

Chapter 2: Installing and Running Ansible

```
1. russ (bash)
russ in ~
⚡ brew update
Already up-to-date.
russ in ~
⚡ brew doctor
Your system is ready to brew.
russ in ~
⚡
```

```
1. russ (bash)
russ in ~
⚡ brew search ansible
==> Searching local taps...
ansible                               ansible-lint                             ansible@2.0
ansible-cmdb                           ansible@1.9                             terraform-provisioner-ansible
==> Searching taps on GitHub...
caskroom/cask/ansible-dk
==> Searching blacklisted, migrated and deleted formulae...
russ in ~
⚡
```

```
1. russ (bash)
russ in ~
⚡ brew info ansible
ansible: stable 2.4.3.0 (bottled), HEAD
Automate deployment, configuration, and upgrading
https://www.ansible.com/
Not installed
From: https://github.com/Homebrew/homebrew-core/blob/master/Formula/ansible.rb
==> Dependencies
Build: pkg-config ✗
Required: libyaml ✗, openssl ✓, python ✗
==> Options
--HEAD
      Install HEAD version
russ in ~
⚡
```

```
1. russ (bash)
==> /usr/local/Cellar/python/2.7.14_3/bin/python2 -s setup.py --no-user-cfg install --force --verbos
==> /usr/local/Cellar/python/2.7.14_3/bin/python2 -s setup.py --no-user-cfg install --force --verbos
==> Caveats
This formula installs a python2 executable to /usr/local/bin.
If you wish to have this formula's python executable in your PATH then add
the following to ~/.bash_profile:
  export PATH="/usr/local/opt/python/libexec/bin:$PATH"

Pip and setuptools have been installed. To update them
  pip2 install --upgrade pip setuptools

You can install Python packages with
  pip2 install <package>

They will install into the site-package directory
  /usr/local/lib/python2.7/site-packages

See: https://docs.brew.sh/Homebrew-and-Python.html
==> Summary
📦 /usr/local/Cellar/python/2.7.14_3: 3,517 files, 48.4MB
==> Installing ansible
==> Downloading https://homebrew.bintray.com/bottles/ansible-2.4.3.0.high_sierra.bottle.tar.gz
==> Downloading from https://akamai.bintray.com/6d/6dbc8e6c1dcf2efb6d5c8960108f2e0d1092a60ba2157af6f
##### 100.0%
==> Pouring ansible-2.4.3.0.high_sierra.bottle.tar.gz
📦 /usr/local/Cellar/ansible/2.4.3.0: 11,219 files, 137.4MB
russ in ~
```

```
1. russ (bash)
russ in ~
⚡ sudo -H pip install ansible
Collecting ansible
  Downloading ansible-2.4.3.0.tar.gz (6.5MB)
    100% |#####| 6.5MB 193kB/s
Requirement already satisfied: jinja2 in /Library/Python/2.7/site-packages (from ansible)
Requirement already satisfied: PyYAML in /Library/Python/2.7/site-packages (from ansible)
Requirement already satisfied: paramiko in /Library/Python/2.7/site-packages (from ansible)
Requirement already satisfied: cryptography in /Library/Python/2.7/site-packages (from ansible)
Requirement already satisfied: setuptools in /Library/Python/2.7/site-packages (from ansible)
Requirement already satisfied: MarkupSafe>=0.23 in /Library/Python/2.7/site-packages (from jinja2->ansible)
Requirement already satisfied: pyasn1>=0.1.7 in /Library/Python/2.7/site-packages (from paramiko->ansible)
Requirement already satisfied: bcrypt>=3.1.3 in /Library/Python/2.7/site-packages (from paramiko->ansible)
Requirement already satisfied: pynacl>=1.0.1 in /Library/Python/2.7/site-packages (from paramiko->ansible)
Requirement already satisfied: six>=1.4.1 in /Library/Python/2.7/site-packages (from cryptography->ansible)
Requirement already satisfied: cffi>=1.7; platform_python_implementation != "PyPy" in /Library/Python/2.7/site-packages (from cryptography->ansible)
Requirement already satisfied: enum34; python_version < "3" in /Library/Python/2.7/site-packages (from cryptography->ansible)
Requirement already satisfied: idna>=2.1 in /Library/Python/2.7/site-packages (from cryptography->ansible)
Requirement already satisfied: asn1crypto>=0.21.0 in /Library/Python/2.7/site-packages (from cryptography->ansible)
Requirement already satisfied: ipaddress; python_version < "3" in /Library/Python/2.7/site-packages (from cryptography->ansible)
Requirement already satisfied: pycparser in /Library/Python/2.7/site-packages (from cffi>=1.7; platform_python_implementation != "PyPy"->cryptography->ansible)
Installing collected packages: ansible
  Running setup.py install for ansible ... done
Successfully installed ansible-2.4.3.0
russ in ~
⚡
```



```
Select russ@Russ-Windows: ~
russ@Russ-Windows:~$ cat /etc/*release
DISTRIB_ID=Ubuntu
DISTRIB_RELEASE=16.04
DISTRIB_CODENAME=xenial
DISTRIB_DESCRIPTION="Ubuntu 16.04.2 LTS"
NAME="Ubuntu"
VERSION="16.04.2 LTS (Xenial Xerus)"
ID=ubuntu
ID_LIKE=debian
PRETTY_NAME="Ubuntu 16.04.2 LTS"
VERSION_ID="16.04"
HOME_URL="http://www.ubuntu.com/"
SUPPORT_URL="http://help.ubuntu.com/"
BUG_REPORT_URL="http://bugs.launchpad.net/ubuntu/"
VERSION_CODENAME=xenial
UBUNTU_CODENAME=xenial
russ@Russ-Windows:~$
```

```
Select russ@Russ-Windows: ~
russ@Russ-Windows:~$ sudo -H pip install ansible
Collecting ansible
  Downloading ansible-2.4.3.0.tar.gz (6.5MB)
    100% |████████████████████████████████████████| 6.5MB 243kB/s
Collecting jinja2 (from ansible)
  Downloading Jinja2-2.10-py2.py3-none-any.whl (126kB)
    100% |████████████████████████████████████████| 133kB 6.1MB/s
Collecting PyYAML (from ansible)
  Downloading PyYAML-3.12.tar.gz (253kB)
    100% |████████████████████████████████████████| 256kB 3.8MB/s
Collecting paramiko (from ansible)
  Downloading paramiko-2.4.0-py2.py3-none-any.whl (192kB)
    100% |████████████████████████████████████████| 194kB 841kB/s
Collecting cryptography (from ansible)
  Downloading cryptography-2.1.4-cp27-cp27mu-manylinux1_x86_64.whl (2.2MB)
    100% |████████████████████████████████████████| 2.2MB 772kB/s
Requirement already satisfied (use --upgrade to upgrade): setuptools in /usr/lib/python2.7/dist-packages (from ansible)
```

```
1. chapter02 (bash)
russ in ~/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter02
⚡ vagrant up --provider=vmware_fusion
Bringing machine 'default' up with 'vmware_fusion' provider...
==> default: Cloning VMware VM: 'centos/7'. This can take some time...
==> default: Checking if box 'centos/7' is up to date...
==> default: Verifying vmnet devices are healthy...
==> default: Preparing network adapters...
WARNING: The VMX file for this box contains a setting that is automatically overwritten by Vagrant
WARNING: when started. Vagrant will stop overwriting this setting in an upcoming release which may
WARNING: prevent proper networking setup. Below is the detected VMX setting:
WARNING:
WARNING:   ethernet0.pciSlotNumber = "32"
WARNING:
WARNING: If networking fails to properly configure, it may require this VMX setting. It can be manually
WARNING: applied via the Vagrantfile:
WARNING:
WARNING:   Vagrant.configure(2) do |config|
WARNING:     config.vm.provider :vmware_fusion do |vmware|
WARNING:       vmware.vmx["ethernet0.pciSlotNumber"] = "32"
WARNING:     end
WARNING:   end
WARNING:
WARNING: For more information: https://www.vagrantup.com/docs/vmware/boxes.html#vmx-whitelisting
==> default: Starting the VMware VM...
==> default: Waiting for the VM to receive an address...
==> default: Forwarding ports...
default: -- 22 => 2222
==> default: Waiting for machine to boot. This may take a few minutes...
default: SSH address: 127.0.0.1:2222
default: SSH username: vagrant
default: SSH auth method: private key
default:
default: Vagrant insecure key detected. Vagrant will automatically replace
default: this with a newly generated keypair for better security.
default:
default: Inserting generated public key within guest...
default: Removing insecure key from the guest if it's present...
default: Key inserted! Disconnecting and reconnecting using new SSH key...
==> default: Machine booted and ready!
==> default: Setting hostname...
==> default: Configuring network adapters within the VM...
default: SSH address: 127.0.0.1:2222
default: SSH username: vagrant
default: SSH auth method: private key
==> default: Rsyncing folder: /Users/russ/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter02/ => /vagrant
russ in ~/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter02
⚡
```

```
1. chapter02 (bash)
russ in ~/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter02
⚡ vagrant ssh
Last login: Sun Feb 11 15:18:22 2018 from 172.16.20.2
[vagrant@192 ~]$ hostname
192.168.50.4.nip.io
[vagrant@192 ~]$ uname -a
Linux 192.168.50.4.nip.io 3.10.0-693.11.6.el7.x86_64 #1 SMP Thu Jan 4 01:06:37 UTC 2018 x86_64 x86_64
4 x86_64 GNU/Linux
[vagrant@192 ~]$ exit
logout
Connection to 127.0.0.1 closed.
```

```
1. chapter02 (bash)
russ in ~/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter02
⚡ ssh vagrant@192.168.50.4.nip.io
The authenticity of host '192.168.50.4.nip.io (192.168.50.4)' can't be established.
ECDSA key fingerprint is SHA256:28Wmps8lrENYuOYSc+EcruiyUf0LcZ0kNr0rLmanbda.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '192.168.50.4.nip.io,192.168.50.4' (ECDSA) to the list of known hosts.
Last login: Sun Feb 11 15:18:52 2018 from 192.168.50.1
[vagrant@192 ~]$ hostname
192.168.50.4.nip.io
[vagrant@192 ~]$ uname -a
Linux 192.168.50.4.nip.io 3.10.0-693.11.6.el7.x86_64 #1 SMP Thu Jan 4 01:06:37 UTC 2018 x86_64 x86_6
4 x86_64 GNU/Linux
[vagrant@192 ~]$ exit
logout
Connection to 192.168.50.4.nip.io closed.
```

```
1. chapter02 (bash)
⚡ ansible -i hosts-simple 192.168.50.4.nip.io -m setup
192.168.50.4.nip.io | SUCCESS => {
  "ansible_facts": {
    "ansible_all_ipv4_addresses": [
      "192.168.50.4",
      "172.16.20.132"
    ],
    "ansible_all_ipv6_addresses": [
      "fe80::20c:29ff:fe70:2511",
      "fe80::20c:29ff:fe70:2507"
    ],
    "ansible_apparmor": {
      "status": "disabled"
    },
    "ansible_architecture": "x86_64",
    "ansible_bios_date": "05/19/2017",
    "ansible_bios_version": "6.00",
    "ansible_cmdline": {
      "BOOT_IMAGE": "/vmlinuz-3.10.0-693.11.6.el7.x86_64",
      "biosdevname": "0",
      "console": "ttyS0,115200n8",
      "crashkernel": "auto",
      "net.ifnames": "0",
      "no_timer_check": true,
      "quiet": true,
      "rd.lvm.lv": "VolGroup00/LogVol01",
      "rhgb": true,
      "ro": true,
      "root": "/dev/mapper/VolGroup00-LogVol00"
    },
    "ansible_date_time": {
      "date": "2018-02-17",
      "day": "17",
      "epoch": "1518891516",
      "hour": "18",
      "iso8601": "2018-02-17T18:18:36Z",
      "iso8601_basic": "20180217T181836309359",
      "iso8601_basic_short": "20180217T181836",
      "iso8601_micro": "2018-02-17T18:18:36.309471Z",
      "minute": "18",
      "month": "02",
      "second": "36",
      "time": "18:18:36",
      "tz": "UTC",
      "tz_offset": "+0000",
      "weekday": "Saturday",
      "weekday_number": "6",
      "weeknumber": "07",
      "year": "2018"
    }
  },
}
```



```
1. chapter02 (bash)
russ in ~/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter02
⚡ ansible-playbook -i hosts playbook01.yml

PLAY [boxes] *****

TASK [Gathering Facts] *****
ok: [box]

TASK [debug] *****
ok: [box] => {
  "msg": "I am connecting to 192.168.50.4.nip.io which is running CentOS 7.4.1708"
}

PLAY RECAP *****
box                : ok=2    changed=0    unreachable=0    failed=0

russ in ~/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter02
⚡
```

```
1. chapter02 (bash)
russ in ~/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter02
⚡ ansible-playbook -i hosts playbook02.yml

PLAY [boxes] *****

TASK [Gathering Facts] *****
ok: [box]

TASK [debug] *****
ok: [box] => {
  "msg": "I am connecting to 192.168.50.4.nip.io which is running CentOS 7.4.1708"
}

TASK [yum] *****
changed: [box]

PLAY RECAP *****
box                : ok=3    changed=1    unreachable=0    failed=0

russ in ~/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter02
⚡
```

```
1. chapter02 (bash)
russ in ~/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter02
⚡ ansible-playbook -i hosts playbook02.yml

PLAY [boxes] *****
TASK [Gathering Facts] *****
ok: [box]

TASK [debug] *****
ok: [box] => {
  "msg": "I am connecting to 192.168.50.4.nip.io which is running CentOS 7.4.1708"
}

TASK [yum] *****
ok: [box]

PLAY RECAP *****
box                : ok=3    changed=0    unreachable=0    failed=0

russ in ~/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter02
⚡
```

```
1. chapter02 (bash)
russ in ~/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter02
⚡ ansible-playbook -i hosts playbook03.yml

PLAY [boxes] *****
TASK [Gathering Facts] *****
ok: [box]

TASK [debug] *****
ok: [box] => {
  "msg": "I am connecting to 192.168.50.4.nip.io which is running CentOS 7.4.1708"
}

TASK [yum] *****
ok: [box]

TASK [yum] *****
changed: [box] => (item=[u'ntp', u'ntpdate'])

TASK [template] *****
changed: [box]

RUNNING HANDLER [restart ntp] *****
changed: [box]

PLAY RECAP *****
box                : ok=6    changed=3    unreachable=0    failed=0

russ in ~/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter02
⚡
```

```
1. chapter02 (bash)
russ in ~/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter02
⚡ ansible-playbook -i hosts playbook03.yml

PLAY [boxes] *****
TASK [Gathering Facts] *****
ok: [box]

TASK [debug] *****
ok: [box] => {
  "msg": "I am connecting to 192.168.50.4.nip.io which is running CentOS 7.4.1708"
}

TASK [yum] *****
ok: [box]

TASK [yum] *****
ok: [box] => (item=[u'ntp', u'ntpdate'])

TASK [template] *****
ok: [box]

PLAY RECAP *****
box                : ok=5    changed=0    unreachable=0    failed=0

russ in ~/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter02
⚡
```

```
1. chapter02 (bash)
russ in ~/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter02
⚡ vagrant ssh
Last login: Sun Feb 18 11:35:12 2018 from 192.168.50.1
[vagrant@192 ~]$ cat /etc/ntp.conf
# Ansible managed
driftfile /var/lib/ntp/drift
restrict default nomodify notrap nopeer noquery
restrict 127.0.0.1
restrict ::1
server 0.centos.pool.ntp.org iburst
server 1.centos.pool.ntp.org iburst
server 2.centos.pool.ntp.org iburst
server 3.centos.pool.ntp.org iburst
includefile /etc/ntp/crypto/pw
keys /etc/ntp/keys
disable monitor[vagrant@192 ~]$ exit
logout
Connection to 127.0.0.1 closed.
russ in ~/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter02
⚡
```

```
1. chapter02 (bash)
russ in ~/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter02
⚡ vagrant ssh
Last login: Sun Feb 18 13:58:08 2018 from 172.16.20.2
[vagrant@192 ~]$ sudo systemctl status ntpd
● ntpd.service - Network Time Service
   Loaded: loaded (/usr/lib/systemd/system/ntpd.service; disabled; vendor preset: disabled)
   Active: active (running) since Sun 2018-02-18 13:58:31 UTC; 20s ago
     Process: 3165 ExecStart=/usr/sbin/ntpd -u ntp:ntp $OPTIONS (code=exited, status=0/SUCCESS)
    Main PID: 3166 (ntpd)
   CGroup: /system.slice/ntpd.service
           └─3166 /usr/sbin/ntpd -u ntp:ntp -g

Feb 18 13:58:31 192.168.50.4.nip.io ntpd[3166]: Listen normally on 3 eth0 172.16.20.134 UDP 123
Feb 18 13:58:31 192.168.50.4.nip.io ntpd[3166]: Listen normally on 4 eth1 192.168.50.4 UDP 123
Feb 18 13:58:31 192.168.50.4.nip.io ntpd[3166]: Listen normally on 5 lo ::1 UDP 123
Feb 18 13:58:31 192.168.50.4.nip.io ntpd[3166]: Listen normally on 6 eth1 fe80::20c:29ff:fe43:...123
Feb 18 13:58:31 192.168.50.4.nip.io ntpd[3166]: Listen normally on 7 eth0 fe80::20c:29ff:fe43:...123
Feb 18 13:58:31 192.168.50.4.nip.io ntpd[3166]: Listening on routing socket on fd #24 for inte...tes
Feb 18 13:58:31 192.168.50.4.nip.io ntpd[3166]: 0.0.0.0 c016 06 restart
Feb 18 13:58:31 192.168.50.4.nip.io ntpd[3166]: 0.0.0.0 c012 02 freq_set kernel 0.000 PPM
Feb 18 13:58:31 192.168.50.4.nip.io ntpd[3166]: 0.0.0.0 c011 01 freq_not_set
Feb 18 13:58:38 192.168.50.4.nip.io ntpd[3166]: 0.0.0.0 c614 04 freq_mode
Hint: Some lines were ellipsized, use -l to show in full.
[vagrant@192 ~]$ exit
logout
Connection to 127.0.0.1 closed.
russ in ~/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter02
⚡
```

```
1. chapter02 (bash)
russ in ~/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter02
⚡ ansible-playbook -i hosts playbook03.yml

PLAY [boxes] *****

TASK [Gathering Facts] *****
ok: [box]

TASK [debug] *****
ok: [box] => {
  "msg": "I am connecting to 192.168.50.4.nip.io which is running CentOS 7.4.1708"
}

TASK [yum] *****
changed: [box]

TASK [yum] *****
changed: [box] => (item=[u'ntp', u'ntpdate'])

TASK [template] *****
changed: [box]

RUNNING HANDLER [restart ntp] *****
changed: [box]

PLAY RECAP *****
box                : ok=6    changed=4    unreachable=0    failed=0

russ in ~/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter02
⚡
```

```
1. chapter02 (bash)
russ in ~/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter02
⚡ ansible-playbook -i hosts playbook03.yml

PLAY [boxes] *****
TASK [Gathering Facts] *****
ok: [box]

TASK [debug] *****
ok: [box] => {
  "msg": "I am connecting to 192.168.50.4.nip.io which is running CentOS 7.4.1708"
}

TASK [yum] *****
ok: [box]

TASK [yum] *****
ok: [box] => (item=[u'ntp', u'ntpdate'])

TASK [template] *****
ok: [box]

PLAY RECAP *****
box                : ok=5    changed=0    unreachable=0    failed=0

russ in ~/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter02
⚡
```

