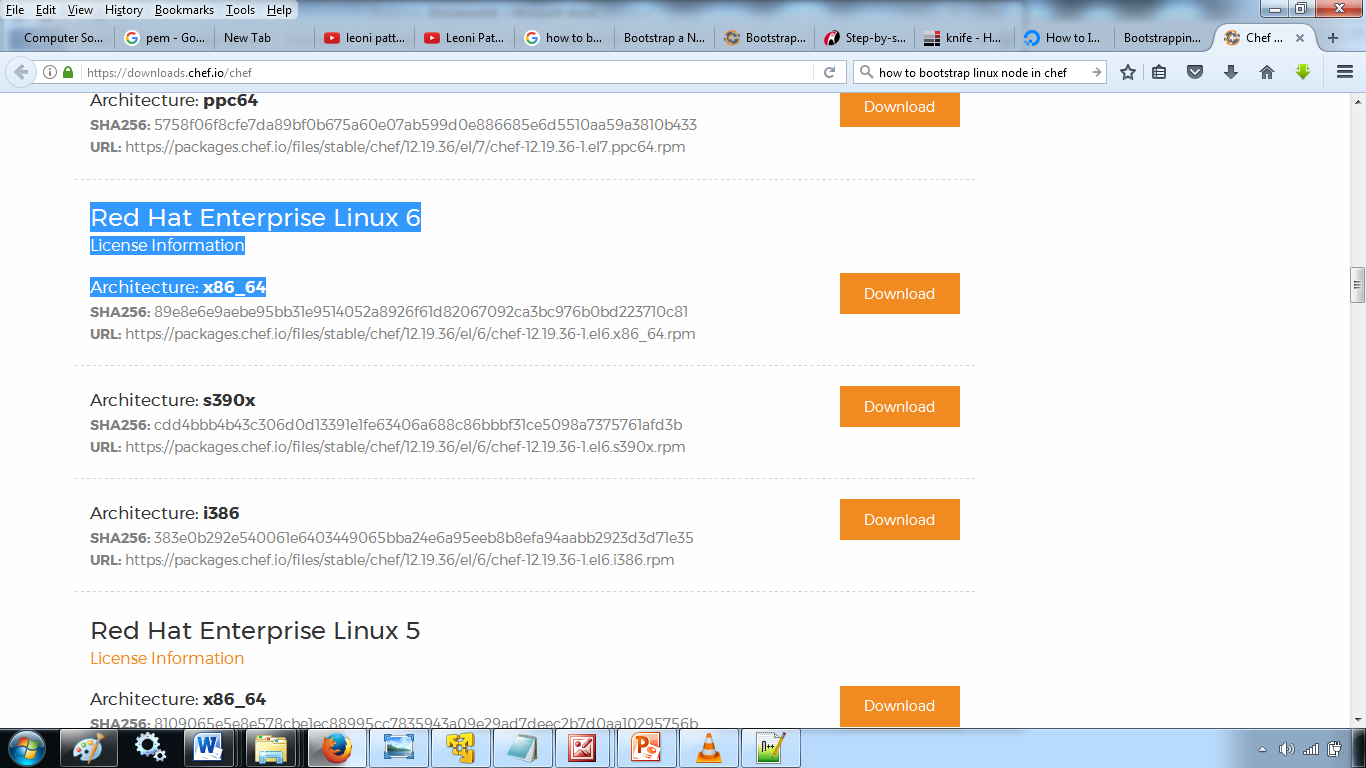
{

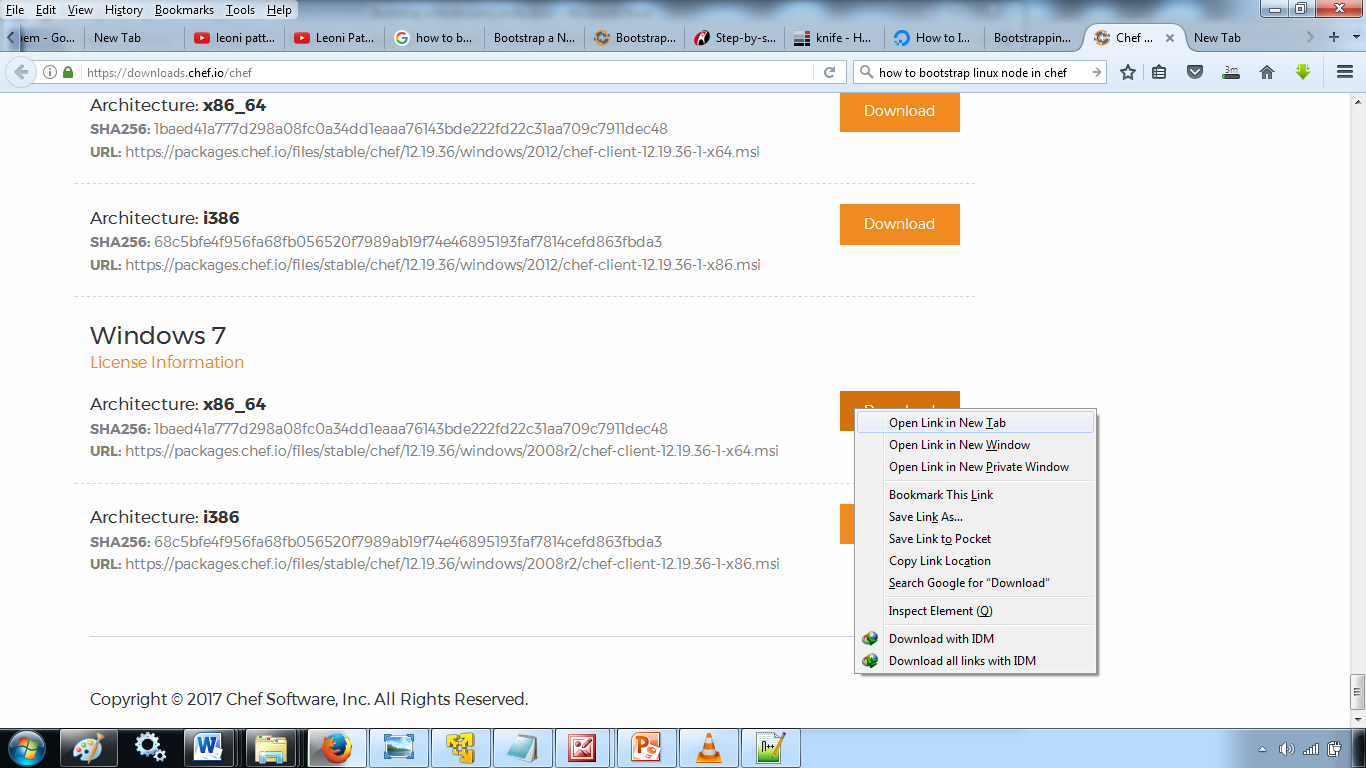
"run\_list": ["role[myrole]", "recipe[foo::bar]"]

}

<https://downloads.chef.io/chef>







Lab part

## Installation of Chef Client on Ubuntu

We can install chef client in two ways.

**1) Using bootstrap node**

You must specify IP Address of node while performing bootstrap operations. It will perform the required mentioned operations on node and register node with chef server.

In below command -x specify username, -P use for Password, –sudo use to execute a bootstrap operation with sudo.

|  |  |
| --- | --- |
|  | devops@chef\_workstation:~/chef-repo$ knife bootstrap -x devops -P Devops@123 --sudo 192.168.1.4 |

