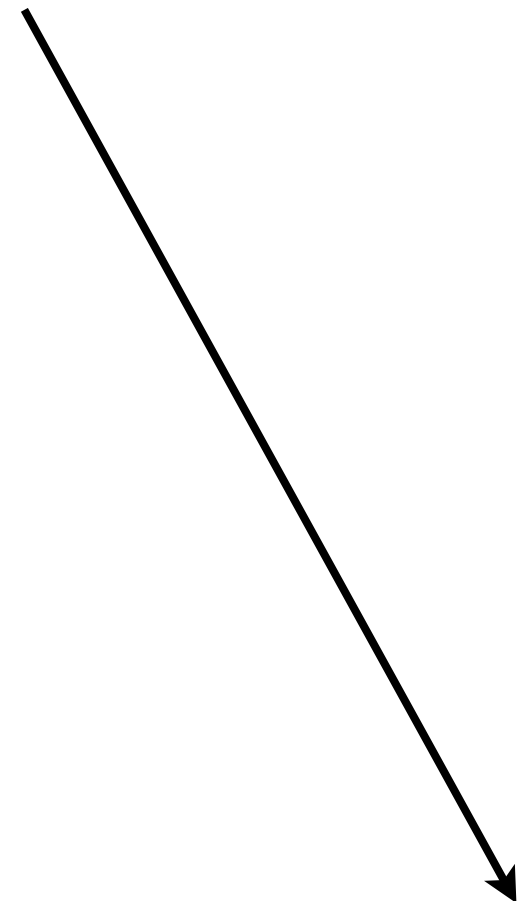
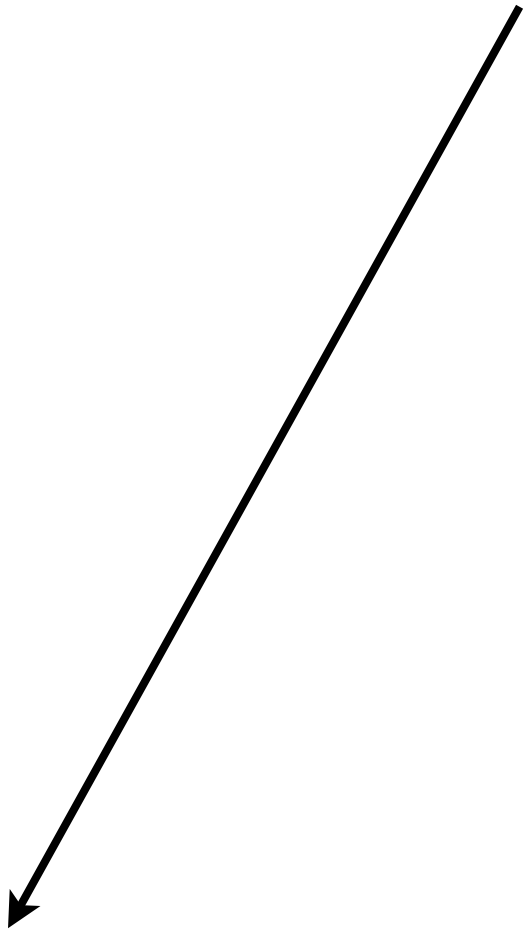


# Hands On DevOps

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Choose Your Side!



1. Vagrant/VirtualBox Installation/Configuration
2. Create Local Projects (Chef Solo/Puppet Standalone)
3. Create User w/SSH. Install Language/Framework/DB
4. Create/Deploy Application (Push). Manage Settings.

## Break For Lunch!

5. Convert to Client/Server Chef/Puppet
6. Use Community Resources (Cookbooks, PuppetForge)
7. Deploy Application (Pull). Manage Secrets.
8. Bonus Round: Move To The Cloud!