Chapter 3: The Ansible Commands

```
1. russ (bash)
russ in ~
⚡ ansible -i hosts london -m ping
ansible01 | SUCCESS => {
  "changed": false,
  "ping": "pong"
}
ansible02 | SUCCESS => {
  "changed": false,
  "ping": "pong"
}
russ in ~
⚡ ansible -i hosts nyc -m ping
ansible03 | SUCCESS => {
  "changed": false,
  "ping": "pong"
}
ansible04 | SUCCESS => {
  "changed": false,
  "ping": "pong"
}
russ in ~
```

```
1. russ (bash)
russ in ~
⚡ ansible -i hosts all -m ping
ansible03 | SUCCESS => {
  "changed": false,
  "ping": "pong"
}
ansible01 | SUCCESS => {
  "changed": false,
  "ping": "pong"
}
ansible02 | SUCCESS => {
  "changed": false,
  "ping": "pong"
}
ansible04 | SUCCESS => {
  "changed": false,
  "ping": "pong"
}
russ in ~
```

```
1. russ (bash)
russ in ~
⚡ ansible -i hosts london -a "ping -c 3 google.com"
ansible01 | SUCCESS | rc=0 >>
PING google.com (216.58.213.110) 56(84) bytes of data:
64 bytes from lhr25s02-in-f110.1e100.net (216.58.213.110): icmp_seq=1 ttl=58 time=1.41 ms
64 bytes from lhr25s02-in-f110.1e100.net (216.58.213.110): icmp_seq=2 ttl=58 time=1.10 ms
64 bytes from lhr25s02-in-f110.1e100.net (216.58.213.110): icmp_seq=3 ttl=58 time=1.10 ms
--- google.com ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2002ms
rtt min/avg/max/mdev = 1.101/1.209/1.417/0.147 ms
ansible02 | SUCCESS | rc=0 >>
PING google.com (172.217.23.14) 56(84) bytes of data:
64 bytes from lhr35s01-in-f14.1e100.net (172.217.23.14): icmp_seq=1 ttl=57 time=1.76 ms
64 bytes from lhr35s01-in-f14.1e100.net (172.217.23.14): icmp_seq=2 ttl=57 time=1.25 ms
64 bytes from lhr35s01-in-f14.1e100.net (172.217.23.14): icmp_seq=3 ttl=57 time=1.24 ms
--- google.com ping statistics ---
3 packets transmitted, 3 received, 0% packet loss, time 2003ms
rtt min/avg/max/mdev = 1.241/1.418/1.764/0.248 ms
russ in ~
```



```
1. russ (bash)
⚡ ansible -i hosts all -a "reboot now"
ansible01 | UNREACHABLE! => {
  "changed": false,
  "msg": "Failed to connect to the host via ssh: Shared connection to 46.101.92.240 closed.\r\n",
  "unreachable": true
}
ansible03 | UNREACHABLE! => {
  "changed": false,
  "msg": "Failed to connect to the host via ssh: Shared connection to 159.65.63.217 closed.\r\n",
  "unreachable": true
}
ansible02 | UNREACHABLE! => {
  "changed": false,
  "msg": "Failed to connect to the host via ssh: Shared connection to 159.65.63.218 closed.\r\n",
  "unreachable": true
}
ansible04 | UNREACHABLE! => {
  "changed": false,
  "msg": "Failed to connect to the host via ssh: Shared connection to 138.68.145.116 closed.\r\n",
  "unreachable": true
}
```

```
1. russ (bash)
⚡ ansible -i hosts all -a "uptime"
ansible01 | SUCCESS | rc=0 >>
16:30:57 up 1 min, 1 user, load average: 0.18, 0.12, 0.05
ansible03 | SUCCESS | rc=0 >>
16:30:57 up 1 min, 1 user, load average: 0.12, 0.09, 0.04
ansible02 | SUCCESS | rc=0 >>
16:30:57 up 1 min, 1 user, load average: 0.13, 0.09, 0.04
ansible04 | SUCCESS | rc=0 >>
16:30:57 up 1 min, 1 user, load average: 0.25, 0.10, 0.04
```

```
1. russ (less)
russ in ~
⚡ ansible-config dump
ACCELERATE_CONNECT_TIMEOUT(default) = 1.0
ACCELERATE_DAEMON_TIMEOUT(default) = 30
ACCELERATE_KEYS_DIR(default) = ~/.fireball.keys
ACCELERATE_KEYS_DIR_PERMS(default) = 700
ACCELERATE_KEYS_FILE_PERMS(default) = 600
ACCELERATE_MULTI_KEY(default) = False
ACCELERATE_PORT(default) = 5099
ACCELERATE_TIMEOUT(default) = 30
ALLOW_WORLD_READABLE_TMPFILES(default) = False
ANSIBLE_COW_SELECTION(default) = default
ANSIBLE_COW_WHITELIST(default) = ['bud-frogs', 'bunny', 'cheese', 'daemon', 'default', 'dragon', 'el
ANSIBLE_FORCE_COLOR(default) = False
ANSIBLE_NOCOLOR(default) = False
ANSIBLE_NOCOWS(default) = False
ANSIBLE_PIPELINING(default) = False
ANSIBLE_SSH_ARGS(default) = -C -o ControlMaster=auto -o ControlPersist=60s
ANSIBLE_SSH_CONTROL_PATH(env: ANSIBLE_SSH_CONTROL_PATH) = /tmp/%%h-%%p-%%r
ANSIBLE_SSH_CONTROL_PATH_DIR(default) = ~/.ansible/cp
ANSIBLE_SSH_EXECUTABLE(default) = ssh
ANSIBLE_SSH_RETRIES(default) = 0
ANY_ERRORS_FATAL(default) = False
BECOME_ALLOW_SAME_USER(default) = False
CACHE_PLUGIN(default) = memory
```



```
1. russ (less)
ANSIBLE_COW_SELECTION:
:
description: This allows you to chose a specific cowsay stencil for the banners
or use 'random' to cycle through them.
env:
- {name: ANSIBLE_COW_SELECTION}
ini:
- {key: cow_selection, section: defaults}
name: Cowsay filter selection
ANSIBLE_COW_WHITELIST:
default: [bud-frogs, bunny, cheese, daemon, default, dragon, elephant-in-snake,
elephant, eyes, hellokitty, kitty, luke-koala, meow, milk, moofasa, moose, ren,
sheep, small, stegosaurus, stimp, supermilker, three-eyes, turkey, turtle, tux,
udder, vader-koala, vader, www]
description: White list of cowsay templates that are 'safe' to use, set to empty
list if you want to enable all installed templates.
env:
- {name: ANSIBLE_COW_WHITELIST}
ini:
- {key: cow_whitelist, section: defaults}
name: Cowsay filter whitelist
type: list
yaml: {key: display.cowsay_whitelist}
```

```
1. russ (python)
⚡ ansible-console -i hosts london
Vault password:
Welcome to the ansible console.
Type help or ? to list commands.
russ@london (2)[f:5]$ █
```

```
1. russ (python)
russ@london (2)[f:5]$ ping
ansible01 | SUCCESS => {
  "changed": false,
  "ping": "pong"
}
ansible02 | SUCCESS => {
  "changed": false,
  "ping": "pong"
}
russ@london (2)[f:5]$ █
```

```
1. russ (python)
russ@london (2)[f:5]$ raw uptime
ansible01 | SUCCESS | rc=0 >>
18:38:44 up 2:09, 1 user, load average: 0.00, 0.01, 0.05
Shared connection to 46.101.92.240 closed.

ansible02 | SUCCESS | rc=0 >>
18:38:44 up 2:09, 1 user, load average: 0.05, 0.07, 0.06
Shared connection to 159.65.63.218 closed.

russ@london (2)[f:5]$ █
```

```
1. russ (python)
russ@london (2)[f:5]$ yum name=kpartx state=latest
ansible01 | SUCCESS => {
  "changed": false,
  "msg": "",
  "rc": 0,
  "results": [
    "All packages providing kpartx are up to date",
    ""
  ]
}
ansible02 | SUCCESS => {
  "changed": false,
  "msg": "",
  "rc": 0,
  "results": [
    "All packages providing kpartx are up to date",
    ""
  ]
}
russ@london (2)[f:5]$
```

```
1. russ (less)
> RAW    (/usr/local/Cellar/ansible/2.4.3.0/libexec/lib/python2.7/site-packages/ansible/modules/comm

Executes a low-down and dirty SSH command, not going through the module
subsystem. This is useful and should only be done in two cases. The
first case is installing `python-simplejson' on older (Python 2.4 and
before) hosts that need it as a dependency to run modules, since nearly
all core modules require it. Another is speaking to any devices such as
routers that do not have any Python installed. In any other case, using
the [shell] or [command] module is much more appropriate. Arguments
given to `raw' are run directly through the configured remote shell.
Standard output, error output and return code are returned when
available. There is no change handler support for this module. This
module does not require python on the remote system, much like the
[script] module. This module is also supported for Windows targets.

* note: This module has a corresponding action plugin.

OPTIONS (= is mandatory):

- executable
  change the shell used to execute the command. Should be an absolute path
  to the executable.
  when using privilege escalation (`become'), a default shell will be
  assigned if one is not provided as privilege escalation requires a
  shell.
  [Default: (null)]
  version_added: 1.0

= free_form
:|
```

```
1. russ (bash)
russ in ~
⚡ ansible-doc --snippet raw
- name: Executes a low-down and dirty SSH command
  raw:
    executable:          # change the shell used to execute the command. Should be an absolute
                        # path to the executable. when using
                        # privilege escalation ('become'), a
                        # default shell will be assigned if one
                        # is not provided as privilege
                        # escalation requires a shell.
    free_form:           # (required) the raw module takes a free form command to run. There is
                        # no parameter actually named 'free
                        # form'; see the examples!

russ in ~
```

```
1. russ (bash)
russ in ~
⚡ ansible-inventory -i hosts --graph
@all:
|--@digitalocean:
| |--@london:
| | |--ansible01
| | |--ansible02
| | |--@nyc:
| | |--ansible03
| | |--ansible04
|--@ungrouped:
| |--ansible01
| |--ansible02
| |--ansible03
| |--ansible04

russ in ~
```

```
1. russ (bash)
russ in ~
⚡ ansible-inventory -i hosts --host=ansible01
{
  "ansible_connection": "ssh",
  "ansible_host": "46.101.92.240",
  "ansible_private_key_file": "~/.ssh/id_rsa",
  "ansible_user": "root",
  "host_key_checking": false
}

russ in ~
```

```
1. russ (bash)
russ in ~
⚡ ansible-vault encrypt secrets.yml
New Vault password:
Confirm New Vault password:
Encryption successful

russ in ~
```

```
1. russ (bash)
russ in ~
⚡ ansible-vault view secrets.yml
Vault password:
---
secret: "mypassword"
secret-api-key: "myprivateapikey"
russ in ~
⚡
```

```
1. russ (bash)
russ in ~
⚡ ansible-vault encrypt_string 'mypassword' --name 'password'
New Vault password:
Confirm New Vault password:
password: !vault |
          $ANSIBLE_VAULT;1.1;AES256
          30646136653066633833363837613162623765386561356334386463366338313164633737386534
          6536663537383830323636653235633662353933616331660a313962626530303961383234323736
          36393433313530343266383239663738626235393164356135336564626661303564343039303436
          6662653961303764630a346639663964373137366666383630323535663536623763303339323062
          3662
Encryption successful
russ in ~
⚡
```

```
1. chapter03 (bash)
russ in ~/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter03
⚡ ansible-playbook playbook.yml
[WARNING]: provided hosts list is empty, only localhost is available. Note that the implicit
localhost does not match 'all'

PLAY [localhost] *****

TASK [Gathering Facts] *****
ok: [localhost]

TASK [debug] *****
fatal: [localhost]: FAILED! => {"msg": "Attempting to decrypt but no vault secrets found"}
  to retry, use: --limit @/Users/russ/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/
chapter03/playbook.retry

PLAY RECAP *****
localhost      : ok=1    changed=0    unreachable=0    failed=1

russ in ~/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter03
⚡
```

```

1. chapter03 (bash)
russ in ~/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter03
⚡ ansible-playbook --vault-id /tmp/vault-file playbook.yml
[WARNING]: provided hosts list is empty, only localhost is available. Note that the implicit
localhost does not match 'all'

PLAY [localhost] *****

TASK [Gathering Facts] *****
ok: [localhost]

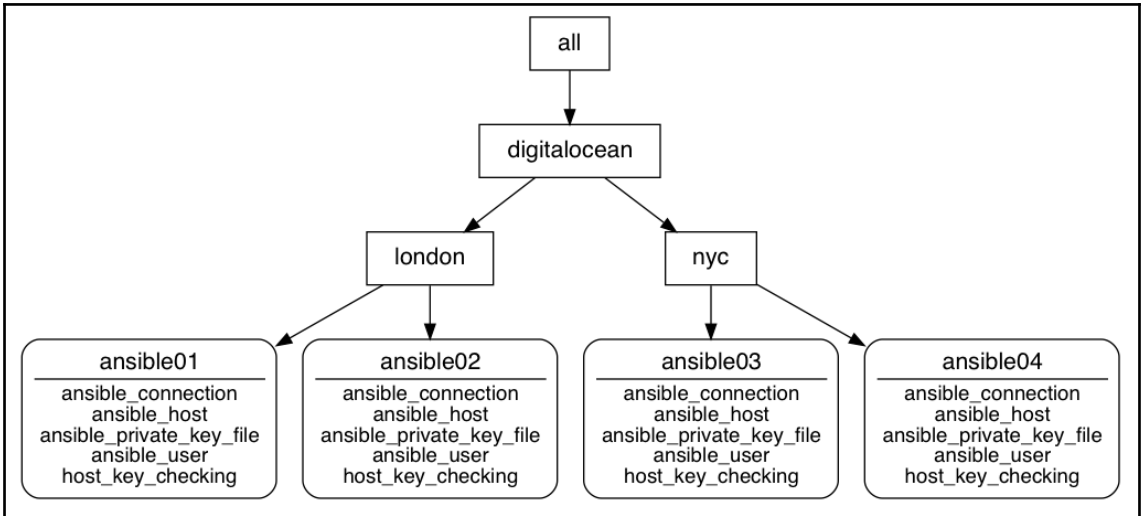
TASK [debug] *****
ok: [localhost] => {
  "msg": "The username is russmckendrick and password is mypassword, also the API key is myprivate
apikey"
}

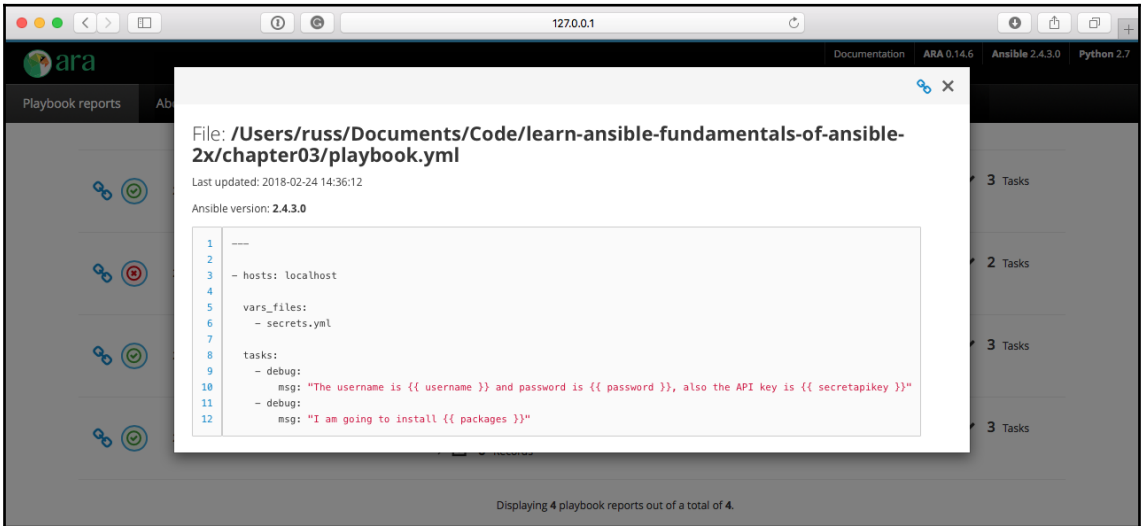
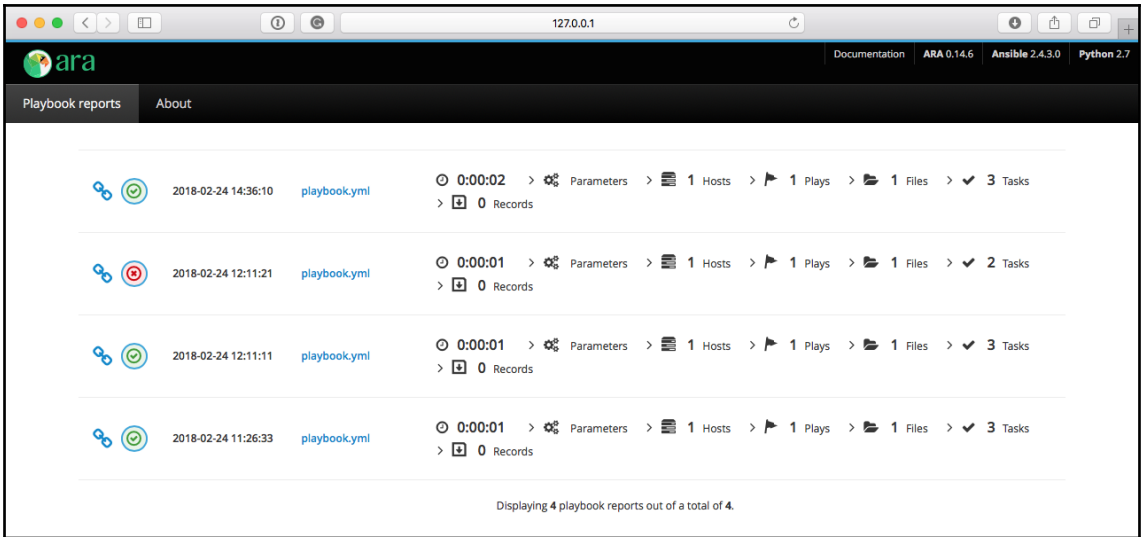
TASK [debug] *****
ok: [localhost] => {
  "msg": "I am going to install [u'httpd', u'php', u'mariadb']"
}

PLAY RECAP *****
localhost                : ok=3    changed=0    unreachable=0    failed=0

russ in ~/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter03
⚡

```





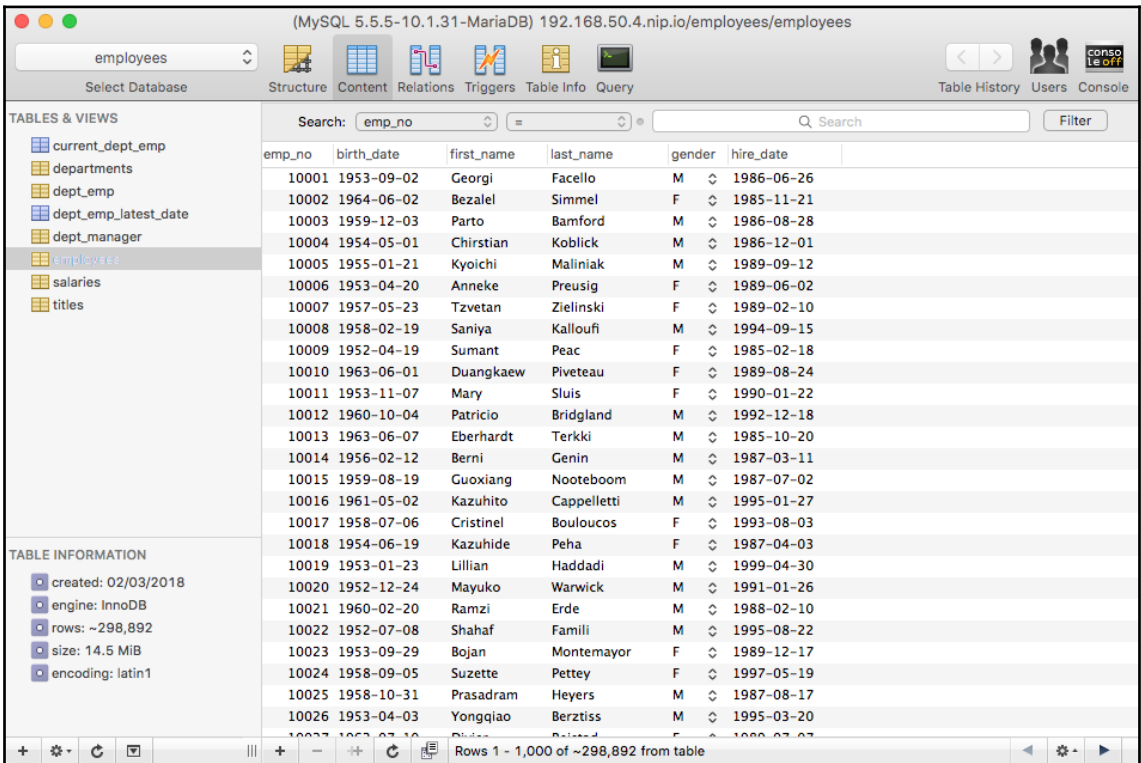
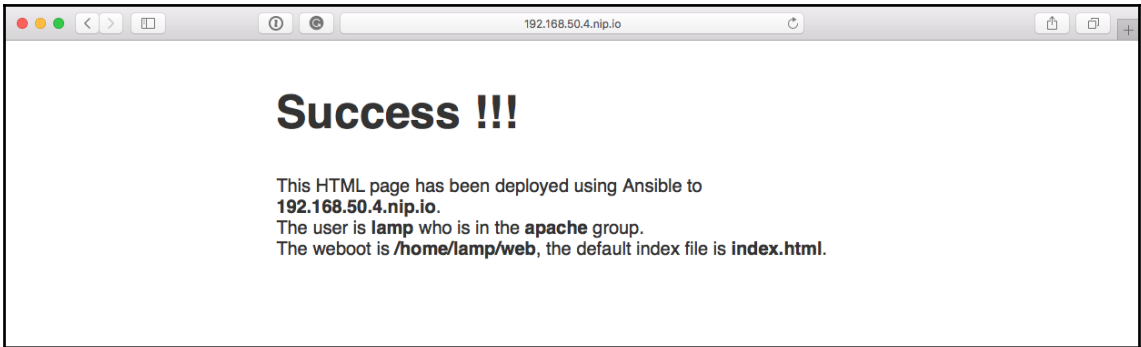
Chapter 4: Deploying a LAMP Stack

```
1. lamp (bash)
russ in ~/lamp
⚡ tree
.
├── Vagrantfile
├── group_vars
│   └── common.yml
├── production
├── roles
│   └── common
│       ├── README.md
│       ├── defaults
│       │   └── main.yml
│       ├── files
│       ├── handlers
│       │   └── main.yml
│       ├── meta
│       │   └── main.yml
│       ├── tasks
│       │   └── main.yml
│       ├── templates
│       ├── tests
│       │   ├── inventory
│       │   └── test.yml
│       └── vars
│           └── main.yml
└── site.yml

11 directories, 12 files
russ in ~/lamp
⚡
```


```
1. common (bash)
russ in ~/lamp/roles/common
⚡ tree
.
├── README.md
├── defaults
│   └── main.yml
├── files
├── handlers
│   └── main.yml
├── meta
│   └── main.yml
├── tasks
│   └── main.yml
├── templates
├── tests
│   ├── inventory
│   └── test.yml
└── vars
    └── main.yml

8 directories, 8 files
russ in ~/lamp/roles/common
⚡
```



192.168.50.4.nip.io

PHP Version 7.2.2



System	Linux 192.168.50.4.nip.io 3.10.0-693.11.6.el7.x86_64 #1 SMP Thu Jan 4 01:06:37 UTC 2018 x86_64
Build Date	Feb 1 2018 15:31:57
Server API	Apache 2.0 Handler
Virtual Directory Support	disabled
Configuration File (php.ini) Path	/etc
Loaded Configuration File	/etc/php.ini
Scan this dir for additional .ini files	/etc/php.d
Additional .ini files parsed	/etc/php.d/20-bcmath.ini, /etc/php.d/20-bz2.ini, /etc/php.d/20-calendar.ini, /etc/php.d/20-ctype.ini, /etc/php.d/20-curl.ini, /etc/php.d/20-ctype.ini, /etc/php.d/20-dom.ini, /etc/php.d/20-exception.ini, /etc/php.d/20-filter.ini, /etc/php.d/20-gd.ini, /etc/php.d/20-gdlib2.ini, /etc/php.d/20-gettext.ini, /etc/php.d/20-iconv.ini, /etc/php.d/20-intl.ini, /etc/php.d/20-ldap.ini, /etc/php.d/20-ldap2.ini, /etc/php.d/20-mbstring.ini, /etc/php.d/20-mysqli.ini, /etc/php.d/20-mysqli.ini, /etc/php.d/20-odbc.ini, /etc/php.d/20-pdo.ini, /etc/php.d/20-phar.ini, /etc/php.d/20-posix.ini, /etc/php.d/20-shmop.ini, /etc/php.d/20-simplexml.ini, /etc/php.d/20-sockets.ini, /etc/php.d/20-sockets3.ini, /etc/php.d/20-sysmsg.ini, /etc/php.d/20-sysvsem.ini, /etc/php.d/20-sysvshm.ini, /etc/php.d/20-tokenizer.ini, /etc/php.d/20-xml.ini, /etc/php.d/20-xmlwriter.ini, /etc/php.d/20-xsl.ini, /etc/php.d/20-zip.ini, /etc/php.d/30-mysql.ini, /etc/php.d/30-pdo_mysql.ini, /etc/php.d/30-pdo_odbc.ini, /etc/php.d/30-pdo_sqlite.ini, /etc/php.d/30-wddx.ini, /etc/php.d/30-xmlreader.ini, /etc/php.d/30-xmlrpc.ini
PHP API	20170718
PHP Extension	20170718
Zend Extension	320170718
Zend Extension Build	API320170718,NTS
PHP Extension Build	API20170718,NTS
Debug Build	no
Thread Safety	disabled
Zend Signal Handling	enabled
Zend Memory Manager	enabled
Zend Multibyte Support	provided by mbstring

