



*We Make IT Work for Business.*

# **Code Camp**

## **Lab 2: Ansible**

# Prep

- Download Vagrant and install - <https://www.vagrantup.com/downloads.html>
- Download Virtualbox and install <https://www.virtualbox.org/wiki/Downloads>

# Prep 2

- Download the repo by GIT or Zip file - top right button of the repo

<https://github.com/jasonbarbee/TekLinksCodeCamp-Jan-2017>

- Unzip and cd to the vagrant-code-camp folder
- issue command `vagrant up` - give it 10 minutes.
- Then run `vagrant ssh` to open a SSH to the machine
- Change to the lab directory - `cd /vagrant/Ansible`

# Cloud Routers

Using VyOS - Vyatta - open source free router similar to Cisco.

Running a single instance in AWS EC2 instance for this lab.

# Playbooks pre-built

## All the playbooks you need are pre-built

- aws-facts.yml - Collects Data from AWS.
- security-alert.yml - Security Alert Code to push to hook.io
- vyos-scan.yml - Show version, if VyOS Then Security Alert
- vyos-config.yml - Changes Hostname and backups config file.
- vyos-spark.yml - Show version and pops a Spark Message

# **Learning Ansible Syntax**

# Ansible Playbook Header

---

```
- name: VyOS Gather Facts
  hosts: all
  connection: local
```

```
vars:
  version: ""
  ansible_net_version: ""
  cli:
    host: "{{ inventory_hostname }}"
    username: "{{ username }}"
    password: "{{ password }}"
    transport: cli
```

# Add a Task to gather all router facts

```
tasks:
  - name: collect all facts from the device
    vyos_facts:
      gather_subset: all
      provider: "{{ cli }}"
    register: result

  - name: debug stuff
    debug:
      var: result.ansible_facts
```

The first task collects the data, the second task dumps the data variable.  
The second debug prints the array of data that the first task gathered.



# Basic Ansible Fact Gathering

```
ansible-playbook -i inventory vyos-facts.yml
```

**You should get ansible output from a test Vyatta router running in AWS EC2 Instance.**

**The data is broken out into JSON format, which you can parse out using other tools.**

# Next - simple show version

Add a task to the bottom to show version.

```
- name: Show version
  vyos_command:
    commands:
      - show version
  provider: "{{ cli }}"
```

# Running Show Version

Run it and see what the data looks like

```
ansible-playbook -i inventory vyos-facts.yml
```

# Send a message to Cisco Spark!

Update your inventory file with your Spark Auth Token and your Customer Name.

And Your Spark Room ID. You can find that by going to <https://web.ciscospark.com> and signing in. Click on the Room you want to use.

The RoomID will be the string at the end of the URL - like this <https://web.ciscospark.com/rooms/9f464a80-de51-11e6-a2af-2134341234/>

Only grab the numbers - not the entire URL.

# Ansible Spark module

– **name:** Cisco Spark – Text Message to a Room

**cisco\_spark:**

**recipient\_type:** roomId

**recipient\_id:** "{{ roomid }}"

**message\_type:** text

**personal\_token:** "{{ bottoken }}"

**message:** "Your Name : Found Device – {{ result.ansible\_facts.ansible\_net\_hostname }}"

- Notice that we are using variables
- This module is pending final commit to the next version, but I have loaded it on the Code Camp box.

# Try the Spark module

```
ansible-playbook -i inventory vyos-spark.yml
```

# Backup configs and make a change

## Example Task

- **name:** backup and load config commands from vyos.cfg  
vyos\_config:  
  src: vyos.cfg  
  backup: yes  
  provider: "{{ cli }}"
- **name:** configure the remote device with example CLI  
vyos\_config:  
  backup: yes  
  lines:  
    - set system host-name AWS-CodeCamp-{yourname}  
  provider: "{{ cli }}"

# Run the Configure/backup Script

```
ansible-playbook -i inventory vyos-config.yml
```



**Ansible can play with  
AWS too...**

# AWS - Basic EC2 Inventory List

Here's example model for EC2

- name: Gather EC2 facts
  - ec2\_remote\_facts:
    - aws\_access\_key: "{{ AWS\_ACCESS\_KEY\_ID }}"
    - aws\_secret\_key: "{{ AWS\_SECRET\_ACCESS\_KEY }}"
    - region: "{{ EC2\_REGION }}"
  - register: ec2\_facts
- name: Debug
  - debug:
    - msg: "{{ ec2\_facts }}"

# Ansible EC2 Inventory List

- I have included credentials for this exercise in my aws-facts.yml file.
- To try this out run

```
ansible-playbook -i inventory aws-facts.yml
```

to see my AWS inventory running for this Lab.

# Followup Resources

Great resources to read up on  
Network To Code Ansible Plugin

<https://github.com/networktocode/ntc-ansible>

Python for Network Engineers

<https://pynet.twb-tech.com/>

NAPALM for Ansible

<https://pynet.twb-tech.com/blog/automation/napalm-ios.html>