# Install Prerequisites

- VirtualBox 4.3.6
  - <https://www.virtualbox.org/wiki/Downloads>
- Vagrant 1.3.5
  - <http://downloads.vagrantup.com/>
- Git (apt, yum, homebrew)
- Copy USB Contents to Your Local Hard Drive

# First, a word about prompts....

`$ ls` <-- This is your machine, usually the HandsOnDevOps/workspace folder

**vagrant@workstation:~\$** `ls` <-- This your ssh session via `vagrant ssh workstation`

**root@workstation:~#** `ls` <-- This is root in your ssh session (`sudo -i`)

**build@workstation:~\$** `ls` <-- This is the build user we create (`sudo -u build -i`)

# Part I

## Vagrant/VirtualBox Installation and Configuration

```
$ cd CodeMash2014/HandsOnDevOps/workspace
```

```
$ vagrant init HandsOnDevOps ../hands-on-dev-ops.box
```

A `Vagrantfile` has been placed in this directory. You are now ready to `vagrant up` your first virtual environment! Please read the comments in the Vagrantfile as well as documentation on `vagrantup.com` for more information on using Vagrant.

```
$ vagrant status
```

Current machine states:

```
default                not created (virtualbox)
```

The environment has not yet been created. Run `vagrant up` to create the environment. If a machine is not created, only the default provider will be shown. So if a provider is not listed, then the machine is not created for that environment.

```
$ vagrant box list
```

```
Puppetlabs CentOS 6.4 x86_64    (virtualbox)
```

```
Puppetlabs CentOS 6.5 x86_64    (virtualbox)
```

```
Puppetlabs Ubuntu 12.04 x86_64  (virtualbox)
```

```
opscode-centos-6.3              (virtualbox)
```

```
opscode-centos-6.4              (virtualbox)
```

```
$ vagrant up
```

```
Bringing machine 'default' up with 'virtualbox' provider...
```

```
[default] Box 'HandsOnDevOps' was not found. Fetching box from specified URL for the provider 'virtualbox'. Note that if the URL does not have a box for this provider, you should interrupt Vagrant now and add the box yourself. Otherwise Vagrant will attempt to download the full box prior to discovering this error.
```

```
Downloading or copying the box...
```

```
Extracting box...te: 82.9M/s, Estimated time remaining: 0:00:01)
```

```
Successfully added box 'HandsOnDevOps' with provider 'virtualbox'!
```

```
[default] Importing base box 'HandsOnDevOps'...
```

```
[default] Matching MAC address for NAT networking...
```

```
[default] Setting the name of the VM...
```

```
[default] Clearing any previously set forwarded ports...
```

```
[default] Creating shared folders metadata...
```

```
[default] Clearing any previously set network interfaces...
```

```
[default] Preparing network interfaces based on configuration...
```

```
[default] Forwarding ports...
```

```
[default] -- 22 => 2222 (adapter 1)
```

```
[default] Booting VM...
```

```
[default] Waiting for machine to boot. This may take a few minutes...
```

```
[default] Machine booted and ready!
```

```
[default] The guest additions on this VM do not match the installed version of VirtualBox! In most cases this is fine, but in rare cases it can cause things such as shared folders to not work properly. If you see shared folder errors, please update the guest additions within the virtual machine and reload your VM.
```

```
[default] Mounting shared folders...
```

```
[default] -- /vagrant
```

```
$ vagrant status
```

Current machine states:

```
default                running (virtualbox)
```

The VM is running. To stop this VM, you can run `vagrant halt` to shut it down forcefully, or you can run `vagrant suspend` to simply suspend the virtual machine. In either case, to restart it again, simply run `vagrant up`.

```
$ vagrant box list
```

```
HandsOnDevOps          (virtualbox)
```

```
Puppetlabs CentOS 6.4 x86_64 (virtualbox)
```

```
Puppetlabs CentOS 6.5 x86_64 (virtualbox)
```

```
Puppetlabs Ubuntu 12.04 x86_64 (virtualbox)
```

```
opscode-centos-6.3        (virtualbox)
```

```
opscode-centos-6.4        (virtualbox)
```

```
$ vagrant ssh
```

```
Welcome to Ubuntu 12.04.2 LTS (GNU/Linux 3.5.0-23-generic x86_64)
```

```
* Documentation:  https://help.ubuntu.com/
```

```
Last login: Fri Feb 15 16:37:55 2013 from 10.0.2.2
```

```
vagrant@hodor:~$
```



```
vagrant@hodor:~$ ls /vagrant
```

```
total 8
```

```
-rw-r--r-- 1 vagrant vagrant 4610 Jan  5 23:38 Vagrantfile
```

```
vagrant@hodor:~$ exit
```

```
$ vagrant destroy -f
```

```
[default] Forcing shutdown of VM...
```

```
[default] Destroying VM and associated drives...
```

```
$ vim Vagrantfile [or the wrong editor of your choice] :-)
```

```
config.vm.box = "HandsOnDevOps"
```

```
config.vm.box_url = "../hands-on-dev-ops.box"
```

```
# config.vm.network :private_network, ip: "192.168.33.10"
```

```
# config.vm.provider :virtualbox do |vb|
```

```
#   vb.gui = true
```

```
#   vb.customize ["modifyvm", :id, "--memory", "1024"]
```

```
# end
```

```
# Vagrantfile
```

```
Vagrant.configure(VAGRANTFILE_API_VERSION) do |config|  
  config.vm.define "workstation" do |workstation|  
    workstation.vm.hostname = "workstation"  
    workstation.vm.network :private_network, ip: "192.168.33.10"  
  end  
  
  config.vm.define "server" do |server|  
    server.vm.hostname = "server"  
    server.vm.network :private_network, ip: "192.168.33.20"  
  end  
end
```

```
$ vagrant status
```