192.168.50.4.nip.io

Language: English

MySQL » Server » Database: employees

Adminer 4.6.2

DB: employees

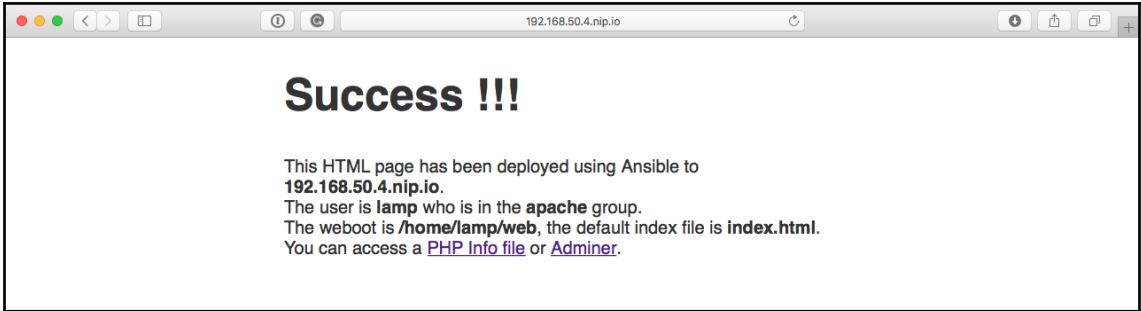
Alter database Database schema Privileges

Database: employees

Tables and views

Search data in tables (6)

Table	Engine?	Collation?	Data Length?	Index Length?	Data Free?	Auto Increment?	Rows?	Comment?
current_dept_emp	View							?
departments	InnoDB	latin1_swedish_ci	16,384	16,384	0		~ 9	
dept_emp	InnoDB	latin1_swedish_ci	12,075,008	5,783,552	4,194,304		~ 331,570	
dept_emp_latest_date	View							?
dept_manager	InnoDB	latin1_swedish_ci	16,384	16,384	0		~ 24	
employees	InnoDB	latin1_swedish_ci	15,220,736		0	4,194,304	~ 299,246	
salaries	InnoDB	latin1_swedish_ci	100,270,080		0	4,194,304	~ 2,838,426	
titles	InnoDB	latin1_swedish_ci	20,512,768		0	4,194,304	~ 441,951	
8 in total	InnoDB	latin1_swedish_ci	148,111,360	5,816,320	0			

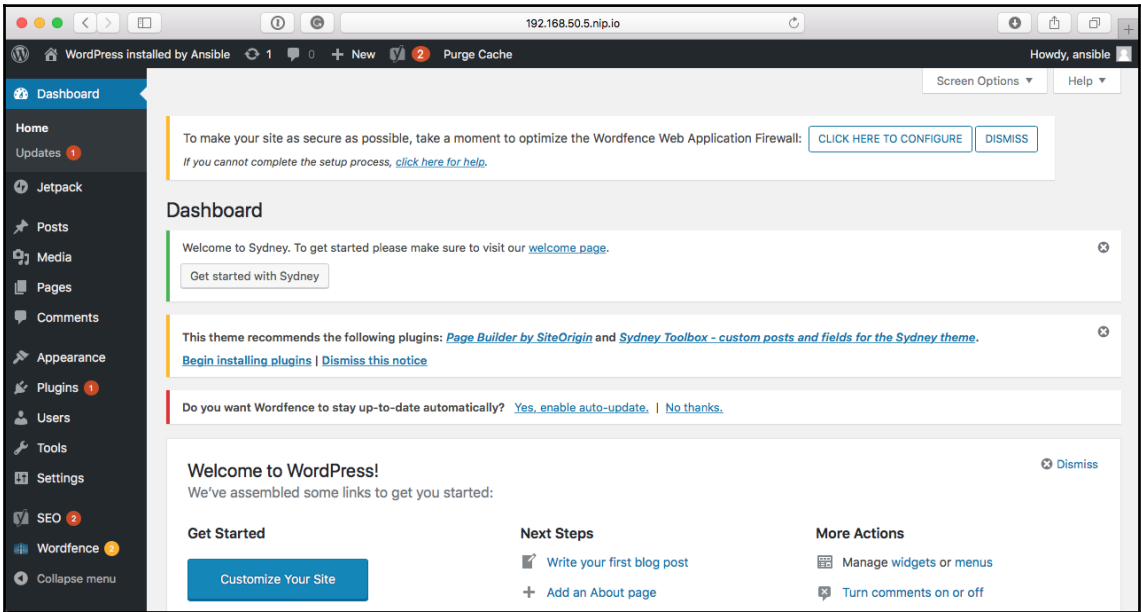
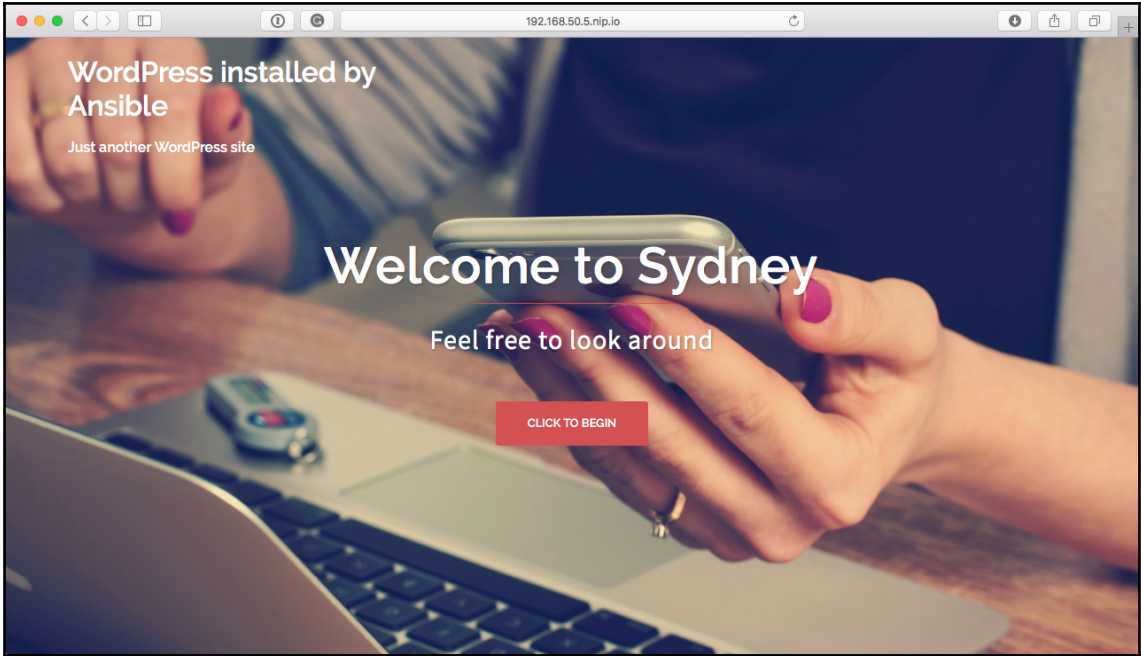


Chapter 5: Deploying WordPress

```
1. root@192:/etc/yum.repos.d (ssh)
[root@192 yum.repos.d]# cat nginx.repo
[nginx]
baseurl = http://nginx.org/packages/mainline/centos/7/$basearch/
enabled = 1
gpgcheck = 0
name = The mainline NGINX repo

[root@192 yum.repos.d]# yum info nginx
Loaded plugins: fastestmirror
Loading mirror speeds from cached hostfile
 * base: repo.uk.bigstepcloud.com
 * epel: www.mirrorservice.org
 * extras: repo.uk.bigstepcloud.com
 * ius: mirrors.ircam.fr
 * updates: repo.uk.bigstepcloud.com
Available Packages
Name      : nginx
Arch      : x86_64
Epoch    : 1
Version   : 1.13.9
Release   : 1.el7_4.ngx
Size      : 728 k
Repo      : nginx/x86_64
Summary   : High performance web server
URL       : http://nginx.org/
License   : 2-clause BSD-like license
Description : nginx [engine x] is an HTTP and reverse proxy server, as well as
           : a mail proxy server.

[root@192 yum.repos.d]# █
```



Chapter 6: Targeting Multiple Distributions

```
1. lemp (bash)
russ in ~/lemp
⚡ ansible -i production centos -m setup | grep ansible_os_family
    "ansible_os_family": "RedHat",
russ in ~/lemp
⚡ ansible -i production ubuntu -m setup | grep ansible_os_family
russ in ~/lemp
⚡
```

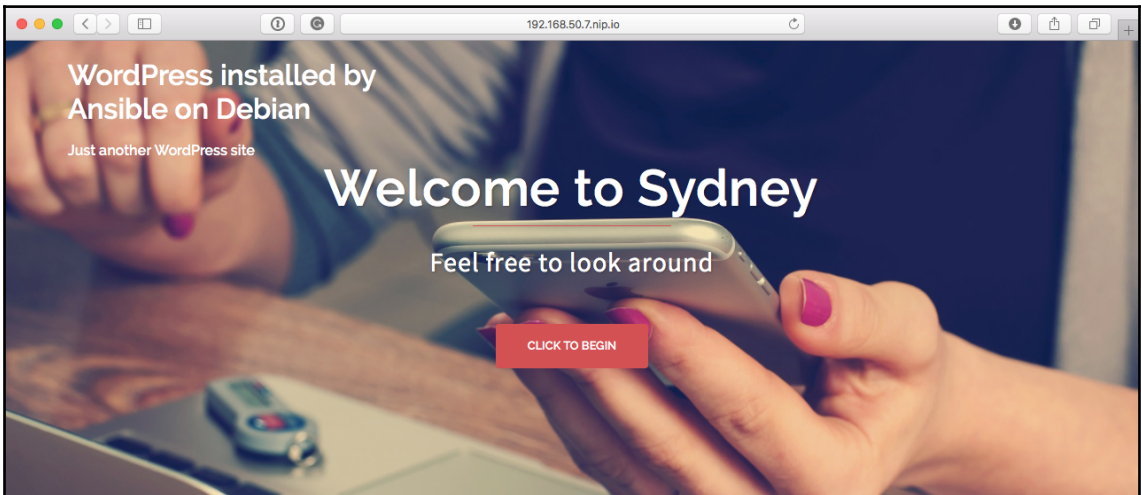
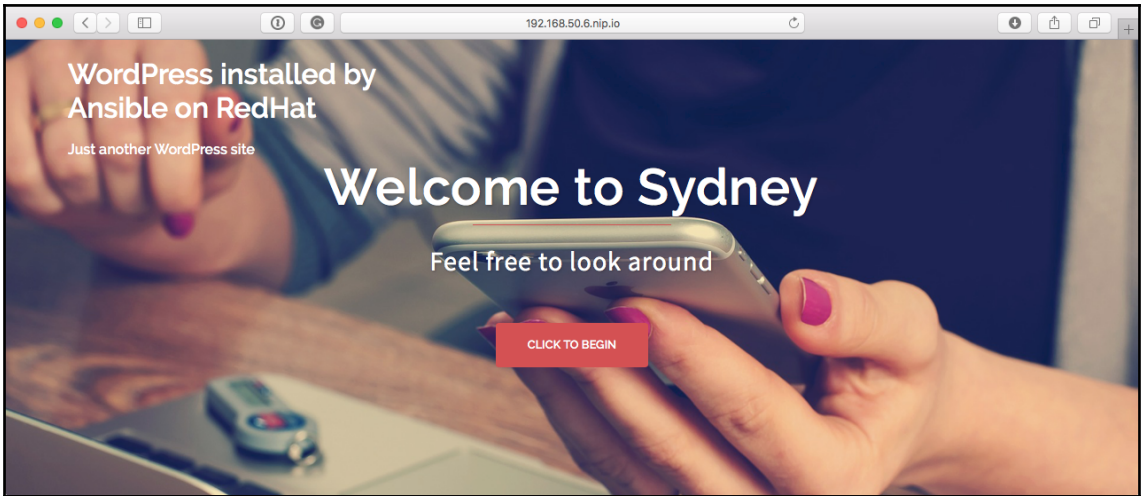
```
1. lemp (bash)
russ in ~/lemp
⚡ ansible -i production ubuntu -m setup
ubuntu | FAILED! => {
  "changed": false,
  "module_stderr": "Shared connection to 192.168.50.7.nip.io closed.\r\n",
  "module_stdout": "/bin/sh: 1: /usr/bin/python: not found\r\n",
  "msg": "MODULE FAILURE",
  "rc": 0
}
russ in ~/lemp
⚡
```

```
1. vagrant@192: ~ (ssh)
russ in ~/lemp
⚡ vagrant ssh ubuntu
Welcome to Ubuntu 17.04 (GNU/Linux 4.10.0-42-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

Last login: Sat Mar 10 03:36:33 2018 from 192.168.50.1
vagrant@192:~$ which python
vagrant@192:~$ which python3
/usr/bin/python3
vagrant@192:~$
```

```
1. lemp (bash)
russ in ~/lemp
⚡ ansible -i production wordpress -m setup | grep ansible_os_family
    "ansible_os_family": "RedHat",
    "ansible_os_family": "Debian",
russ in ~/lemp
⚡
```

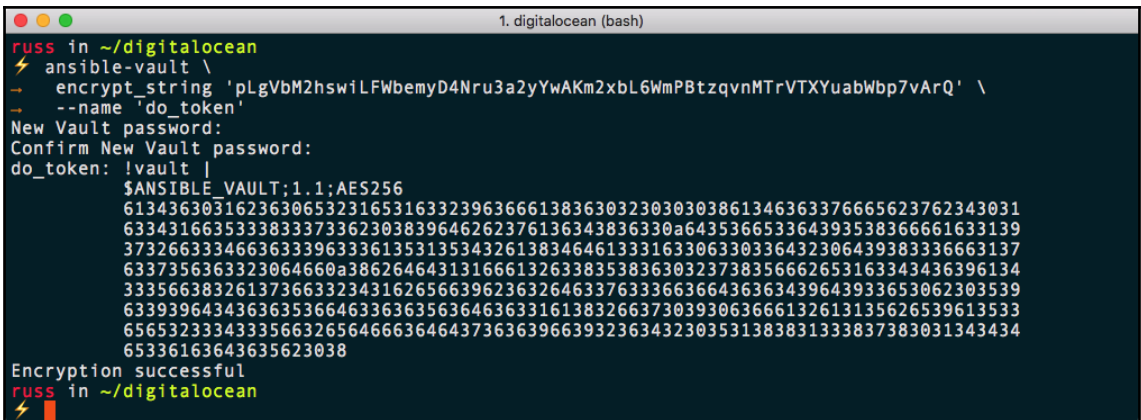
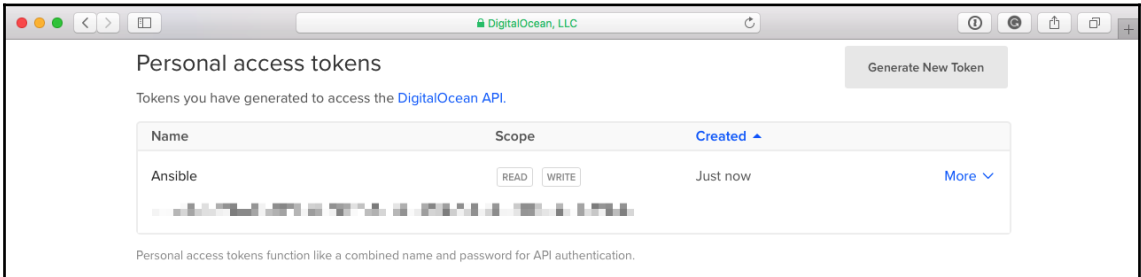
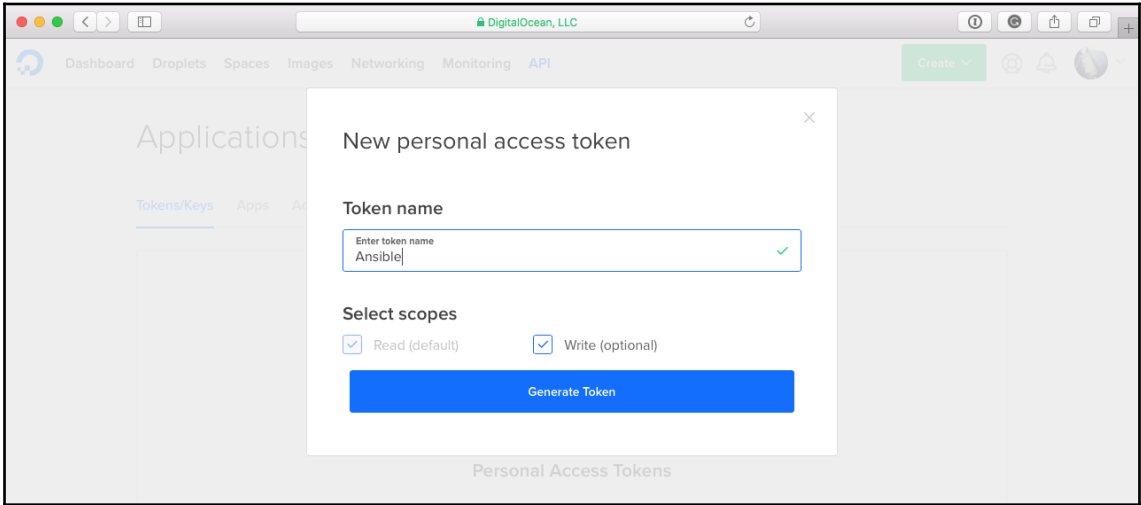


Chapter 7: The Core Network Modules

```
2. vagrant@192: ~ (ssh)
russ in ~/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter07/vyos on master*
⚡ vagrant ssh
-----
VyOS Ansible Managed Firewall
-----
Last login: Mon Mar 26 15:41:49 2018 from 172.16.20.2
vagrant@192:~$
```

```
2. vagrant@192: ~ (ssh)
firewall {
  all-ping enable
  broadcast-ping disable
  group {
    address-group SSH-ACCESS {
      address 172.16.20.2
    }
  }
  ipv6-receive-redirects disable
  ipv6-src-route disable
  ip-src-route disable
  log-martians enable
  name OUTSIDE-IN {
    default-action drop
    description "deny traffic from internet"
    rule 10 {
      action accept
      destination {
        address 172.16.20.11
        port 80
      }
    }
    protocol tcp
  }
}
```

Chapter 8: Moving to the Cloud



The screenshot shows the 'Two-factor authentication' settings for user Russ McKendrick. The page is divided into two main sections: 'Two-factor authentication' and 'SSH keys'.

Two-factor authentication:

- Default method: App** - Status: **Two-factor Authentication Enabled**. Description: When you log in you will be required to enter a code that we will send to an app.
- Backup method: SMS** - Status: **Backup Method Enabled**. Description: We will send a unique code to [redacted].

SSH keys:

Name	Fingerprint	
Ansible	7d:ce:56:5f:af:45:71:ab:af:fe:77:c2:9f:90:bc:cf	More
Work	[redacted]	More

Buttons: [Add SSH Key](#)

The screenshot shows the 'Droplets' dashboard in the DigitalOcean control panel. The navigation bar includes Dashboard, Droplets, Spaces, Images, Networking, Monitoring, and API. A 'Create' button is visible in the top right.

Droplets

Search by Droplet name

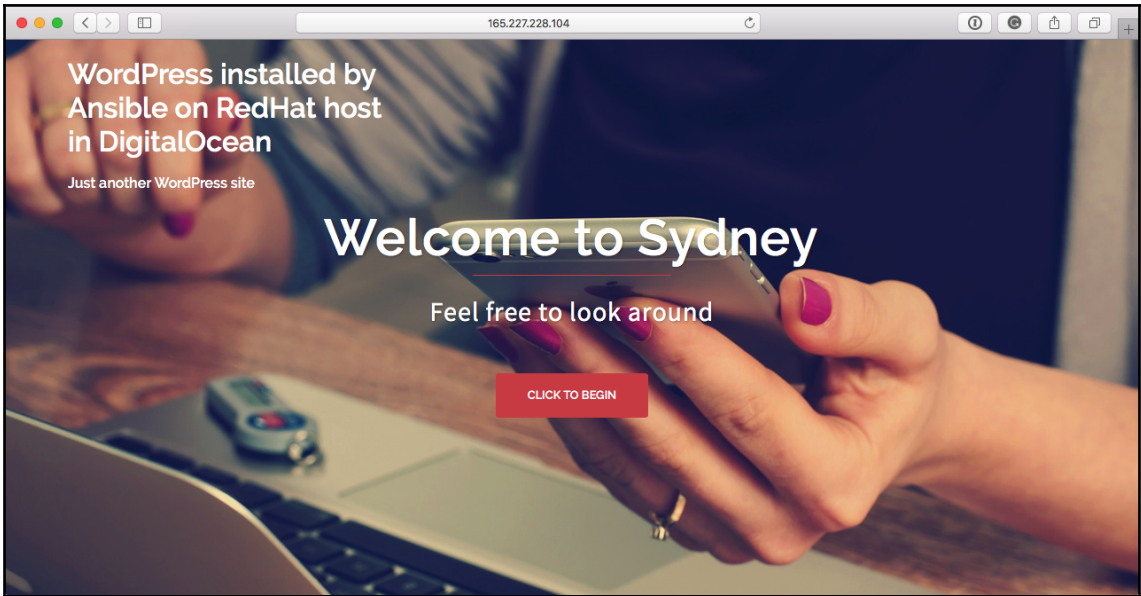
[Droplets](#) [Volumes](#)

Name	IP Address	Created	Tags
AnsibleDroplet 2 GB / 50 GB Disk / LON1 - CentOS 7.4 x64	159.65.27.87	2 minutes ago	More