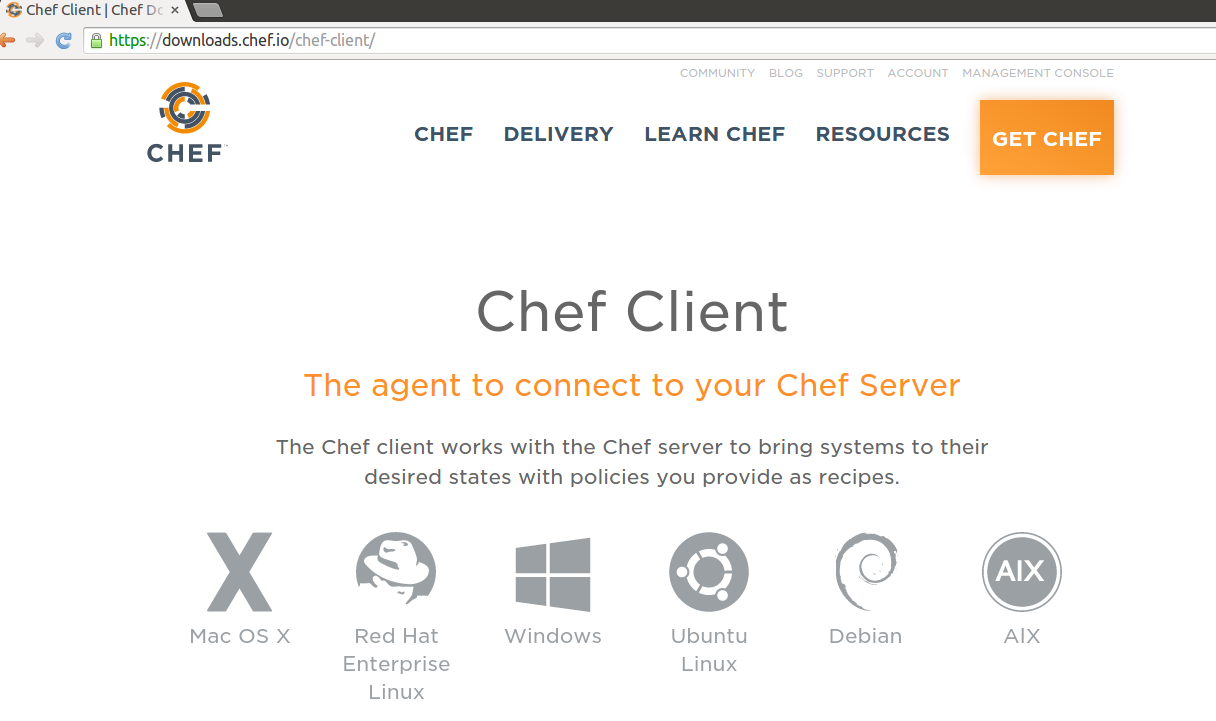
Check client list

|  |  |
| --- | --- |
|  | devops@chefworkstation:~/chef-repo$ **knife client list**  chefclient  devopsservice-validator  devops@chefworkstation:~/chef-repo$ |

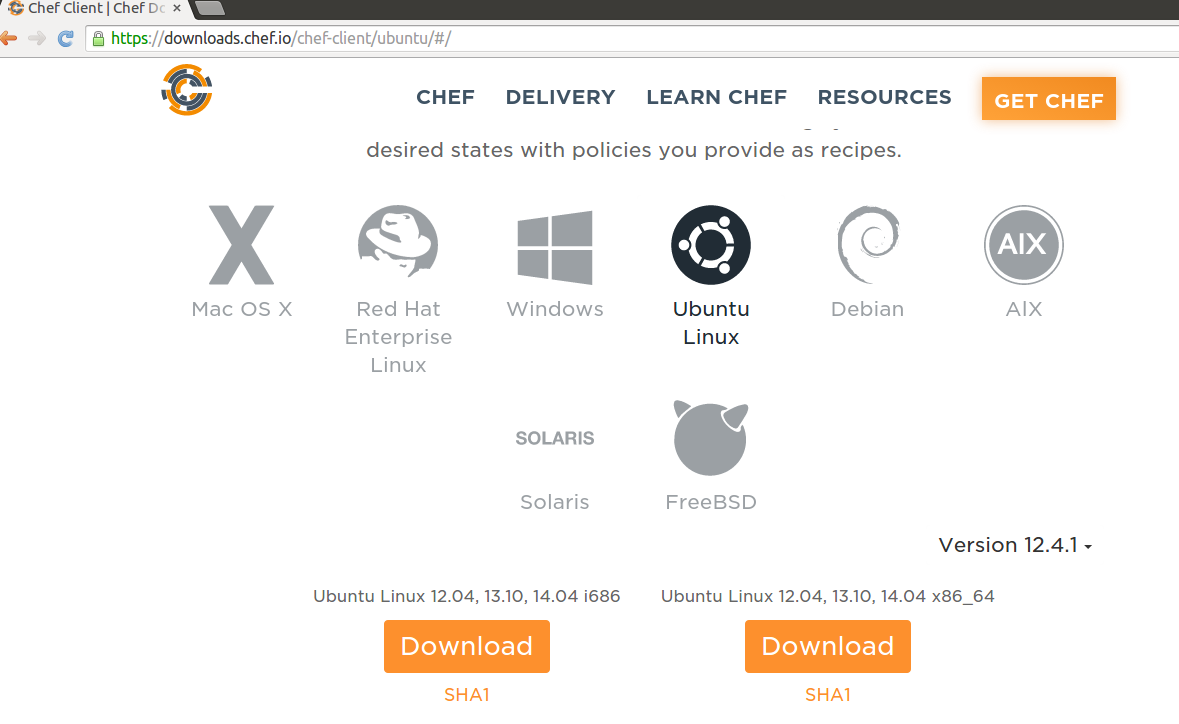
New client is added to list now.