Current machine states:

<b>workstation</b>	not created (virtualbox)
<b>server</b>	not created (virtualbox)

This environment represents multiple VMs. The VMs are all listed above with their current state. For more information about a specific VM, run `vagrant status NAME`.

```
$ vagrant up workstation
```

```
Bringing machine 'workstation' up with 'virtualbox' provider...
```

```
[workstation] Importing base box 'HandsOnDevOps'...
```

```
[workstation] Matching MAC address for NAT networking...
```

```
[workstation] Setting the name of the VM...
```

```
[workstation] Clearing any previously set forwarded ports...
```

```
[workstation] Creating shared folders metadata...
```

```
[workstation] Clearing any previously set network interfaces...
```

```
[workstation] Preparing network interfaces based on configuration...
```

```
[workstation] Forwarding ports...
```

```
[workstation] -- 22 => 2222 (adapter 1)
```

```
[workstation] Booting VM...
```

```
[workstation] Waiting for machine to boot. This may take a few minutes...
```

```
[workstation] Machine booted and ready!
```

```
[workstation] Setting hostname...
```

```
[workstation] Configuring and enabling network interfaces...
```

```
[workstation] Mounting shared folders...
```

```
[workstation] -- /vagrant
```

```
$ vagrant ssh workstation
```

```
Welcome to Ubuntu 12.04.2 LTS (GNU/Linux 3.5.0-23-generic x86_64)
```

```
* Documentation: https://help.ubuntu.com/
```

```
Last login: Fri Feb 15 16:37:55 2013 from 10.0.2.2
```

```
vagrant@workstation:~$
```

```
vagrant@workstation:~$ ip a
```

```
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 16436 qdisc noqueue state UNKNOWN
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast...
    link/ether 08:00:27:22:e8:78 brd ff:ff:ff:ff:ff:ff
    inet 10.0.2.15/24 brd 10.0.2.255 scope global eth0
    inet6 fe80::a00:27ff:fe22:e878/64 scope link
        valid_lft forever preferred_lft forever
3: eth1: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast...
    link/ether 08:00:27:f3:95:fc brd ff:ff:ff:ff:ff:ff
    inet 192.168.33.10/24 brd 192.168.33.255 scope global eth1
    inet6 fe80::a00:27ff:fef3:95fc/64 scope link
        valid_lft forever preferred_lft forever
```

```
vagrant@workstation:~$ exit
```

```
ssh vagrant@192.168.33.10
```

```
The authenticity of host '192.168.33.10 (192.168.33.10)' can't be established.
```

```
RSA key fingerprint is 03:f2:ab:9e:6c:ea:96:d9:2e:46:61:b4:5a:f2:fa:dd.
```

```
Are you sure you want to continue connecting (yes/no)? yes
```

```
Warning: Permanently added '192.168.33.10' (RSA) to the list of known hosts.
```

```
vagrant@192.168.33.10's password:
```

```
Welcome to Ubuntu 12.04.2 LTS (GNU/Linux 3.5.0-23-generic x86_64)
```

```
* Documentation:  https://help.ubuntu.com/
```

```
Last login: Thu Jan  2 16:17:23 2014 from 10.0.2.2
```

```
vagrant@workstation:~$ sudo -i
```

```
root@workstation:~#
```

# Part I Complete!

Split Into Chef / Puppet Groups!