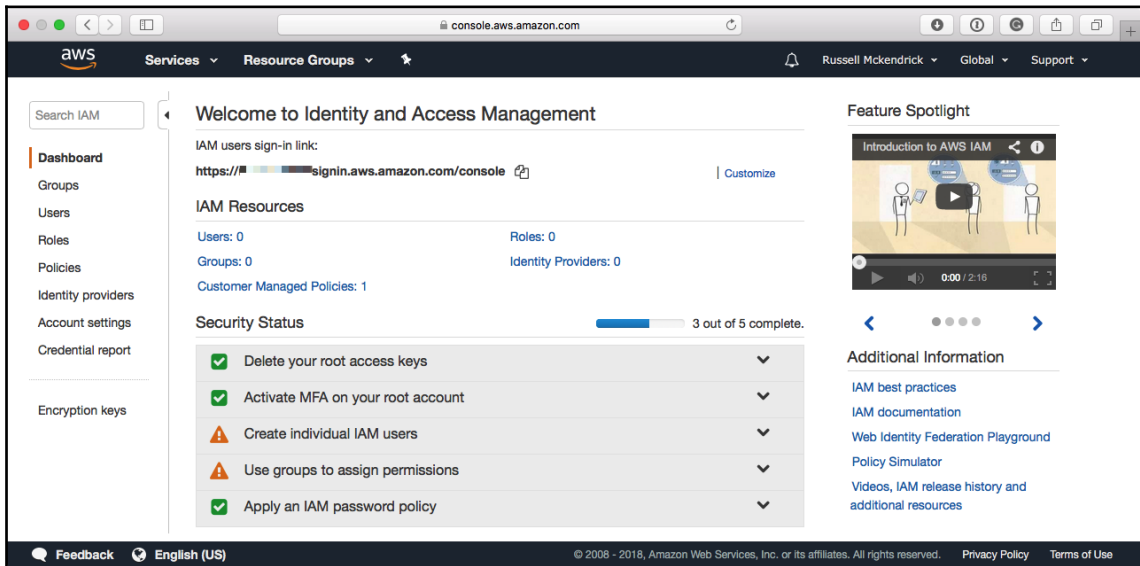
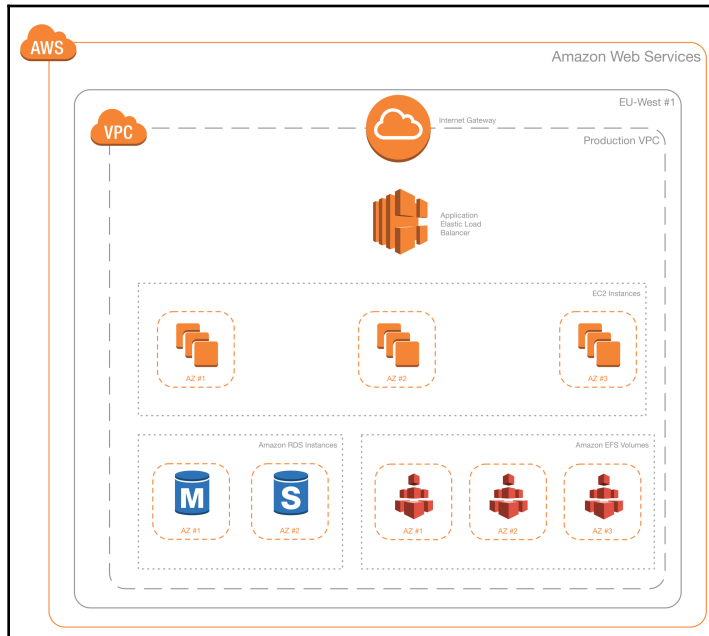
```

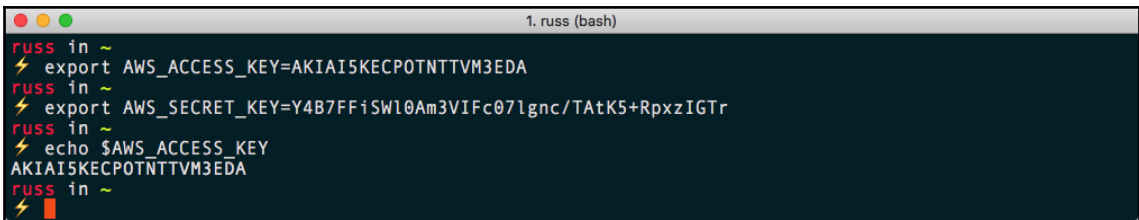
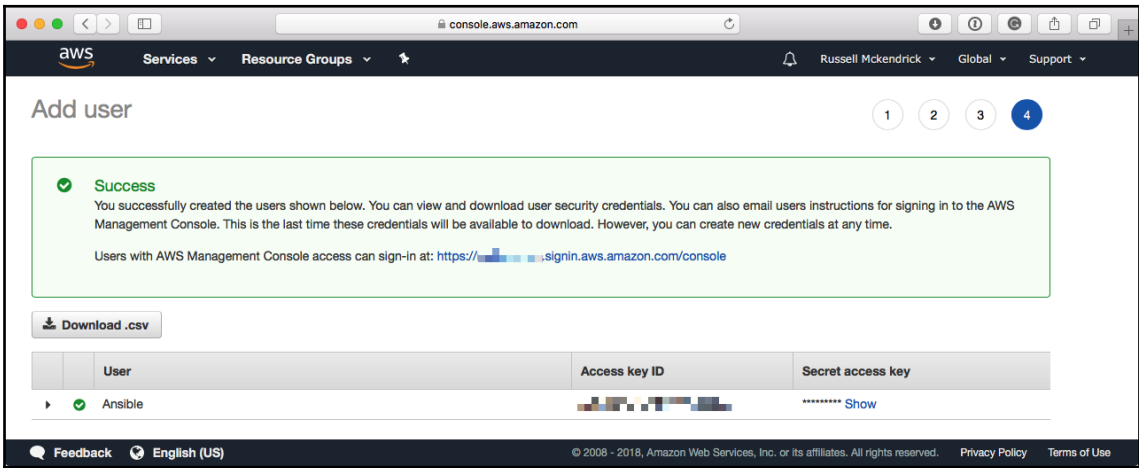
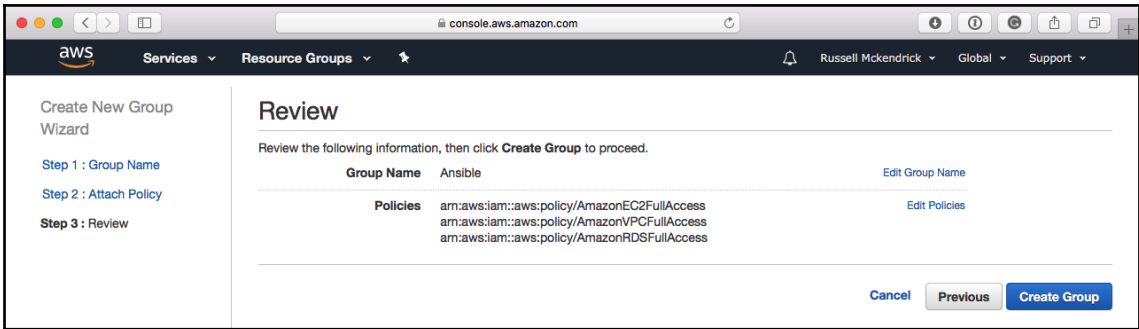
1. digitalocean (bash)
russ in ~/digitalocean
└─$ ssh root@159.65.27.87
The authenticity of host '159.65.27.87 (159.65.27.87)' can't be established.
ECDSA key fingerprint is SHA256:khZ2j1eAs3Ppu7ygXkzqj41TLbCfKfILtybXp4mGtD4.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '159.65.27.87' (ECDSA) to the list of known hosts.
[root@AnsibleDroplet ~]# cat /etc/*release
CentOS Linux release 7.4.1708 (Core)
NAME="CentOS Linux"
VERSION="7 (Core)"
ID="centos"
ID_LIKE="rhel fedora"
VERSION_ID="7"
PRETTY_NAME="CentOS Linux 7 (Core)"
ANSI_COLOR="0;31"
CPE_NAME="cpe:/o:centos:centos:7"
HOME_URL="https://www.centos.org/"
BUG_REPORT_URL="https://bugs.centos.org/"

```



Chapter 9: Building Out a Cloud Network





eu-west-1.console.aws.amazon.com

Services Resource Groups Russell Mckendrick Ireland Support

Create VPC Actions

Search VPCs and their proper X << 1 to 2 of 2 VPCs >>

Name	VPC ID	State	IPv4 CIDR	IPv6 CIDR	DHCP options set	Route table	Network ACL	Tenancy
	vpc-205df47	available	172.16.0.0/16		dopt-44851321	rtb-a3a19bc4	acl-b999eade	Default
my-vpc	vpc-cccf75aa	available	10.0.0.0/16		dopt-44851321	rtb-49e85430	acl-a98d9acf	Default

vpc-cccf75aa | my-vpc

Summary CIDR Blocks Flow Logs Tags

VPC ID: vpc-cccf75aa | my-vpc
 State: available
 IPv4 CIDR: 10.0.0.0/16
 IPv6 CIDR:
 DHCP options set: dopt-44851321
 Route table: rtb-49e85430
 ClassicLink: Disabled

Network ACL: acl-a98d9acf
 Tenancy: Default
 DNS resolution: yes
 DNS hostnames: yes
 ClassicLink DNS Support: no

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Services Resource Groups Russell Mckendrick Ireland Support

Create Subnet Subnet Actions

Search my-vpc X << 1 to 10 of 10 Subnets >>

Name	Subnet ID	State	VPC	IPv4 CIDR	Available IPv4 Addresses	Availability Zone
my-vpc_ec2_eu-west-1a	subnet-24ea4a42	available	vpc-cccf75aa my-vpc	10.0.10.0/24	251	eu-west-1a
my-vpc_ec2_eu-west-1b	subnet-2951e761	available	vpc-cccf75aa my-vpc	10.0.11.0/24	251	eu-west-1b
my-vpc_ec2_eu-west-1c	subnet-fce80ba6	available	vpc-cccf75aa my-vpc	10.0.12.0/24	251	eu-west-1c
my-vpc_efs_eu-west-1b	subnet-4340f60b	available	vpc-cccf75aa my-vpc	10.0.40.0/24	251	eu-west-1b
my-vpc_efs_eu-west-1c	subnet-5aea9000	available	vpc-cccf75aa my-vpc	10.0.41.0/24	251	eu-west-1c
my-vpc_elb_eu-west-1a	subnet-51f15137	available	vpc-cccf75aa my-vpc	10.0.20.0/24	251	eu-west-1a
my-vpc_elb_eu-west-1b	subnet-6744f22f	available	vpc-cccf75aa my-vpc	10.0.21.0/24	251	eu-west-1b
my-vpc_elb_eu-west-1c	subnet-64eb083e	available	vpc-cccf75aa my-vpc	10.0.22.0/24	251	eu-west-1c
my-vpc_rds_eu-west-1a	subnet-19e9497f	available	vpc-cccf75aa my-vpc	10.0.30.0/24	251	eu-west-1a
my-vpc_rds_eu-west-1b	subnet-154ef85d	available	vpc-cccf75aa my-vpc	10.0.31.0/24	251	eu-west-1b

Select a subnet above

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Services Resource Groups

Russell Mckendrick Ireland Support

VPC Dashboard

Filter by VPC:

Virtual Private Cloud

Your VPCs

Subnets

Route Tables

Internet Gateways

Egress Only Internet Gateways

DHCP Options Sets

Create Internet gateway Actions

Filter by tags and attributes or search by keyword

Name	ID	State	VPC
igw-656b1401	igw-656b1401	attached	vpc-205dff47
my-vc..._igw-a74235c0	igw-a74235c0	attached	vpc-cccf75aa my...

Internet gateway: igw-a74235c0

Description Tags

ID igw-a74235c0 Attached VPC ID vpc-cccf75aa | my-vc

State attached

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Services Resource Groups

Russell Mckendrick Ireland Support

VPC Dashboard

Filter by VPC:

Virtual Private Cloud

Your VPCs

Subnets

Route Tables

Internet Gateways

Egress Only Internet Gateways

DHCP Options Sets

Create Route Table Delete Route Table Set As Main Table

Filter by tags and attributes or search by keyword

my-vc

Name	Route Table ID	Explicitly Associat	Main	VPC
my-vc_outbound	rtb-9dd569e4	3 Subnets	No	vpc-cccf75aa my-vc
	rtb-49e85430	0 Subnets	Yes	vpc-cccf75aa my-vc

rtb-9dd569e4 | my-vc_outbound

Summary Routes Subnet Associations Route Propagation Tags

Route Table ID: rtb-9dd569e4 | my-vc_outbound Main: no

Explicitly Associated With: 3 Subnets VPC: vpc-cccf75aa | my-vc

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Services Resource Groups Russell Mckendrick Ireland Support

VPC Dashboard **Create Security Group** Security Group Actions

Filter by VPC:

Virtual Private Cloud

Your VPCs

Subnets

Route Tables

Internet Gateways

Egress Only Internet Gateways

DHCP Options Sets

Elastic IPs

Endpoints

Endpoint Services

NAT Gateways

Peerings Connections

Filter All security groups << 1 to 5 of 5 Security Groups >>

<input type="checkbox"/>	Name tag	Group ID	Group Name	VPC	Description
<input type="checkbox"/>	my-vpc-efs	sg-7b718806	my-vpc-efs	vpc-ccfe775aa my-vpc	opens port 2049 to the ec2 instances
<input type="checkbox"/>		sg-7df60f00	default	vpc-ccfe775aa my-vpc	default VPC security group
<input type="checkbox"/>	my-vpc-rds	sg-9e7089f3	my-vpc-rds	vpc-ccfe775aa my-vpc	opens port 3306 to the ec2 instances
<input type="checkbox"/>	my-vpc-elb	sg-97778eea	my-vpc-elb	vpc-ccfe775aa my-vpc	opens port 80 and 443 to the world
<input checked="" type="checkbox"/>	my-vpc-ec2	sg-fa778e87	my-vpc-ec2	vpc-ccfe775aa my-vpc	opens port 22 to a trusted IP and port 80...

sg-fa778e87 | my-vpc-ec2

Summary **Inbound Rules** Outbound Rules Tags

Edit

Type	Protocol	Port Range	Source	Description
HTTP (80)	TCP (6)	80	sg-97778eea	allow sg-97778eea ac...
SSH (22)	TCP (6)	22	109.153.155.197/32	allow 109.153.155.19...

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The screenshot displays the AWS Management Console interface for a VPC Load Balancer. The browser address bar shows 'eu-west-1.console.aws.amazon.com'. The top navigation bar includes 'Services', 'Resource Groups', and user information for 'Russell Mckendrick' in the 'Ireland' region. The left-hand navigation pane lists various AWS services, with 'LOAD BALANCING' and 'Load Balancers' selected.

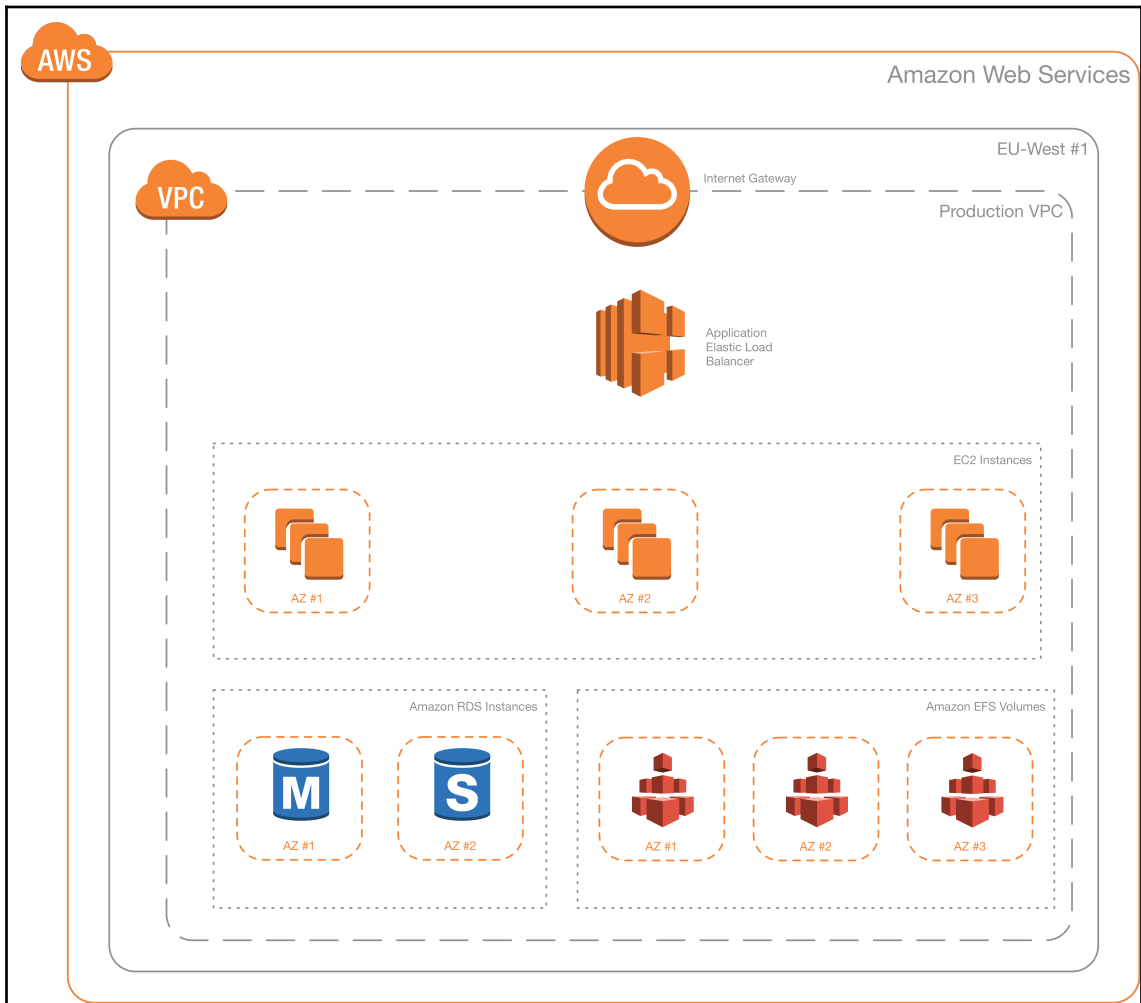
The main content area shows the configuration for the load balancer 'my-vpc-elb'. At the top, there is a search bar and a table listing the load balancer with columns for Name, DNS name, State, VPC ID, and Availability Zones. Below this, the 'Load balancer: my-vpc-elb' section is visible, with tabs for Description, Listeners, Monitoring, and Tags. The 'Description' tab is active, showing the following configuration details:

Basic Configuration	
Name:	my-vpc-elb
ARN:	arn:aws:elasticloadbalancing:eu-west-1:687011238589:loadbalancer/app/my-vpc-elb/98dd881c7a931ab3
DNS name:	my-vpc-elb-374523105.eu-west-1.elb.amazonaws.com (A Record)
Scheme:	internet-facing
Type:	application
Availability Zones:	subnet-51f15137 - eu-west-1a, subnet-64eb083e - eu-west-1c, subnet-6744f22f - eu-west-1b
Creation time:	April 22, 2018 at 5:12:31 PM UTC+1
Hosted zone:	Z32O12XQLNTSW2
State:	active
VPC:	vpc-cccf75aa
IP address type:	ipv4
AWS WAF Web ACL:	

Below the basic configuration, the 'Security' section shows the load balancer is associated with security groups 'sg-97778eea' and 'my-vpc-elb', with a note that it opens port 80 and 443 to the world.

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Chapter 10: Highly Available Cloud Deployments



eu-west-1.console.aws.amazon.com

Services Resource Groups

Create VPC Actions

Search VPCs and their proper X << 1 to 2 of 2 VPCs >>

Name	VPC ID	State	IPv4 CIDR	IPv6 CIDR	DHCP options set	Route table	Network ACL	Tenancy
	vpc-205df47	available	172.16.0.0/16		dopt-44851321	rtb-a3a19bc4	acl-b999eade	Default
wordpress	vpc-7596f013	available	10.0.0.0/16		dopt-44851321	rtb-0e289377	acl-1f859779	Default

vpc-7596f013 | wordpress

Summary CIDR Blocks Flow Logs Tags

VPC ID: vpc-7596f013 | wordpress
 State: available
 IPv4 CIDR: 10.0.0.0/16
 IPv6 CIDR:
 DHCP options set: dopt-44851321
 Route table: rtb-0e289377
 ClassicLink: Disabled

Network ACL: acl-1f859779
 Tenancy: Default
 DNS resolution: yes
 DNS hostnames: yes
 ClassicLink DNS Support: no

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Services Resource Groups

Create Load Balancer Actions

Filter by tags and attributes or search by keyword << 1 to 1 of 1 >>

Name	DNS name	State	VPC ID	Availability Zones	Type
wordpress-elb	wordpress-elb-441525357.e...	active	vpc-7596f013	eu-west-1c, eu-west-1a...	application

Load balancer: wordpress-elb

Description Listeners Monitoring Tags

Basic Configuration

Name: wordpress-elb
 ARN: arn:aws:elasticloadbalancing:eu-west-1:687011238589:loadbalancer/app/wordpress-elb/08d4de808d7c35b9
 DNS name: wordpress-elb-441525357.eu-west-1.elb.amazonaws.com (A Record)
 Scheme: internet-facing
 Type: application
 Availability Zones: subnet-029b7758 - eu-west-1c, subnet-80f954e6 - eu-west-1a, subnet-c227948a - eu-west-1b

Creation time: April 29, 2018 at 3:07:44 PM UTC+1
 Hosted zone: Z32O12XQLNTSW2
 State: active
 VPC: vpc-7596f013
 IP address type: ipv4
 AWS WAF Web ACL:

Edit availability zones

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Services Resource Groups

Russell Mckendrick Ireland Support

RDS > Instances > wordpress-rds

wordpress-rds

Instance actions

Summary

Engine MariaDB 10.1.31	DB instance class Info db.t2.micro	DB instance status available	Pending maintenance none
---------------------------	---	---------------------------------	-----------------------------

CloudWatch (54) Refresh Add instance to compare Monitoring Last Hour

Legend: | wordpress-rds

Q

< 1 2 3 4 5 6 7 8 9 > ⚙

CPU Utilization (Percent)

DB Connections (Count)

Free Storage Space (MB)

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Services Resource Groups

Russell Mckendrick Ireland Support

File systems

Create file system Actions

Name	File system ID	Metered size	Number of mount targets	Creation date
wordpress-efs	fs-71be2db8	6.0 KiB	3	2018-04-29T14:22:50Z

Other details

Owner ID: 687011238589
 Life cycle state: Available
 Performance mode: General Purpose
 Encrypted: No