**2) Download and Install chef client manually**

**– Method:1**

To download chef client refer the [link.](https://www.chef.io/download-chef-client/)  
[](http://www.devopsservice.com/wp-content/uploads/2015/08/Go-to-Chef-Client-Download-Link.png)

Select the kind of system you would like to install the Chef Client on. You need to select Operating System and Architecture. In my case I am going to install it on Ubuntu 12.04. Once you select the system download the package.

[](http://www.devopsservice.com/wp-content/uploads/2015/08/Select-Version-of-Chef-Client.png)  
Install the package using dpkg -i command.

|  |  |
| --- | --- |
|  | devops@chefclient:~$ **sudo dpkg -i chef\_12.4.1-1\_amd64.deb** |

**– Method:2**

On Linux you can also install chef client through the installer script. The script will download and install the latest version of chef client on your machine.

|  |  |
| --- | --- |
|  | devops@chefclient:~$ **curl -L https://www.chef.io/chef/install.sh | sudo bash** |

=> **Configure Chef Client to register with Chef Server**

– Copy file devopsservice-validator.pem from chef server which we have created in our last article [Installation of Chef Server](http://www.devopsservice.com/installation-of-chef-server-on-ubuntu-12-04/) to /etc/chef directory.

|  |  |
| --- | --- |
|  | devops@chefclient:~$ **sudo scp devops@chefserver:devopsservice-validator.pem /etc/chef/**  The authenticity of host 'chefserver (192.168.1.3)' can't be established.  ECDSA key fingerprint is 06:7f:02:f2:94:95:33:10:b3:75:f5:78:cf:91:89:ab.  Are you sure you want to continue connecting (yes/no)? yes  Warning: Permanently added 'chefserver,192.168.1.3' (ECDSA) to the list of known hosts.  devops@chefserver's password:  devopsservice-validator.pem                            100% 1674     1.6KB/s   00:00  devops@chefclient:~$ |

– Create client.rb file on chef client and provide detail of chef server and organization validator key.

|  |  |
| --- | --- |
|  | devops@chefclient:~$ sudo nano /etc/chef/client.rb |

Add Below Lines in file.

|  |  |
| --- | --- |
|  | log\_level        :info  log\_location     STDOUT  chef\_server\_url  'https://chefserver/organizations/devopsservice/'  validation\_key         "/etc/chef/devopsservice-validator.pem"  validation\_client\_name 'devopsservice-validator' |

– Register chef client with chef server

|  |  |
| --- | --- |
|  | devops@chefclient:~$ **sudo /usr/bin/chef-client**  devops@chefclient:~$ |

If you get error like ERROR: SSL\_connect returned=1 errno=0 state=SSLv3 read server certificate B: certificate verify failed then copy trusted\_chef directory of certificate from chef server/workstation to /etc/chef directory.

|  |  |
| --- | --- |
|  | devops@chefclient:~$ **sudo scp -r devops@chefworkstation:chef-repo/.chef/trusted\_certs /etc/chef/**  The authenticity of host 'chefworkstation (192.168.1.7)' can't be established.  ECDSA key fingerprint is 89:dd:00:3e:fc:88:ce:5f:4e:6d:b7:41:21:5f:ea:dd.  Are you sure you want to continue connecting (yes/no)? yes  Warning: Permanently added '192.168.1.7' (ECDSA) to the list of known hosts.  devops@chefworkstation's password:  chefserver.crt                                                                                               100% 1294     1.3KB/s   00:00  devops@chefclient:~$ |

Again register client with chef server

|  |  |
| --- | --- |
|  | devops@chefclient:~$ **sudo /usr/bin/chef-client**  devops@chefclient:~$ |

– check client list from workstation

|  |  |
| --- | --- |
|  | devops@chefworkstation:~/chef-repo$ **knife client list**  chefclient  devopsservice-validator  devops@chefworkstation:~/chef-repo$ |

**New client is added to list now.**