Tags

Environment: wordpress Name: wordpress-efs

File system access

DNS name: fs-71be2db8.efs.eu-west-1.amazonaws.com

Amazon EC2 mount instructions
 AWS Direct Connect mount instructions

Mount targets

VPC	Availability Zone	Subnet	IP address	Mount target ID	Network interface ID	Security groups	Life cycle state
vpc-7596f013 - wordpress	eu-west-1b	subnet-ec3e8da4 - wordpress_efs_eu-west-1b	10.0.41.217	fsmt-9588165c	eni-baf3e588	sg-6d924510 - wordpress-efs	Available
	eu-west-1a	subnet-d77fe53b1 - wordpress_efs_eu-west-1a	10.0.40.211	fsmt-9488165d	eni-09471429	sg-6d924510 - wordpress-efs	Available
	eu-west-1c	subnet-8e967ad4 - wordpress_efs_eu-west-1c	10.0.42.46	fsmt-9788165e	eni-cdc751c9	sg-6d924510 - wordpress-efs	Available

```

1. aws-wordpress (bash)
changed: [localhost]

PLAY RECAP *****
localhost                : ok=23  changed=14  unreachable=0  failed=0

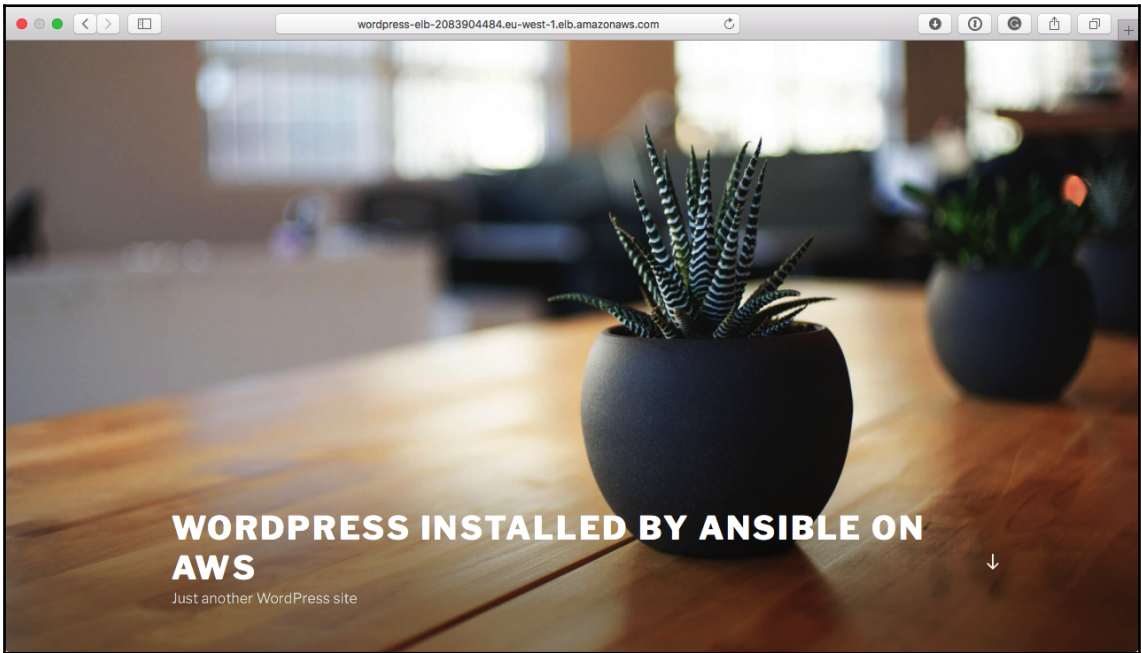
real    18m20.106s
user    1m8.357s
sys     0m20.363s
russ in ~/aws-wordpress

```

```
1. aws-wordpress (bash)
TASK [roles/remove : ensure that the VPC is absent] *****
changed: [localhost]

PLAY RECAP *****
localhost                : ok=23  changed=13  unreachable=0  failed=0

real    11m32.724s
user    0m47.679s
sys     0m15.653s
russ in ~/aws-wordpress
```



eu-west-1.console.aws.amazon.com

Services Resource Groups

Launch Instance Connect Actions

Filter by tags and attributes or search by keyword

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)	IP
wordpress-ec2	i-0103e58a7ca44e0f1	t2.micro	eu-west-1a	running	2/2 checks ...	None	ec2-52-50-139-172.eu-...	52
wordpress-ec2	i-053e302b852908e...	t2.micro	eu-west-1b	running	2/2 checks ...	None	ec2-34-245-45-50.eu-w...	34
wordpress-tmp	i-0a1ddd2b544fb1d99	t2.micro	eu-west-1c	terminated		None		-
wordpress-ec2	i-0fd3311f61d1d789e	t2.micro	eu-west-1c	running	2/2 checks ...	None	ec2-52-211-180-156.eu...	52

Instance: **i-0103e58a7ca44e0f1 (wordpress-ec2)** Public DNS: **ec2-52-50-139-172.eu-west-1.compute.amazonaws.com**

Description Status Checks Monitoring Tags Usage Instructions

Instance ID	i-0103e58a7ca44e0f1	Public DNS (IPv4)	ec2-52-50-139-172.eu-west-1.compute.amazonaws.com
Instance state	running	IPv4 Public IP	52.50.139.172
Instance type	t2.micro	IPv6 IPs	-
Elastic IPs		Private DNS	ip-10-0-10-181.eu-west-1.compute.internal
Availability zone	eu-west-1a	Private IPs	10.0.10.181
Security groups	wordpress-ec2 - view inbound rules	Secondary private IPs	
Scheduled events	No scheduled events	VPC ID	vpc-19fa987f
AMI ID	wordpress-2018-05-06_1519 (ami-3a635643)	Subnet ID	subnet-7d04ab1b
Platform	-	Network interfaces	eth0
IAM role	-	Source/dest. check	True
Key pair name	-	T2 Unlimited	Disabled
Classic link	-		687011293660

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wordpress-elb-2083904484.eu-west-1.elb.amazonaws.com

WordPress installed by Ansible on AWS

Howdy, ansible

Dashboard

Home

- Updates
- Posts
- Media
- Pages
- Comments
- Appearance
- Plugins
- Users
- Tools
- Settings
- Collapse menu

Dashboard

Screen Options Help

At a Glance

1 Post 1 Page

1 Comment

WordPress 4.9.5 running Twenty Seventeen theme.

Activity

Recently Published

Today, 2:19 pm [Hello world!](#)

Recent Comments

From [A WordPress Commenter](#) on [Hello world!](#)
Hi, this is a comment. To get started with moderating, editing, and deleting comments, please visit the Comments screen in...

All (1) | Pending (0) | Approved (1) | Spam (0) | Trash (0)

Quick Draft

Title

What's on your mind?

Save Draft

WordPress Events and News

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Services Resource Groups

Russell Mckendrick Ireland Support

Create Auto Scaling group Actions

Filter: Filter Auto Scaling groups... 1 to 1 of 1 Auto Scaling Groups

Name	Launch Configuration / -	Instances	Desired	Min	Max	Availability Zones	DefaultCooldown	Health Check Grac
wordpress-asg	wordpress-2018-05-06...	3	3	2	9	eu-west-1b, eu-west-1c, eu...	300	300

Auto Scaling Group: wordpress-asg

Details Activity History Scaling Policies Instances Monitoring Notifications Tags Scheduled Actions Lifecycle Hooks

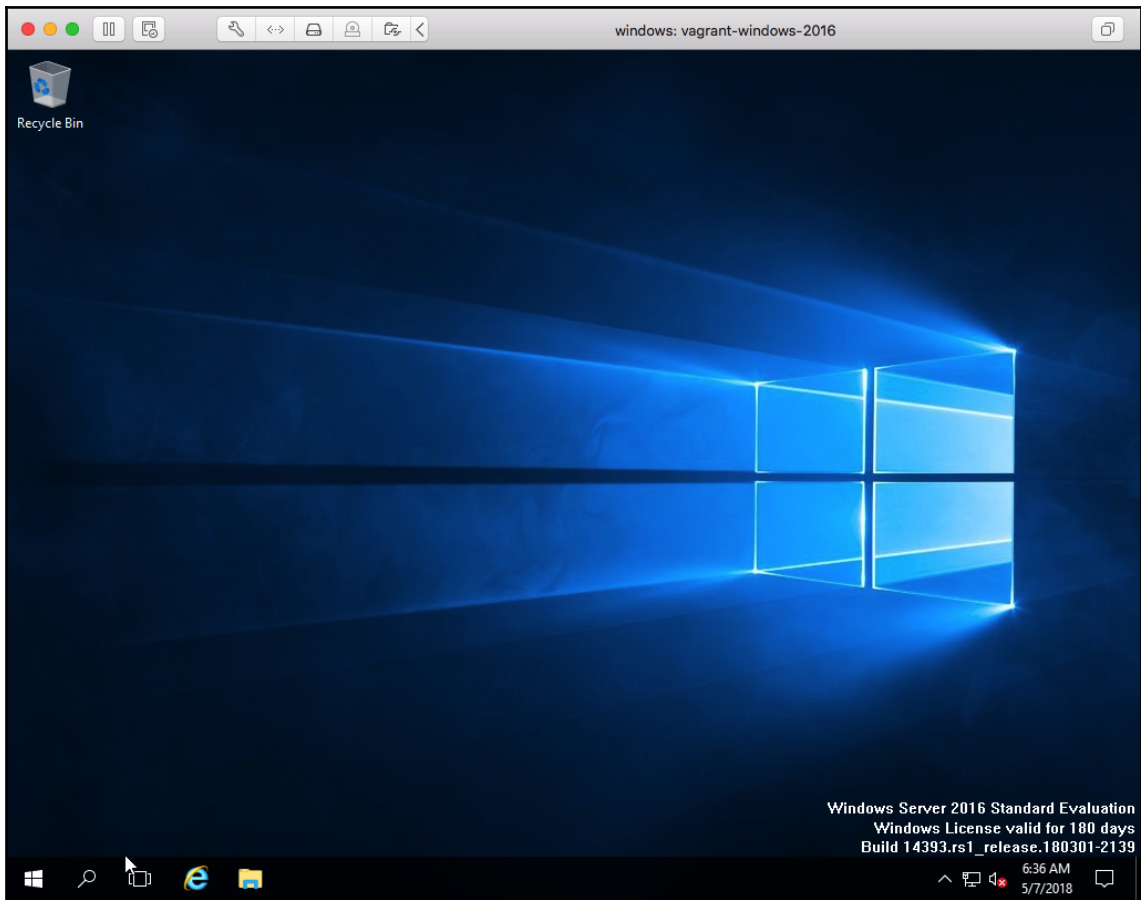
Filter: Any Status Filter scaling history... 1 to 9 of 9 History Items

Status	Description	Start Time	End Time
Successful	Terminating EC2 instance: i-0fd3311f61d1d789e	2018 May 6 15:55:54 UTC+1	2018 May 6 15:57:15 UTC+1
Successful	Terminating EC2 instance: i-053e302b852908e5d	2018 May 6 15:55:54 UTC+1	2018 May 6 15:57:18 UTC+1
Successful	Launching a new EC2 instance: i-0a44454ceab4216f1	2018 May 6 15:54:43 UTC+1	2018 May 6 15:55:16 UTC+1
Successful	Terminating EC2 instance: i-0103e58a7ca44e0f1	2018 May 6 15:54:19 UTC+1	2018 May 6 15:55:37 UTC+1
Successful	Launching a new EC2 instance: i-062139a24092fbae4	2018 May 6 15:53:14 UTC+1	2018 May 6 15:53:47 UTC+1
Successful	Launching a new EC2 instance: i-070de215d571a889a	2018 May 6 15:53:14 UTC+1	2018 May 6 15:53:47 UTC+1

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Chapter 12: Ansible Windows Modules

```
1. windows (bash)
russ in ~/windows
⚡ vagrant up --provider=vmware_fusion
Bringing machine 'vagrant-windows-2016' up with 'vmware_fusion' provider...
==> vagrant-windows-2016: Cloning VMWare VM: 'StefanScherer/windows_2016'. This can take some time..
.
==> vagrant-windows-2016: Checking if box 'StefanScherer/windows_2016' is up to date...
==> vagrant-windows-2016: Verifying vmnet devices are healthy...
==> vagrant-windows-2016: Preparing network adapters...
==> vagrant-windows-2016: Starting the VMWare VM...
==> vagrant-windows-2016: Waiting for the VM to receive an address...
==> vagrant-windows-2016: Forwarding ports...
vagrant-windows-2016: -- 3389 => 3389
vagrant-windows-2016: -- 80 => 8080
vagrant-windows-2016: -- 5985 => 55985
vagrant-windows-2016: -- 5986 => 55986
vagrant-windows-2016: -- 22 => 2222
==> vagrant-windows-2016: Waiting for machine to boot. This may take a few minutes...
vagrant-windows-2016: WinRM address: 127.0.0.1:55985
vagrant-windows-2016: WinRM username: vagrant
vagrant-windows-2016: WinRM execution_time_limit: PT2H
vagrant-windows-2016: WinRM transport: negotiate
==> vagrant-windows-2016: Machine booted and ready!
==> vagrant-windows-2016: Configuring network adapters within the VM...
==> vagrant-windows-2016: Configuring secondary network adapters through VMWare
==> vagrant-windows-2016: on Windows is not yet supported. You will need to manually
==> vagrant-windows-2016: configure the network adapter.
russ in ~/windows
⚡
```

```
1. windows (bash)
russ in ~/windows
⚡ ansible windows -i production -m win_ping
objc[29981]: +[__NSPlaceholderDate initialize] may have been in progress in another thread when fork
() was called.
objc[29981]: +[__NSPlaceholderDate initialize] may have been in progress in another thread when fork
() was called. We cannot safely call it or ignore it in the fork() child process. Crashing instead.
Set a breakpoint on objc_initializeAfterForkError to debug.
^C [ERROR]: User interrupted execution

russ in ~/windows
⚡
```

```
1. windows (bash)
russ in ~/windows
⚡ ansible windows -i production -m win_ping
box1 | SUCCESS => {
  "changed": false,
  "ping": "pong"
}
russ in ~/windows
⚡
```

```
1. windows (bash)
russ in ~/windows
⚡ ansible windows -i production -m setup
box1 | SUCCESS => {
  "ansible_facts": {
    "ansible_architecture": "64-bit",
    "ansible_bios_date": "05/18/2017",
    "ansible_bios_version": "6.00",
    "ansible_date_time": {
      "date": "2018-05-07",
      "day": "07",
      "epoch": "1525680058.96767",
      "hour": "08",
      "iso8601": "2018-05-07T15:00:58Z",
      "iso8601_basic": "20180507T080058951799",
      "iso8601_basic_short": "20180507T080058",
      "iso8601_micro": "2018-05-07T15:00:58.951799Z",
      "minute": "00",
      "month": "05",
      "second": "58",
      "time": "08:00:58",
      "tz": "Pacific Standard Time",
      "tz_offset": "-07:00",
      "weekday": "Monday",
      "weekday_number": "1",
      "weeknumber": "18",
      "year": "2018"
    },
    "ansible_distribution": "Microsoft Windows Server 2016 Standard Evaluation",
    "ansible_distribution_major_version": "10",
    "ansible_distribution_version": "10.0.14393.0",
    "ansible_domain": "",
    "ansible_env": {
      "ALLUSERSPROFILE": "C:\\ProgramData",

```

```
1. windows (bash)
russ in ~/windows
⚡ ansible-playbook -i production playbook01.yml

PLAY [windows] *****

TASK [Gathering Facts] *****
ok: [box1]

TASK [debug] *****
ok: [box1] => {
  "msg": "I am connecting to vagrant. which is running Microsoft Windows Server 2016 Standard Eval
uation 10.0.14393.0"
}

PLAY RECAP *****
box1          : ok=2    changed=0    unreachable=0    failed=0

russ in ~/windows
⚡
```

```
1. web (bash)
russ in ~/windows/web
⚡ ansible-playbook -i production site.yml

PLAY [windows] *****

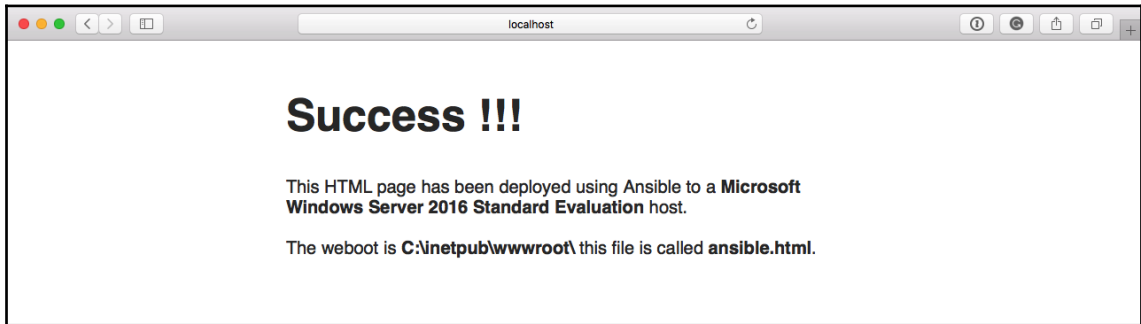
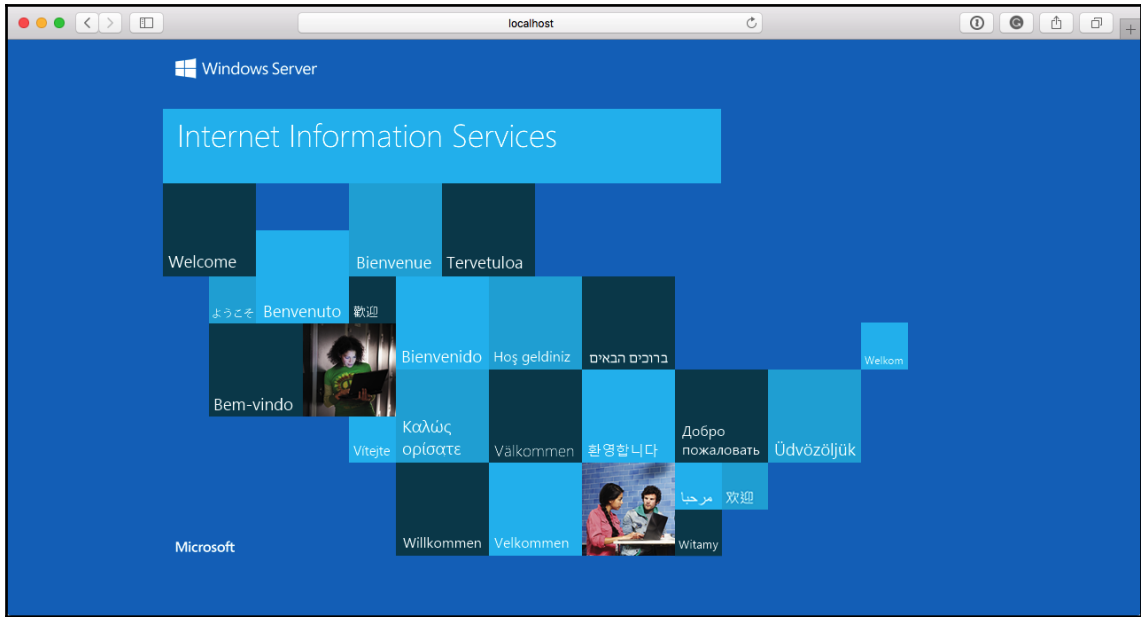
TASK [Gathering Facts] *****
ok: [box1]

TASK [roles/iis : enable IIS] *****
changed: [box1]

TASK [roles/iis : create an html file from a template] *****
changed: [box1]

PLAY RECAP *****
box1          : ok=3    changed=2    unreachable=0    failed=0

russ in ~/windows/web
⚡
```



```
1. web (bash)
⚡ ansible-playbook -i production site.yml

PLAY [windows] *****
TASK [Gathering Facts] *****
ok: [box1]

TASK [roles/iis : enable IIS] *****
ok: [box1]

TASK [roles/iis : create an html file from a template] *****
ok: [box1]

TASK [roles/asp : enable .net] *****
changed: [box1]

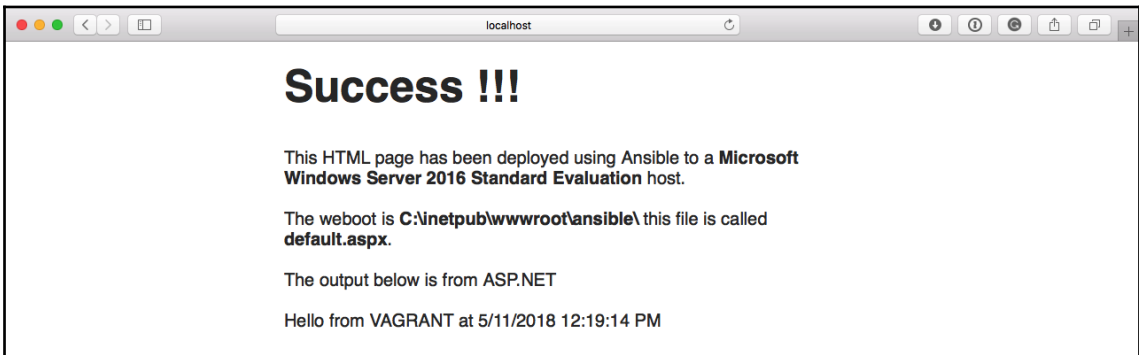
TASK [roles/asp : create the folder for our asp.net app] *****
changed: [box1]

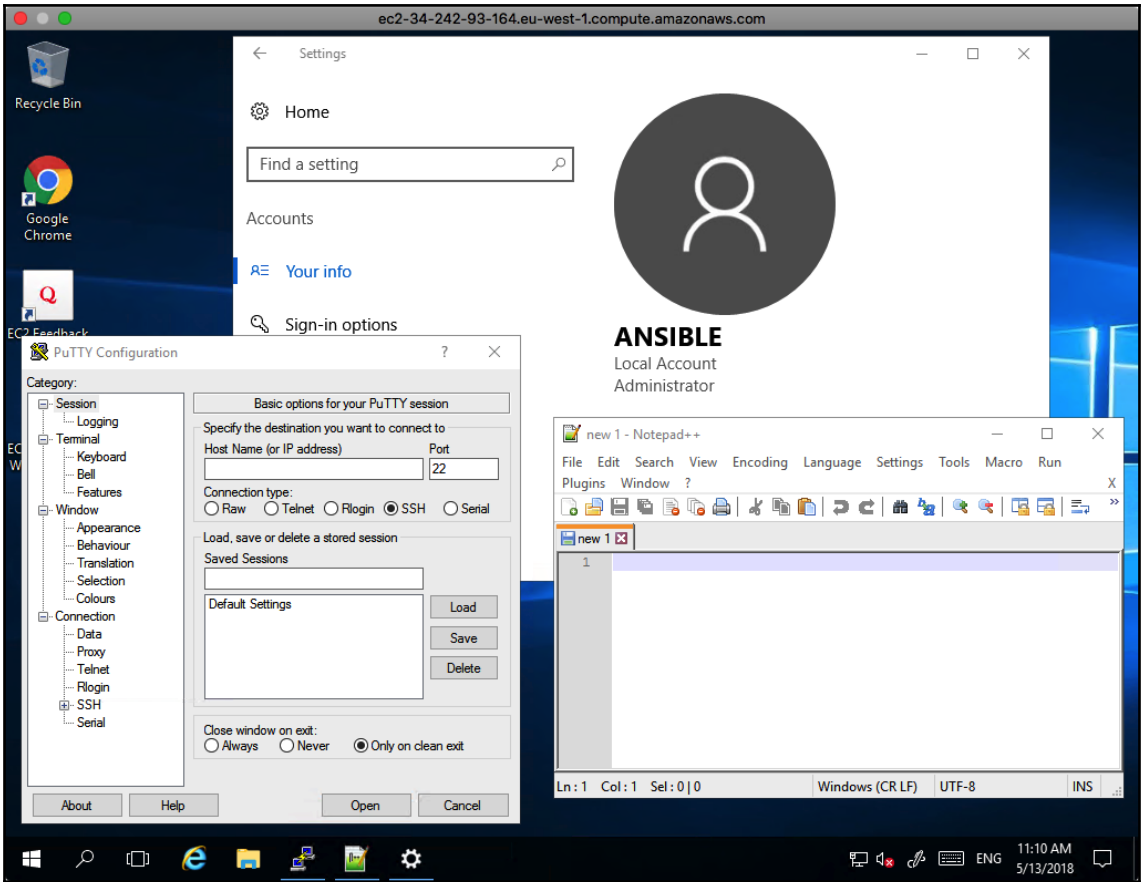
TASK [roles/asp : create an aspx file from a template] *****
changed: [box1]

TASK [roles/asp : ensure the default web application exists] *****
changed: [box1]

RUNNING HANDLER [roles/asp : restart iis] *****
changed: [box1]

PLAY RECAP *****
box1 : ok=8    changed=5    unreachable=0    failed=0
```





Chapter 13: Hardening Your Servers Using Ansible and OpenSCAP

```
1. vagrant@10:~ (ssh)
[vagrant@10 ~]$ ls /usr/share/xml/scap/ssg/content/
ssg-centos6-ds.xml          ssg-jre-cpe-dictionary.xml  ssg-rhel6-oval.xml
ssg-centos6-xccdf.xml     ssg-jre-cpe-oval.xml       ssg-rhel6-xccdf.xml
ssg-centos7-ds.xml        ssg-jre-ds.xml             ssg-rhel7-cpe-dictionary.xml
ssg-centos7-xccdf.xml     ssg-jre-ocil.xml           ssg-rhel7-cpe-oval.xml
ssg-firefox-cpe-dictionary.xml ssg-jre-oval.xml          ssg-rhel7-ds.xml
ssg-firefox-cpe-oval.xml  ssg-jre-xccdf.xml          ssg-rhel7-ocil.xml
ssg-firefox-ds.xml        ssg-rhel6-cpe-dictionary.xml ssg-rhel7-oval.xml
ssg-firefox-ocil.xml      ssg-rhel6-cpe-oval.xml     ssg-rhel7-xccdf.xml
ssg-firefox-oval.xml      ssg-rhel6-ds.xml
ssg-firefox-xccdf.xml     ssg-rhel6-ocil.xml
```

Evaluation Characteristics

Evaluation target	10.20.30.40.nip.io
Benchmark URL	/usr/share/xml/scap/ssg/content/ssg-centos7ds.xml
Benchmark ID	xccdf_org.ssgproject.content_benchmark_RH7
Profile ID	xccdf_org.ssgproject.content_profile_pci-dss
Started at	2018-05-16T08:16:52
Finished at	2018-05-16T08:17:48
Performed by	vagrant

CPE Platforms

- cpe:/o:centos:centos:7
- cpe:/o:redhat:enterprise_linux:7
- cpe:/o:redhat:enterprise_linux:7:cl
- cpe:/o:redhat:enterprise_linux:7:cl

Addresses

- IPv4 127.0.0.1
- IPv4 172.16.117.132
- IPv4 10.20.30.40
- IPv6 0:0:0:0:0:0:1
- IPv6 fe80:0:0:0:455f:df89:ba88:9280
- IPv6 fe80:0:0:0:20c:29ff:febb:a365
- MAC 00:00:00:00:00:00
- MAC 00:0C:29:BB:A3:5B
- MAC 00:0C:29:BB:A3:65

Compliance and Scoring

The target system did not satisfy the conditions of 51 rules! Please review rule results and consider applying remediation.

Rule results

43 passed51 failed

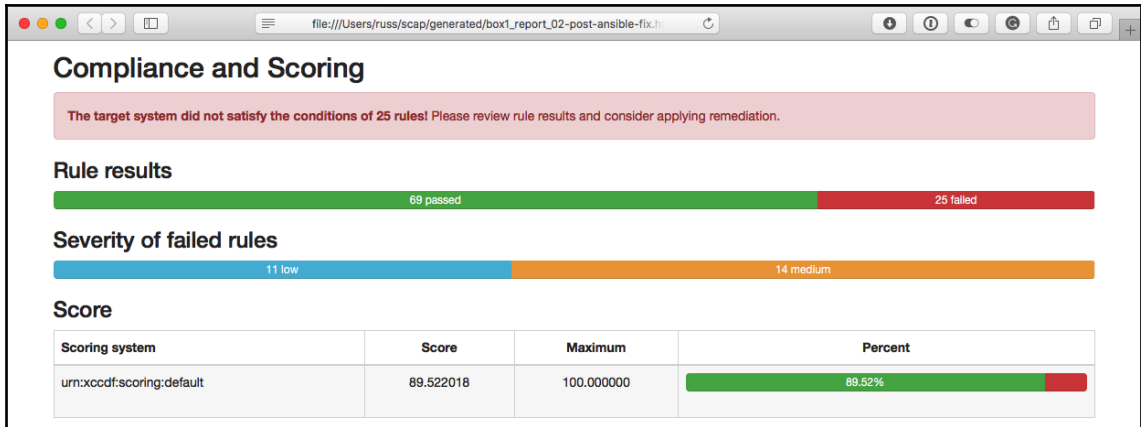
Severity of failed rules

22 low28 medium

1

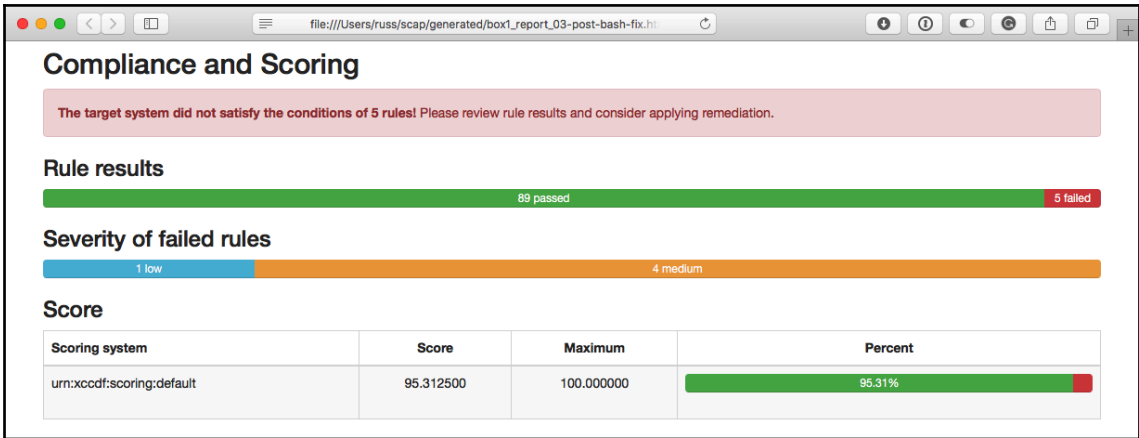
Score

Scoring system	Score	Maximum	Percent
urn:xccdf:scoring:default	52.762619	100.000000	<div style="display: flex; align-items: center; justify-content: center; width: 100%;"> <div style="width: 52.76%; height: 15px; background-color: #28a745; margin-right: 5px;"></div> 52.76% <div style="width: 47.24%; height: 15px; background-color: #dc3545; margin-left: 5px;"></div> </div>



Set SSH Idle Timeout Interval

Rule ID	xccdf_org.ssgproject.content_rule_sshd_set_idle_timeout
Result	fail
Time	2018-05-16T15:49:46
Severity	low
Identifiers and References	References: SV-86861r2_rule , AC-2(5) , SA-8(0) , AC-12 , CCI-001133 , CCI-002361 , SRG-OS-000163-GPOS-00072 , SRG-OS-000279-GPOS-00109 , Req-8.1.8 , 5.2.12 , 5.5.6 , 3.1.11
Description	<p>SSH allows administrators to set an idle timeout interval. After this interval has passed, the idle user will be automatically logged out.</p> <p>To set an idle timeout interval, edit the following line in <code>/etc/ssh/sshd_config</code> as follows:</p> <pre>ClientAliveInterval interval</pre> <p>The timeout <code>interval</code> is given in seconds. To have a timeout of 10 minutes, set <code>interval</code> to 600.</p> <p>If a shorter timeout has already been set for the login shell, that value will preempt any SSH setting made here. Keep in mind that some processes may stop SSH from correctly detecting that the user is idle.</p>
Rationale	Terminating an idle ssh session within a short time period reduces the window of opportunity for unauthorized personnel to take control of a management session enabled on the console or console port that has been let unattended.
Remediation Shell script:	(show)
Remediation Ansible snippet:	(show)



```

1. scap (bash)
russ in ~/scap
⚡ ansible-playbook -i production --tags "scan" --extra-vars "report_name=scan-only" site.yml

PLAY [scap] *****

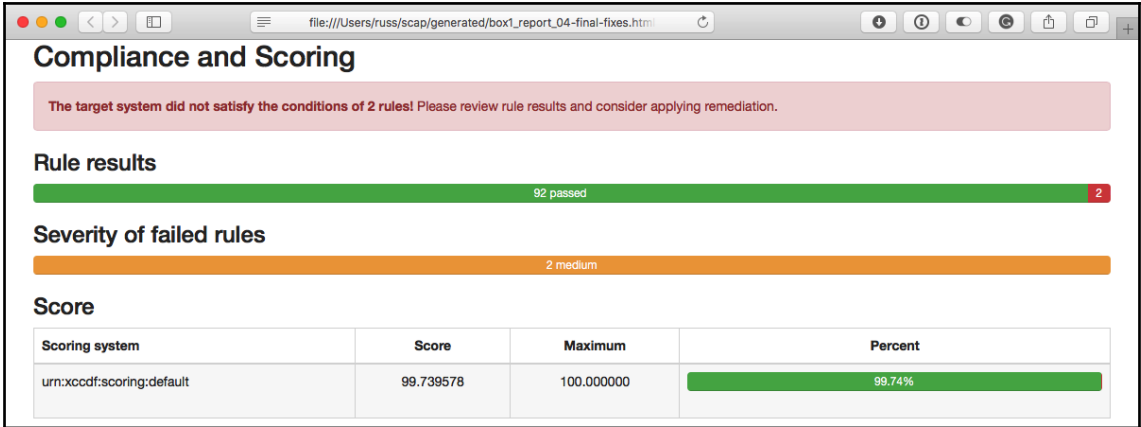
TASK [Gathering Facts] *****
ok: [box1]

TASK [install : update all of the installed packages] *****
ok: [box1]

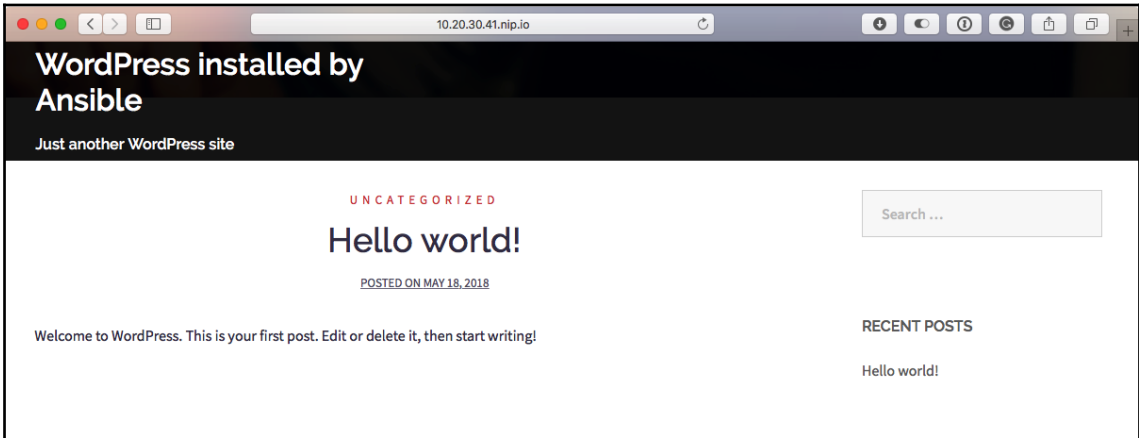
TASK [install : install the packages needed] *****
ok: [box1] => (item=openscap-scanner)
ok: [box1] => (item=scap-security-guide)

TASK [scan : run the openscap scan] *****
fatal: [box1]: FAILED! => {"changed": true, "cmd": ["oscap", "xccdf", "eval", "--profile", "xccdf_or_g.ssgproject.content_profile_pci-dss", "--fetch-remote-resources", "--results-arf", "/tmp/box1_resul
ts_scan-only.xml", "--report", "/tmp/box1_report_scan-only.html", "/usr/share/xml/scap/ssg/content/s
sg-centos7-ds.xml"], "delta": "0:00:55.750166", "end": "2018-05-16 17:12:22.514364", "msg": "non-zer
o return code", "rc": 2, "start": "2018-05-16 17:11:26.764198", "stderr": "Downloading: https://www.

```



Chapter 14: Deploying WPScan and OWASP ZAP



```
1. chapter14 (bash)
ansible-playbook -i production site.yml
PLAY [scan] *****
TASK [Gathering Facts] *****
ok: [box1]
TASK [roles/wpscan : pull the image] *****
changed: [box1]
TASK [roles/wpscan : create the folder which we will mount inside the container] *****
changed: [box1]
TASK [roles/wpscan : run the scan] *****
ok: [box1] => (item=box2)
TASK [roles/wpscan : download the html report] *****
changed: [box1] => (item=box2)
PLAY RECAP *****
box1 : ok=5 changed=3 unreachable=0 failed=0
```

```
10.20.30.41.nip.io-2018-05-19-13-04.txt — chapter14
FOLDERS
└─ chapter14
  └─ .vagrant
  └─ generated
     └─ 10.20.30.41.nip.io-2018-05-19-13-04.txt
        └─ group_vars
        └─ roles
           └─ production
              └─ site.yml
              └─ Vagrantfile

10.20.30.41.nip.io-2018-05-19-13-04.txt x
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
WordPress Security Scanner
WordPress Security Scanner by the WPSecan Team
Version 2.9.4-dev
Sponsored by Sucuri - https://sucuri.net
@_WPSecan_, @ethicalhack3r, @erwan_lr, @FireFart_

[i] Updating the Database ...
[i] Update completed.
[+] URL: http://10.20.30.41.nip.io/
[+] Started: Sat May 19 13:05:10 2018

[+] Interesting header: LINK: <http://10.20.30.41.nip.io/wp-json/>;
rel="https://api.w.org/"
[+] Interesting header: SERVER: nginx/1.13.12
[+] Interesting header: X-CONTENT-TYPE-OPTIONS: nosniff
[+] Interesting header: X-FRAME-OPTIONS: SAMEORIGIN
[+] Interesting header: X-XSS-PROTECTION: 1; mode=block
[+] XML-RPC Interface available under: http://10.20.30.41.nip.io/xmlrpc.php

[+] WordPress version 4.9.6 (Released on 2018-05-17) identified from advanced
fingerprinting, meta generator, Links opml, stylesheets numbers

[+] WordPress theme in use: sydney - v1.45

[+] Name: sydney - v1.45
    | Latest version: 1.45 (up to date)
    | Last updated: 2018-02-13T00:00:00.000Z
    | Location: http://10.20.30.41.nip.io/wp-content/themes/sydney/

Line 1, Column 1 Spaces: 4 Plain Text
```

```
2. chapter14 (bash)
⚡ ansible-playbook -i production site.yml

PLAY [scan] *****
TASK [Gathering Facts] *****
ok: [box1]

TASK [roles/zap : pull the image] *****
changed: [box1]

TASK [roles/zap : create the folder which we will mount inside the container] *****
changed: [box1]

TASK [roles/zap : run the scan] *****
ok: [box1] => (item=box2)

TASK [roles/zap : download the html report] *****
changed: [box1] => (item=box2)

PLAY RECAP *****
box1 : ok=5 changed=3 unreachable=0 failed=0
```

file:///Users/russ/Documents/Code/learn-ansible-func

ZAP Scanning Report

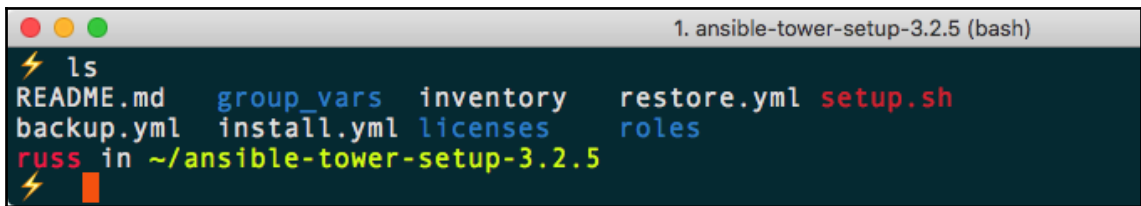
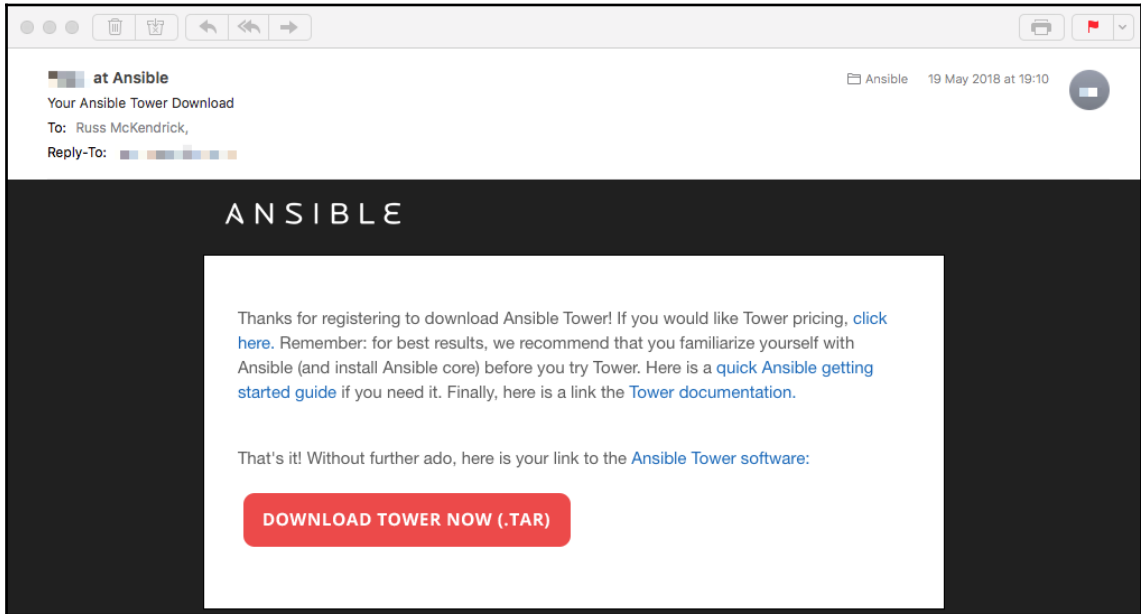
Summary of Alerts

Risk Level	Number of Alerts
High	0
Medium	1
Low	3
Informational	2

Alert Detail

Medium (Medium)	Multiple X-Frame-Options Header Entries
Description	X-Frame-Options (XFO) headers were found, a response with multiple XFO header entries may not be predictably treated by all user-agents.
URL	http://10.20.30.41.nip.io/wp-login.php
Method	POST
Parameter	X-Frame-Options
URL	http://10.20.30.41.nip.io/wp-login.php?action=lostpassword
Method	POST
Parameter	X-Frame-Options
URL	http://10.20.30.41.nip.io/wp-login.php

Chapter 15: Introducing Ansible Tower and Ansible AWX



```
1. ansible-tower-setup-3.2.5 (bash)
changed: [10.20.30.40.nip.io] => (item=tower)

TASK [misc : Create the default organization if it is needed.] *****
changed: [10.20.30.40.nip.io]

RUNNING HANDLER [supervisor : restart supervisor] *****
changed: [10.20.30.40.nip.io] => {
  "msg": "Restarting supervisor."
}

RUNNING HANDLER [supervisor : Stop supervisor.] *****
changed: [10.20.30.40.nip.io]

RUNNING HANDLER [supervisor : Wait for supervisor to stop.] *****
ok: [10.20.30.40.nip.io]

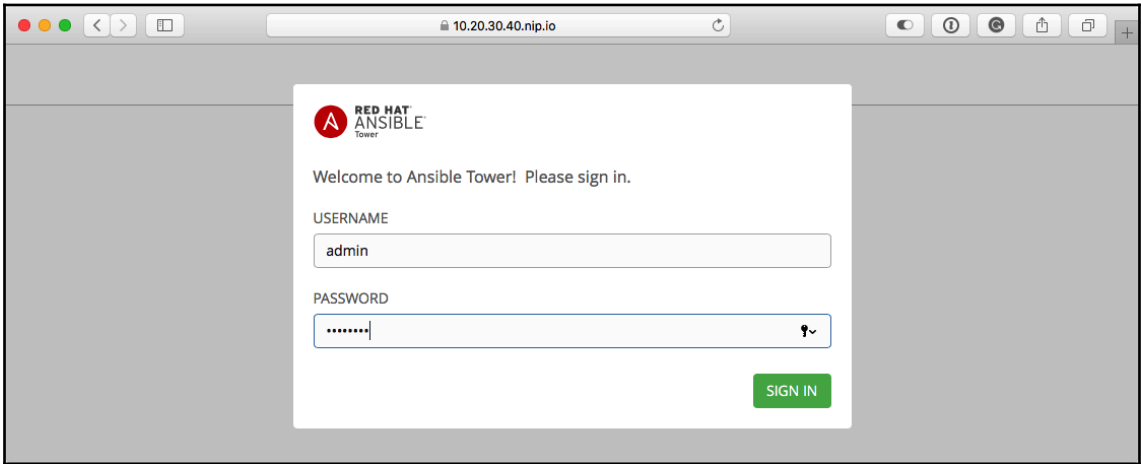
RUNNING HANDLER [supervisor : Start supervisor.] *****
changed: [10.20.30.40.nip.io]

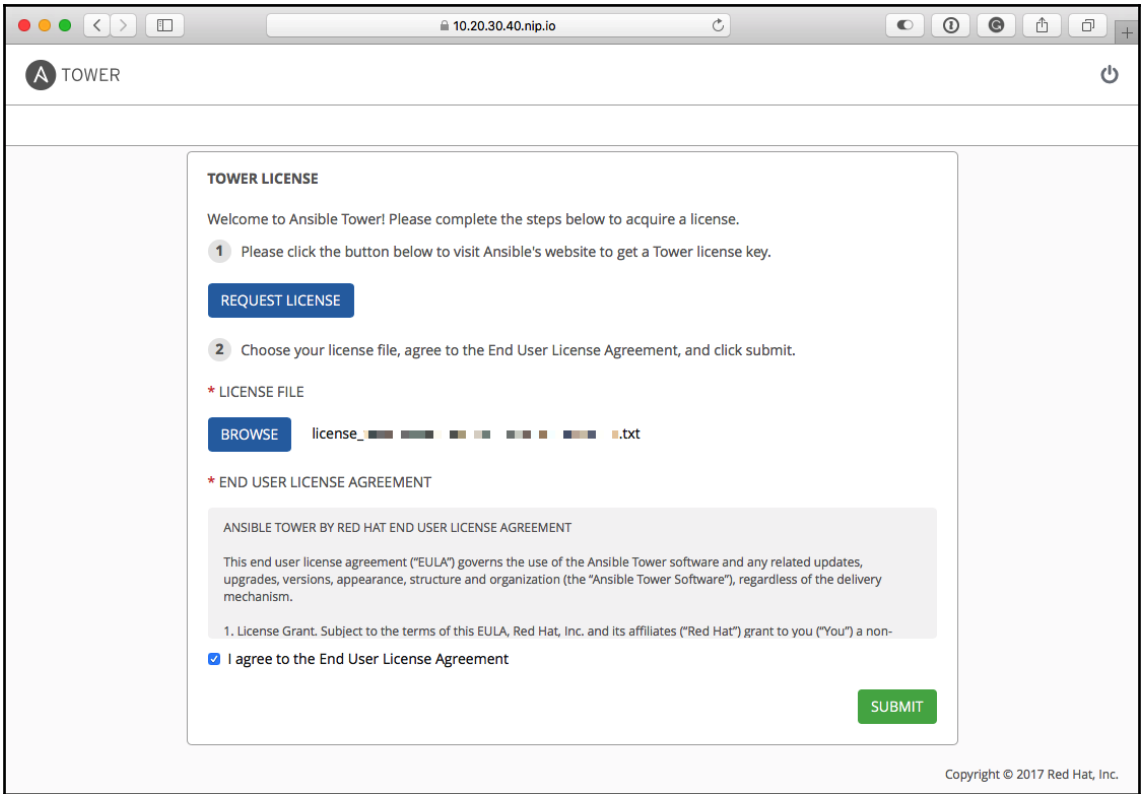
RUNNING HANDLER [nginx : restart nginx] *****
changed: [10.20.30.40.nip.io]

PLAY [Install Tower isolated node(s)] *****
skipping: no hosts matched

PLAY RECAP *****
10.20.30.40.nip.io : ok=137 changed=66 unreachable=0 failed=0

russ in ~/ansible-tower-setup-3.2.5
```





10.20.30.40.nip.io

TOWER PROJECTS INVENTORIES TEMPLATES JOBS admin

DASHBOARD

1 HOSTS 0 FAILED HOSTS 1 INVENTORIES 0 INVENTORY SYNC FAILURES 1 PROJECTS 0 PROJECT SYNC FAILURES

JOB STATUS PERIOD: PAST MONTH JOB TYPE: ALL VIEW: ALL

RECENTLY USED JOB TEMPLATES
No job templates were recently used. You can create a job template here.

RECENTLY RUN JOBS
No jobs were recently run.

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10.20.30.40.nip.io

TOWER PROJECTS INVENTORIES TEMPLATES JOBS admin

PROJECTS

PROJECTS 1

SEARCH [] KEY [] + ADD

NAME ^	TYPE ⇅	REVISION ⇅	LAST UPDATED	ACTIONS
● Demo Project	Git	347e44f []	2/6/2018 15:16:10	[] [] [] []

ITEMS 1 - 1

The screenshot shows the Ansible Tower web interface. The top navigation bar includes 'TOWER', 'PROJECTS', 'INVENTORIES', 'TEMPLATES', and 'JOBS'. The user is logged in as 'admin'. The main content area is titled 'JOBS / 2 - Demo Job Template'. On the left, a 'DETAILS' sidebar shows the job status as 'Successful', started on 2/6/2018 at 15:22:02, and finished at 15:22:10. The job type is 'Run', launched by 'admin', and uses the 'Demo Job Template'. The right pane shows the job execution log for 'Demo Job Template', which includes a search bar and a list of tasks. The tasks are: 1. PLAY [Hello World Sample] (15:22:08), 2. TASK [Gathering Facts] (15:22:09), 3. TASK [Hello Message] (15:22:10), and 13. PLAY RECAP (15:22:10) showing 2 OK, 0 changed, 0 unreachable, and 0 failed. The log also shows the output of the 'Hello Message' task: 'ok: [localhost] => { "msg": "Hello World!" }'. A copyright notice for Red Hat, Inc. is visible at the bottom right.

```

1. ansible-tower-setup-3.2.5 (bash)
Successfully uninstalled boto3-1.5.72
Found existing installation: futures 3.1.1
Uninstalling futures-3.1.1:
Successfully uninstalled futures-3.1.1
Found existing installation: s3transfer 0.1.10
Uninstalling s3transfer-0.1.10:
Successfully uninstalled s3transfer-0.1.10
Found existing installation: boto3 1.4.4
Uninstalling boto3-1.4.4:
Successfully uninstalled boto3-1.4.4
Successfully installed boto-2.48.0 boto3-1.7.31 botocore-1.10.31 docutils-0.14 futures-3.2.0 python-
dateutil-2.7.3 s3transfer-0.1.13
You are using pip version 9.0.1, however version 10.0.1 is available.
You should consider upgrading via the 'pip install --upgrade pip' command.
(ansible) [root@10 ~]# deactivate
[root@10 ~]# exit
logout
[vagrant@10 ~]# exit
logout
Connection to 127.0.0.1 closed.
russ in ~/ansible-tower-setup-3.2.5

```

PROJECTS 2

SEARCH

NAME ^	TYPE ^	REVISION ^	LAST UPDATED	ACTIONS
● AWS Project	Git	2c54f2e <input type="button" value="copy"/>	3/6/2018 10:23:07	<input type="button" value="add"/> <input type="button" value="delete"/> <input type="button" value="edit"/>
● Demo Project	Git	347e44f <input type="button" value="copy"/>	2/6/2018 15:22:02	<input type="button" value="add"/> <input type="button" value="delete"/> <input type="button" value="edit"/>

ITEMS 1 - 2

SETTINGS

ORGANIZATIONS

Group all of your content to manage permissions across departments in your company.

USERS

Allow others to sign into Tower and own the content they create.

TEAMS

Split up your organization to associate content and control permissions for groups.

CREDENTIALS

Add passwords, SSH keys, and other credentials to use when launching jobs against machines, or when syncing inventories or projects.

CREDENTIAL TYPES

Create custom credential types to be used for authenticating to network hosts and cloud sources

MANAGEMENT JOBS

Manage the cleanup of old job history, activity streams, data marked for deletion, and system tracking info.

INVENTORY SCRIPTS

Create and edit scripts to dynamically load hosts from any source.

NOTIFICATIONS

Create templates for sending notifications with Email, HipChat, Slack, and SMS.

INSTANCE GROUPS

View list and capacity of Tower instances.

CONFIGURE TOWER

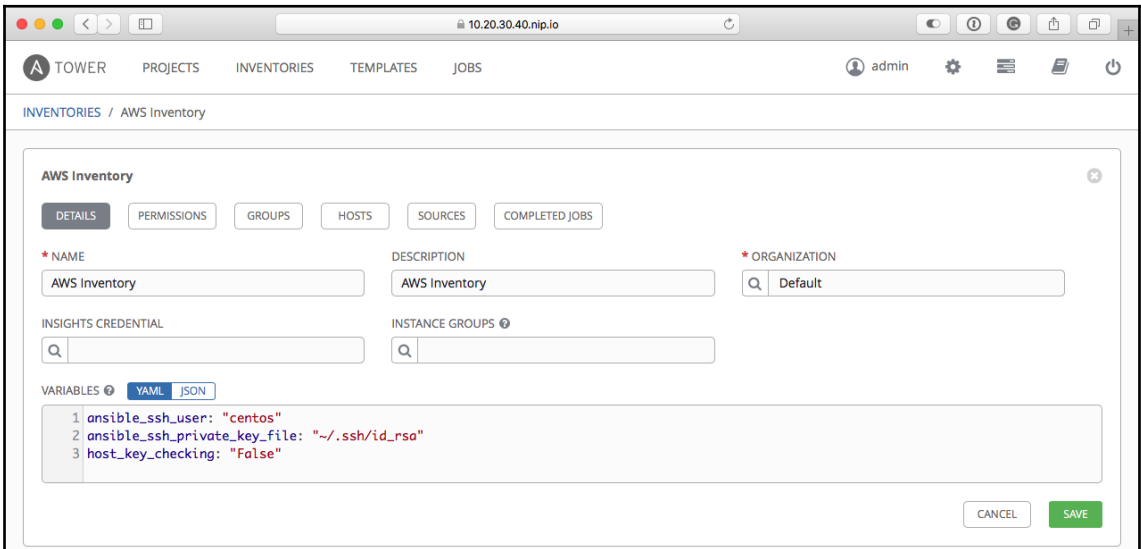
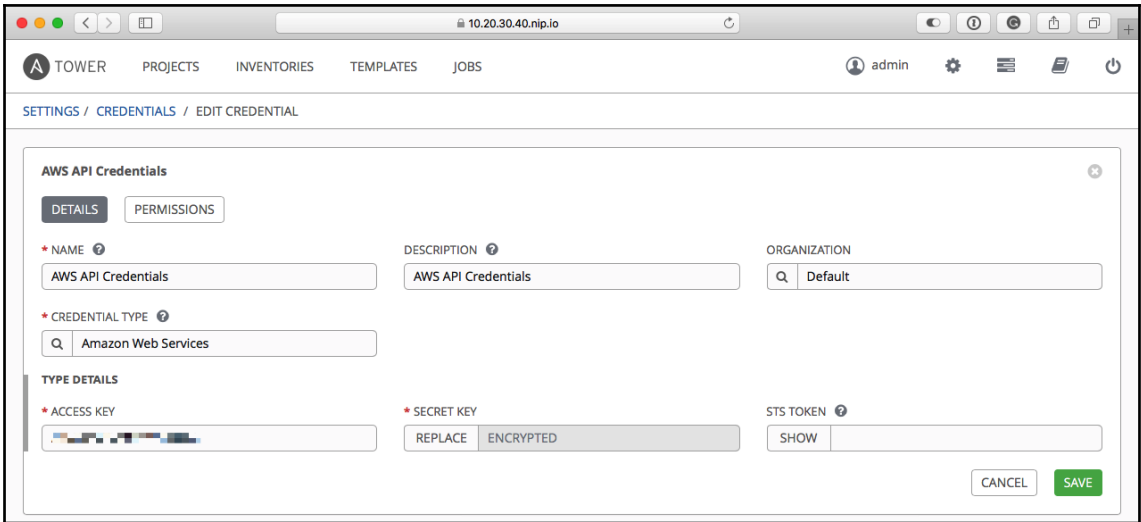
Edit Tower's configuration.

ABOUT TOWER

View information about this version of Ansible Tower.

VIEW YOUR LICENSE

View and edit your license information.



10.20.30.40.nip.io

TOWER PROJECTS INVENTORIES TEMPLATES JOBS admin

INVENTORIES / AWS Inventory / GROUPS

AWS Inventory

DETAILS PERMISSIONS **GROUPS** HOSTS SOURCES COMPLETED JOBS

SEARCH Q KEY RUN COMMANDS + ADD GROUP

GROUPS ACTIONS

- already_running
- ec2_instance

ITEMS 1 - 2

10.20.30.40.nip.io

TOWER PROJECTS INVENTORIES TEMPLATES JOBS admin

JOBS / 12 - AWS - Launch

DETAILS

STATUS ● Successful

STARTED 3/6/2018 11:32:07

FINISHED 3/6/2018 12:11:37

TEMPLATE AWS - Launch

JOB TYPE Run

LAUNCHED BY admin

INVENTORY AWS Inventory

PROJECT ● AWS Project

REVISION 2c54f2e

PLAYBOOK site.yml

MACHINE CREDENTIAL Demo Credential

EXTRA CREDENTIALS AWS API Credentials

FORKS 0

VERBOSITY 0 (Normal)

INSTANCE GROUP tower

AWS - Launch PLAYS 3 TASKS 83 HOSTS 2 ELAPSED 00:39:30

SEARCH Q KEY

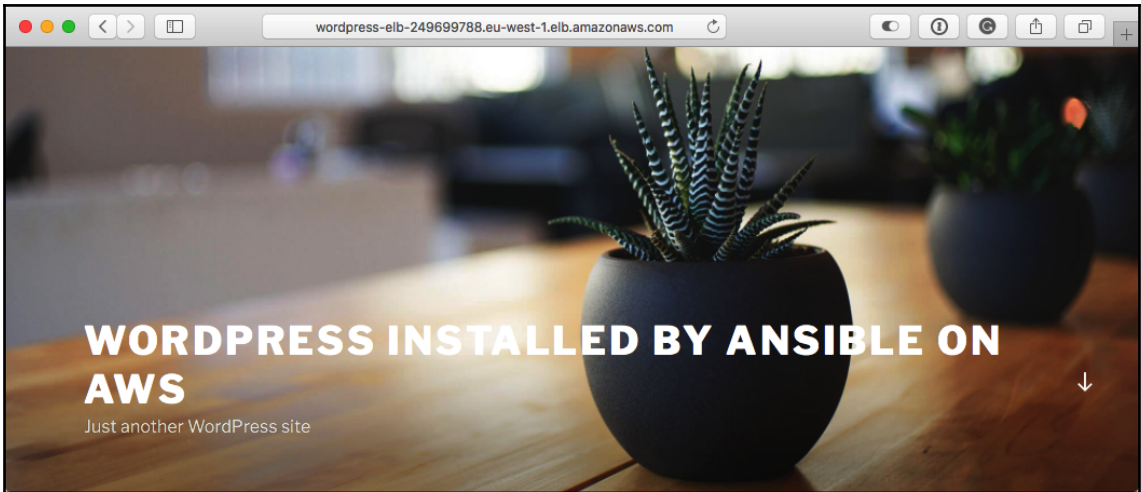
```

269
270 TASK [roles/autoscaling : create / update the auto-scaling group using the la
unch configuration we just created] *** 12:08:41
271 changed: [localhost]
272
273 TASK [roles/autoscaling : remove any tmp instances which are running] *****
*** 12:10:33
274 changed: [localhost]
275
276 PLAY RECAP *****
*** 12:11:36
277 ec2-34-247-37-31.eu-west-1.compute.amazonaws.com : ok=32 changed=25
unreachable=0 failed=0
278 localhost : ok=47 changed=19 unreachable=0 failed=0
279

```

TOP

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```
1. awx (bash)
TASK [roles/awx : install the python packages] *****
changed: [box] => (item=ansible)
changed: [box] => (item=boto)
changed: [box] => (item=boto3)
ok: [box] => (item=botocore)

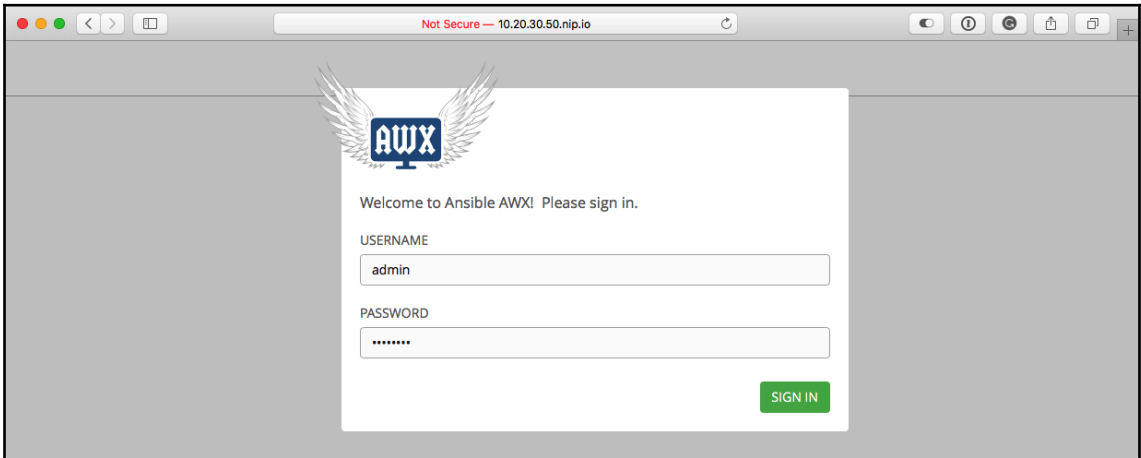
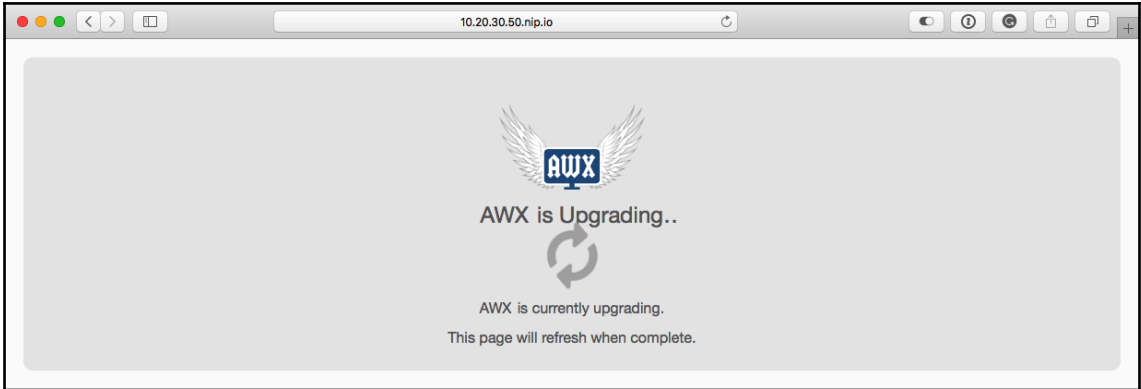
TASK [roles/awx : check out the awx repo] *****
changed: [box]

TASK [roles/awx : check out the awx logos repo] *****
changed: [box]

TASK [roles/awx : install awx] *****
changed: [box]

PLAY RECAP *****
box                : ok=14  changed=13  unreachable=0  failed=0

russ in ~/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter15/awx on master*
```



The screenshot shows the AWX Dashboard interface. At the top, the browser address bar displays "Not Secure - 10.20.30.50.nip.io". The user is logged in as "admin". The dashboard features a sidebar with navigation options: DASHBOARD, JOBS, SCHEDULES, PORTAL MODE, RESOURCES (TEMPLATES, CREDENTIALS, PROJECTS, INVENTORIES, INVENTORY SCRIPTS), ACCESS (ORGANIZATIONS, USERS, TEAMS), and ADMINISTRATION.

The main content area is titled "DASHBOARD" and contains several summary cards:

- HOSTS: 1
- FAILED HOSTS: 0
- INVENTORIES: 1
- INVENTORY SYNC FAILURES: 0
- PROJECTS: 1
- PROJECT SYNC FAILURES: 0

Below these cards is a "JOB STATUS" section with a line graph. The graph shows a flat line at 0 on the y-axis (labeled "JOBS") over time (x-axis) from May 3 to Jun 3. The y-axis ranges from -1 to 1. The x-axis has markers for May 3, May 8, May 13, May 18, May 23, May 28, and Jun 3. The graph includes filters for PERIOD (PAST MONTH), JOB TYPE (ALL), and VIEW (ALL).

At the bottom of the dashboard, there are two sections:

- RECENTLY USED JOB TEMPLATES:** No job templates were recently used. You can create a job template [here](#).
- RECENTLY RUN JOBS:** No jobs were recently run.

The screenshot shows the AWX Templates page. The browser address bar displays "Not Secure - 10.20.30.50.nip.io". The user is logged in as "admin". The sidebar navigation is the same as in the dashboard view.

The main content area is titled "TEMPLATES" and shows a list of templates. At the top, there is a search bar and a "KEY" button. A green "+" button is visible on the right.

The list contains one template:

TEMPLATES 1	
Demo Template	JOB TEMPLATE
INVENTORY	Demo Inventory
PROJECT	Demo Project
CREDENTIALS	DEMO CREDENTIAL
LAST MODIFIED	3/6/2018 16:38:30 by admin

At the bottom right of the list, it says "ITEMS 1 - 1".

Not Secure — 10.20.30.50.nip.io

admin

AWX

JOBS / 2 - Demo Template

DETAILS

STATUS ● Successful

STARTED 3/6/2018 16:41:19

FINISHED 3/6/2018 16:41:20

JOB TEMPLATE Demo Template

JOB TYPE Run

LAUNCHED BY admin

INVENTORY Demo Inventory

PROJECT Demo Project

PLAYBOOK hello_world.yml

MACHINE CREDENTIAL Demo Credential

EXTRA VARIABLES YAML JSON EXPAND

```
1 ---
```

Demo Template

PLAYS 1 TASKS 2 HOSTS 1 ELAPSED 00:00:13

SEARCH Q KEY

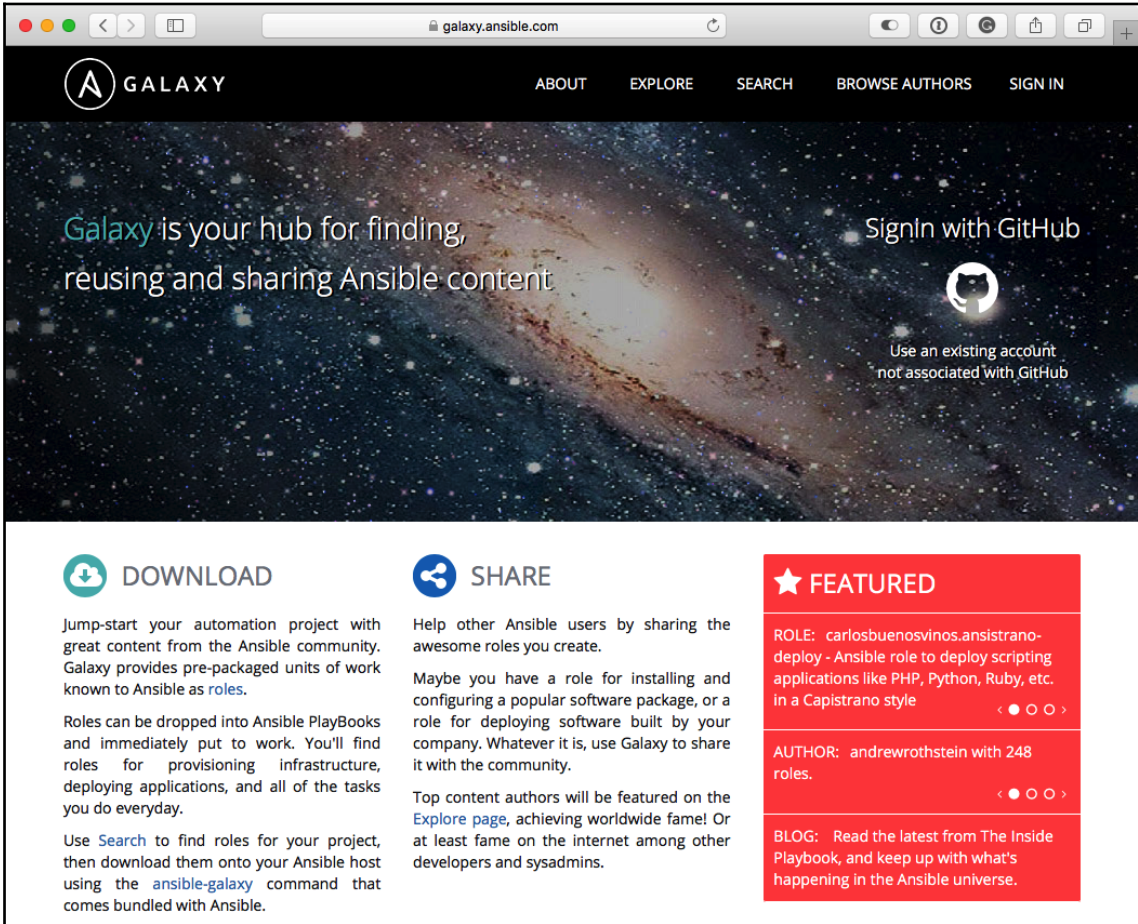
```

1
2 PLAY [Hello World Sample] ***** 16:41:19
3 *****
4 TASK [Gathering Facts] ***** 16:41:19
5 *****
6 ok: [localhost]
7
8 TASK [Hello Message] ***** 16:41:20
9 *****
10 ok: [localhost] => {
11   "msg": "Hello World!"
12 }
13 PLAY RECAP ***** 16:41:20
14 localhost          : ok=2   changed=0  u
nreachable=0   failed=0

```

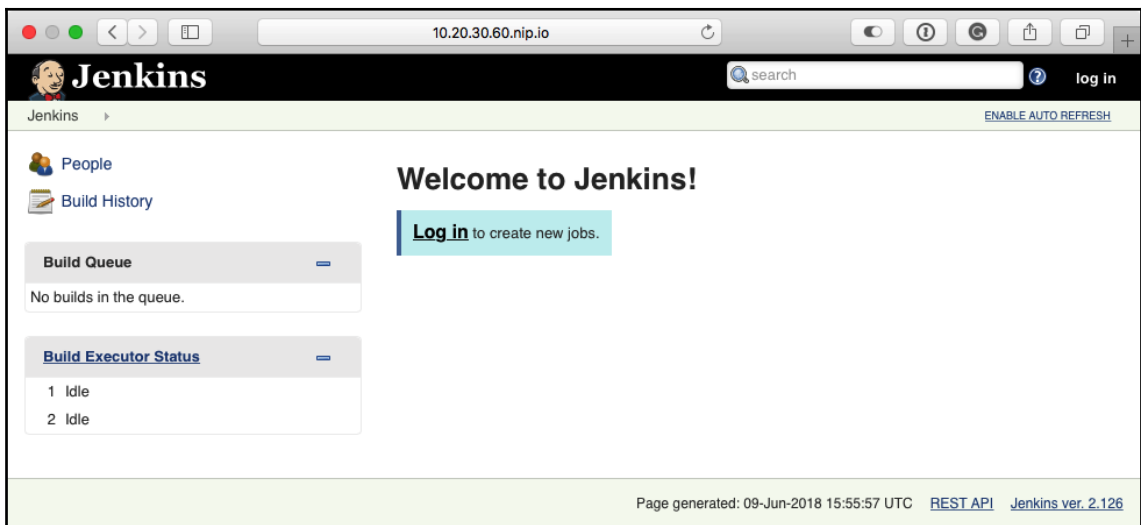
About | Copyright © 2018 Red Hat, Inc.

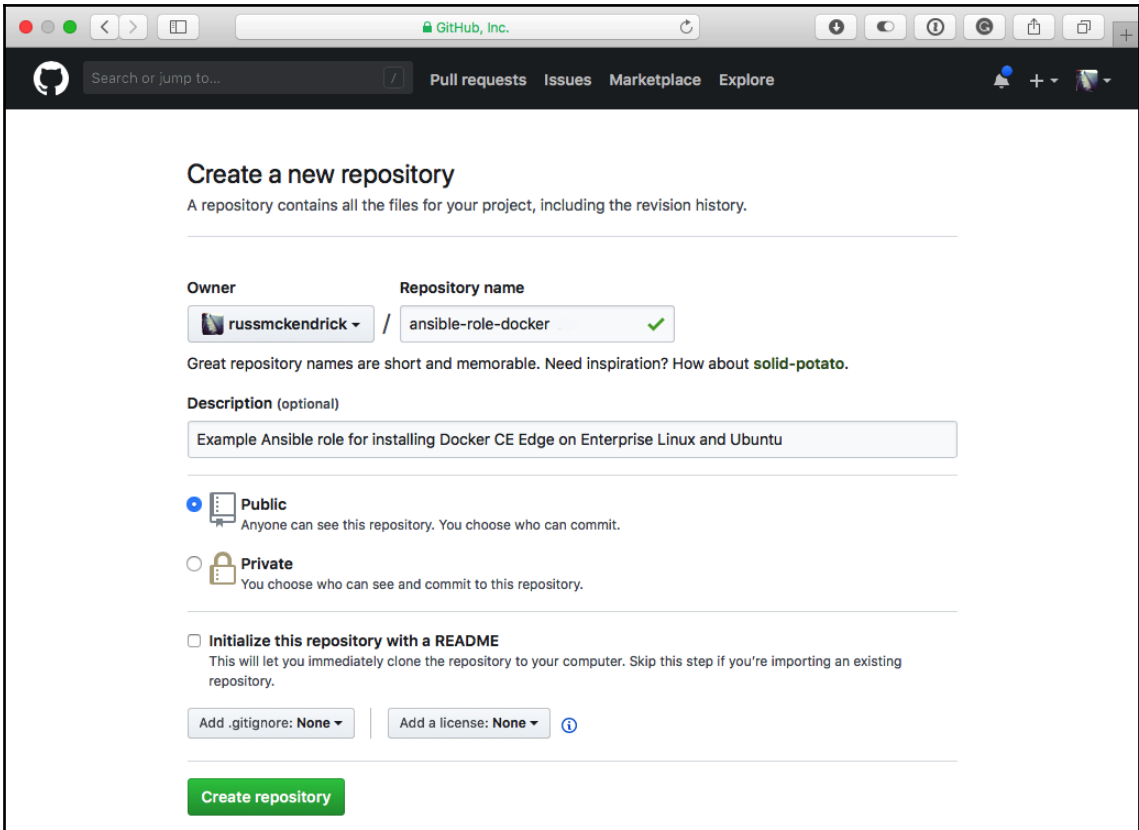
Chapter 16: Ansible Galaxy



```
1. jenkins (bash)
russ in ~/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter16/jenkins on master*
⚡ ansible-galaxy install -r requirements.yml
- downloading role 'java', owned by geerlingguy
- downloading role from https://github.com/geerlingguy/ansible-role-java/archive/1.8.1.tar.gz
- extracting geerlingguy.java to /Users/russ/.ansible/roles/geerlingguy.java
- geerlingguy.java (1.8.1) was installed successfully
- downloading role 'jenkins', owned by geerlingguy
- downloading role from https://github.com/geerlingguy/ansible-role-jenkins/archive/3.5.0.tar.gz
- extracting geerlingguy.jenkins to /Users/russ/.ansible/roles/geerlingguy.jenkins
- geerlingguy.jenkins (3.5.0) was installed successfully
[WARNING]: - dependency geerlingguy.java from role geerlingguy.jenkins differs from already
installed version (1.8.1), skipping

russ in ~/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter16/jenkins on master*
⚡
```





The screenshot shows a GitHub repository page for 'ansible-role-docker' by 'russmckendrick'. The repository is described as an 'Example Ansible role for installing Docker CE Edge on Enterprise Linux and Ubuntu'. It has 5 commits, 1 branch, 0 releases, and 1 contributor. The repository is on the 'master' branch. The file list includes 'defaults', 'handlers', 'meta', 'tasks', 'tests', 'vars', and 'README.md', all of which were last updated 15 hours ago. The 'meta' file was updated 14 hours ago. The repository has 1 watch, 0 stars, and 0 forks.

Search or jump to... Pull requests Issues Marketplace Explore

russmckendrick / ansible-role-docker Unwatch 1 Star 0 Fork 0

Code Issues 0 Pull requests 0 Projects 0 Wiki Insights Settings

Example Ansible role for installing Docker CE Edge on Enterprise Linux and Ubuntu Edit

ansible-role ansible docker Manage topics

5 commits 1 branch 0 releases 1 contributor

Branch: master New pull request Create new file Upload files Find file Clone or download

russmckendrick Update Latest commit d26cf0e 14 hours ago

defaults	Initial checkin	15 hours ago
handlers	Initial checkin	15 hours ago
meta	Update	14 hours ago
tasks	Initial checkin	15 hours ago
tests	Initial checkin	15 hours ago
vars	Initial checkin	15 hours ago
README.md	Update	15 hours ago

galaxy.ansible.com

A GALAXY ABOUT EXPLORE SEARCH BROWSE AUTHORS MY CONTENT RUSSMCK

MY CONTENT

Import Your Content from GitHub

Click the toggle next to the repository to reveal a check mark. This will add the repository to Galaxy, making it visible on the Search page and allowing anyone to download it. Removing the check mark will delete the repository from Galaxy. Use settings to enable Travis notifications and control the repository name.


If you don't see all of your repositories, [review and add](#) your authorized organizations.

russmck

[russmckendrick/ansible-role-docker](#) Succeeded

redhat | ANSIBLE Copyright © 2018 Red Hat, Inc. | [Security Disclosures](#) | [Privacy Policy](#) GALAXY 2.4.0

galaxy.ansible.com


 GALAXY

ABOUT EXPLORE SEARCH BROWSE AUTHORS MY CONTENT RUSSMCK

MY IMPORTS

IMPORTS [+ ADD](#)

Search Imports


 russmckendrick/ansible-role-d...
Finished: 6/9/18 8:04 PM

russmckendrick/ansible-role-docker

master Update - fixing tags Commit 946728a
Stars 0
Forks 0
Watchers 1

Finished about 8 seconds ago

```
Starting import 249616; role_name=docker repo=russmckendrick/ansible-role-docker
Accessing branch: master
Parsing and validating meta data.
Parsing galaxy_tags
Parsing platforms
Parsing cloud platforms
No cloud platforms found in meta data
Parsing and validating README
Adding repo tags as role versions
Removing old tags
Import completed
Status SUCCESS : warnings=1 errors=0
```

 ANSIBLE

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The screenshot shows the 'russmckendrick.docker' role detail page on galaxy.ansible.com. The page includes a navigation bar with 'GALAXY', 'ABOUT', 'EXPLORE', 'SEARCH', 'BROWSE AUTHORS', 'MY CONTENT', and 'RUSSMCK'. The role title is 'russmckendrick.docker' with a sub-header 'ROLE DETAIL'. Below the title is a description: 'Role to install the Docker CE Edge release on either an Enterprise Linux or Ubuntu host'. There is a 'Details' tab and a 'README' tab. A 'Downloads' counter shows 0. Action buttons include 'Issue Tracker', 'Github Repo', 'Download', 'Watch 1', and 'Star 0'. The role type is 'Ansible', the minimum Ansible version is '2.4', and the installation command is '\$ ansible-galaxy install russmckendrick.docker'. The tags include 'docker'. The last commit was 39 seconds ago and the last import was 29 seconds ago. The OS platforms table lists supported platforms and versions:

Platform	Version
EL	6
EL	7
Ubuntu	artful
Ubuntu	bionic
Ubuntu	xenial

```
1. docker (bash)
russ in ~/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter16/docker on master*
⚡ ansible-galaxy install -r requirements.yml
- downloading role 'docker', owned by russmckendrick
- downloading role from https://github.com/russmckendrick/ansible-role-docker/archive/master.tar.gz
- extracting russmckendrick.docker to /Users/russ/.ansible/roles/russmckendrick.docker
- russmckendrick.docker (master) was installed successfully
russ in ~/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter16/docker on master*
⚡
```

```
1. docker (bash)
TASK [russmckendrick.docker : add the apt repo] *****
skipping: [centos]
changed: [ubuntu]

TASK [russmckendrick.docker : install the docker package] *****
skipping: [centos] => (item=[])
changed: [ubuntu] => (item=[u'docker-ce'])

TASK [russmckendrick.docker : install the python packages] *****
skipping: [centos] => (item=docker)
changed: [ubuntu] => (item=docker)

TASK [russmckendrick.docker : start docker and configure to start on boot] *****
skipping: [centos]
ok: [ubuntu]

PLAY RECAP *****
centos      : ok=9    changed=7    unreachable=0    failed=0
ubuntu     : ok=8    changed=5    unreachable=0    failed=0

russ in ~/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter16/docker on master*
```

```
1. docker (bash)
russ in ~/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter16/docker on master*
ansible-galaxy login --github-token ██████████
Successfully logged into Galaxy as russmck
russ in ~/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter16/docker on master*
```

```
1. docker (bash)
russ in ~/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter16/docker on master*
ansible-galaxy import russmckendrick ansible-role-docker
Successfully submitted import request 249834
Starting import 249834: role_name=docker repo=russmckendrick/ansible-role-docker
Accessing branch: master
Parsing and validating meta data.
Setting role name to docker
Parsing galaxy_tags
Parsing platforms
Parsing cloud platforms
No cloud platforms found in meta data
Parsing and validating README
Adding repo tags as role versions
Removing old tags
Import completed
Status SUCCESS : warnings=1 errors=0
russ in ~/Documents/Code/learn-ansible-fundamentals-of-ansible-2x/chapter16/docker on master*
```

```
1. russ (bash)
russ in ~
ansible-galaxy search --author=russmckendrick docker

Found 1 roles matching your search:

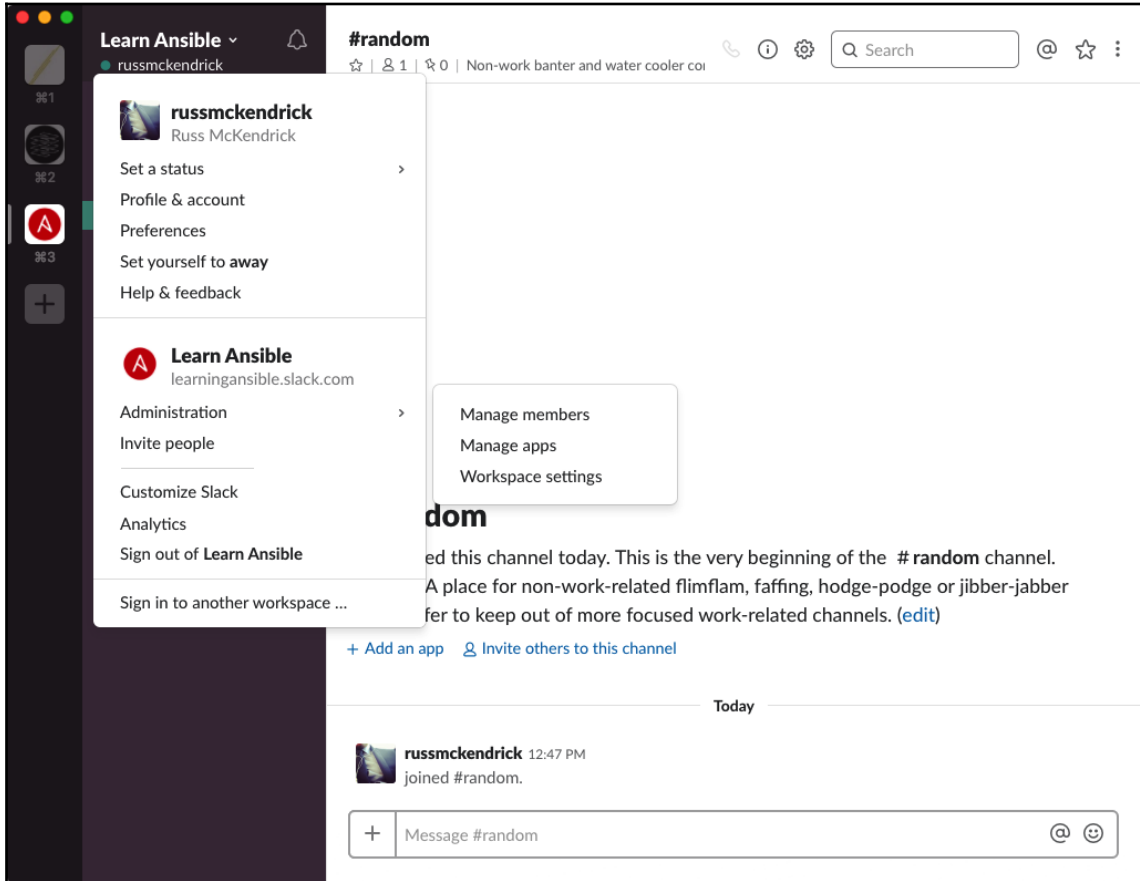
Name                Description
----                -
russmckendrick.docker  Role to install the Docker CE Edge release on either an Enterprise Linux or U
russ in ~
```

```
1. russ (less)
russ in ~
⚡ ansible-galaxy info russmckendrick.docker

Role: russmckendrick.docker
  description: Role to install the Docker CE Edge release on either an Enterprise Linux or Ubu
  active: True
  commit: d26cf0ea4b3a9706151d25782b5ba498bd5ff698
  commit_message: Update

- update metadata
  commit_url: https://github.com/russmckendrick/ansible-role-docker/commit/d26cf0ea4b3a9706151
  company:
  created: 2018-06-09T18:58:56.523Z
  dependencies: []
  download_count: 1
  forks_count: 0
  galaxy_info:
    author: russmck
    galaxy_tags: ['docker']
    license: license (BSD)
    min_ansible_version: 2.4
    platforms: [{'name': 'EL', 'versions': [6, 7]}, {'name': 'Ubuntu', 'versions': ['bio
  github_branch:
  github_repo: ansible-role-docker
  github_user: russmckendrick
  id: 26229
  install_date: Sat Jun 9 19:08:47 2018
  installed_version: master
  is_valid: True
  issue_tracker_url: https://github.com/russmckendrick/ansible-role-docker/issues
```

Chapter 17: Next Steps with Ansible



slack | App Directory | Search App Directory | Browse | Manage | Build | Learn Ansible


[Browse Apps](#)

Incoming WebHooks

App Info | Settings

This app was made by Slack.
It only uses data Slack already has access to (view our [Privacy Policy](#) to learn more).

Configurations

 Posts to #general as Ansible
[russmckendrick](#) on Jun 23, 2018

[Add Configuration](#)

[App Homepage](#)

The screenshot shows a Slack interface with a sidebar on the left and a main channel view on the right. The sidebar is titled 'Learn Ansible' and shows a list of channels: '# general' (selected), '# random', and 'Direct Messages' containing 'slackbot' and 'rusmckendrick (you)'. The main channel view is for '#general' and contains the following content:

- A header for '#general' with a search bar and icons for search, @, star, and menu.
- A welcome message: "You created this channel today. This is the very beginning of the #general channel. Purpose: This channel is for workspace-wide communication and announcements. All members are in this channel. (edit) + Add an app + Invite others to this channel"
- A horizontal separator for 'Today'.
- A message from 'rusmckendrick' at 12:47 PM: "joined #general."
- A message from 'rusmckendrick' at 3:39 PM: "added an integration to this channel: Ansible"
- A message from the 'Ansible' app at 4:18 PM, marked as 'new messages'. The message content is:

```
Checking for VPC called 'VPC-Slack'  
VPC called 'VPC-Slack' created with an ID of 'vpc-dbbcfbd'  
Ensuring that the subnets are present in 'VPC-Slack'  
Checking there is an internet gateway configured in 'VPC-Slack'  
Adding an internet gateway in 'VPC-Slack' which has an ID of 'igw-48fab92f'  
Ensuring that the route is present for the internet gateway in 'VPC-Slack'  
Ensuring that the security groups are present in 'VPC-Slack'  
Ensuring that the target group is present in 'VPC-Slack'  
Checking for an Elastic Load Balancer in 'VPC-Slack'  
  
System details  
Created an Elastic Load Balancer in 'VPC-Slack'  
ELB URL  
VPC-Slack-elb-854065100.eu-west-1.elb.amazonaws.com
```
- A message input field at the bottom with a plus icon on the left and @ and emoji icons on the right.

Learn Ansible
● russmckendrick

☰1
All Threads

☰2
Channels
general
random

☰3
Direct Messages
♥ slackbot
● russmckendrick (you)

+ Invite People

Apps

#general
☆ | 👤 1 | 🔒 0 | Company-wide announcements and w

Today

Ensuring that the subnets are present in 'VPC-Slack'
Checking there is an internet gateway configured in 'VPC-Slack'
Adding an internet gateway in 'VPC-Slack' which has an ID of 'igw-48fab92f'
Ensuring that the route is present for the internet gateway in 'VPC-Slack'
Ensuring that the security groups are present in 'VPC-Slack'
Ensuring that the target group is present in 'VPC-Slack'
Checking for an Elastic Load Balancer in 'VPC-Slack'

System details
Created an Elastic Load Balancer in 'VPC-Slack'
ELB URL
VPC-Slack-elb-854065100.eu-west-1.elb.amazonaws.com

new messages

Checking for VPC called 'VPC-Slack'
Found a VPC called 'VPC-Slack' which has an ID of 'vpc-dbbcbfbd'
Ensuring that the subnets are present in 'VPC-Slack'
Checking there is an internet gateway configured in 'VPC-Slack'
Found an internet gateway in 'VPC-Slack' with an ID of 'igw-48fab92f'
Ensuring that the route is present for the internet gateway in 'VPC-Slack'
Ensuring that the security groups are present in 'VPC-Slack'
Ensuring that the target group is present in 'VPC-Slack'
Checking for an Elastic Load Balancer in 'VPC-Slack'

System details
Found an Elastic Load Balancer in 'VPC-Slack'
ELB URL
VPC-Slack-elb-854065100.eu-west-1.elb.amazonaws.com

+ Message #general

#demo ☆ | 👤 3 | 🔒 0 | Demo stuff in here

Today

Russ McKendrick 5:37 PM
@bot give me a linux server

bot APP 5:37 PM
aws-launch is building. I'll let you know when it's done.
job <https://.../job/aws-launch/68/> added with id 752972.

Jenkins APP 5:38 PM
Checking number of running instances
I am allowed to launch a maximum of 2 instances and I found 0, proceeding with launching your Linux instance
Generating a random instance name
Launching a Linux instance called 'Kind Keldysh'
Checking the VPC configuration
Looking for the right AMI to use
Using AMI ami-924aa8f5, which is Amazon Linux 2 LTS Candidate AMI 2017.12.0.20180509 x86_64 HVM GP2
Checking the public keys are up-to-date
Launching 'Kind Keldysh'
Instance 'Kind Keldysh' launched, waiting for SSH to become available

System details
Linux instance 'Kind Keldysh' is now ready
Hostname
ec2-18-130-152-190.eu-west-2.compute.amazonaws.com
Operating System **Key**
Linux russ

bot APP 5:40 PM
@RussMcKendrick, job <https://.../job/aws-launch/68/> finished with status: SUCCESS.

+ Message #demo

#demo ☆ | 👤 3 | 🔒 0 | Demo stuff in here

Today


Russ McKendrick 5:42 PM
@bot terminate all servers

bot APP 5:42 PM
awsremove is building. I'll let you know when it's done.

job [https://\[redacted\]/job/awsremove/22/](https://[redacted]/job/awsremove/22/) added with id 681198. new messages

Jenkins APP 5:43 PM
Checking number of running instances
I found you have 1 instances, terminating them now

Instances terminated (2 MB) ▾



bot APP 5:44 PM
@RussMcKendrick, job [https://\[redacted\]/job/awsremove/22/](https://[redacted]/job/awsremove/22/) finished with status: SUCCESS.

+ Message #demo @ 😊