

AnsibleBenelux Meetup 2017/5/17 @bbaasssiiee

# Bas Meijer

# CI/CD Specialist

- Developer Support
- Cloud provisioning
- Deployment tools
- Ansible Ambassador
- Developer for fun
- @bbaassssiiee



# Test scenario's

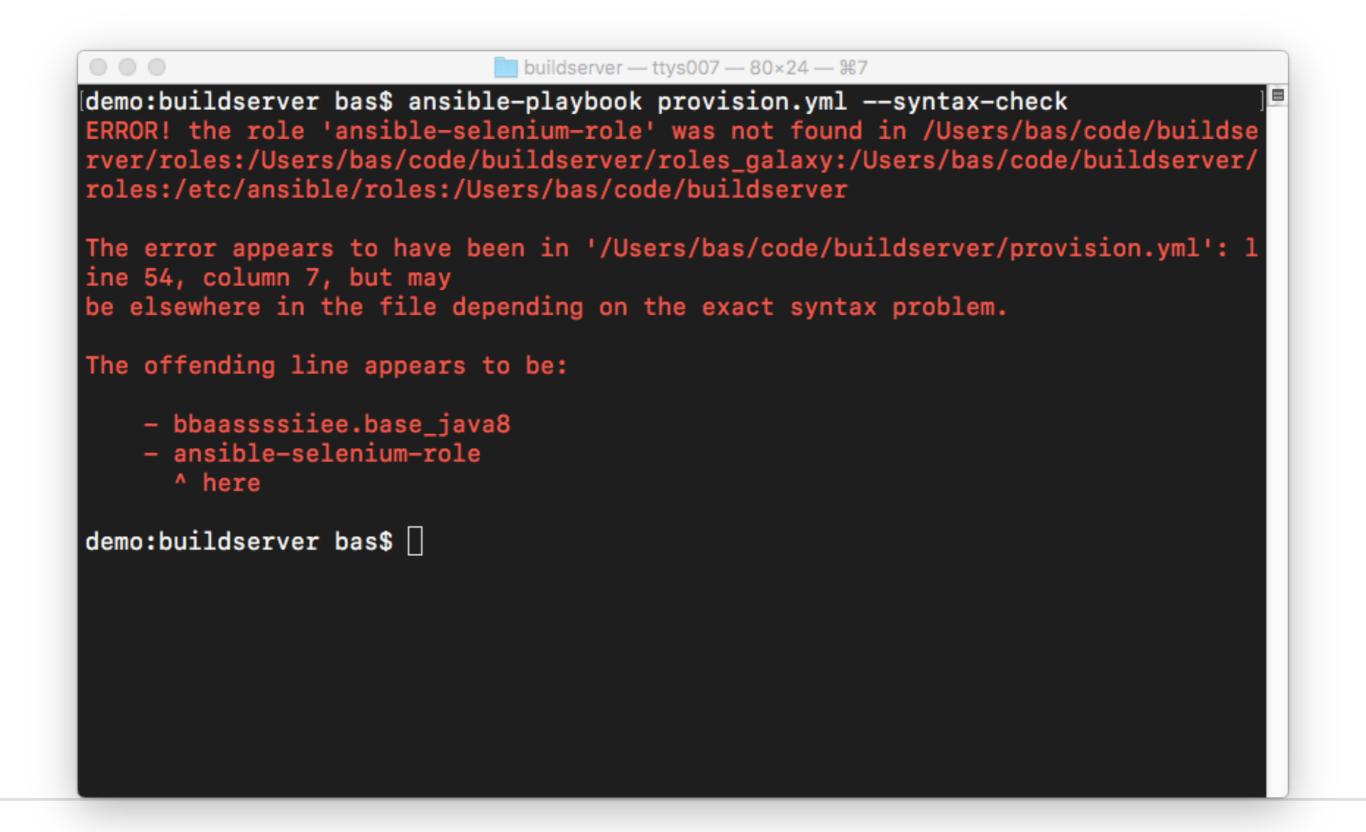
## Multi-purpose IT automation

- Testing.yml playbooks
- Ansible Lint
- Component Smoke tests
- Integration Tests
- Confidence Tests
- Security Audits



```
in roles — ttys001 — 80×24 — ₩2
[demo:roles bas$ find . -name "*.yml" | xargs yamllint
* YAML Lint failed for ./base_artifactory/tasks/install.yml
duplicated mapping key at line 28, column 3:
      when: ansible_os_family == 'RedHat'
demo:roles bas$ []
```

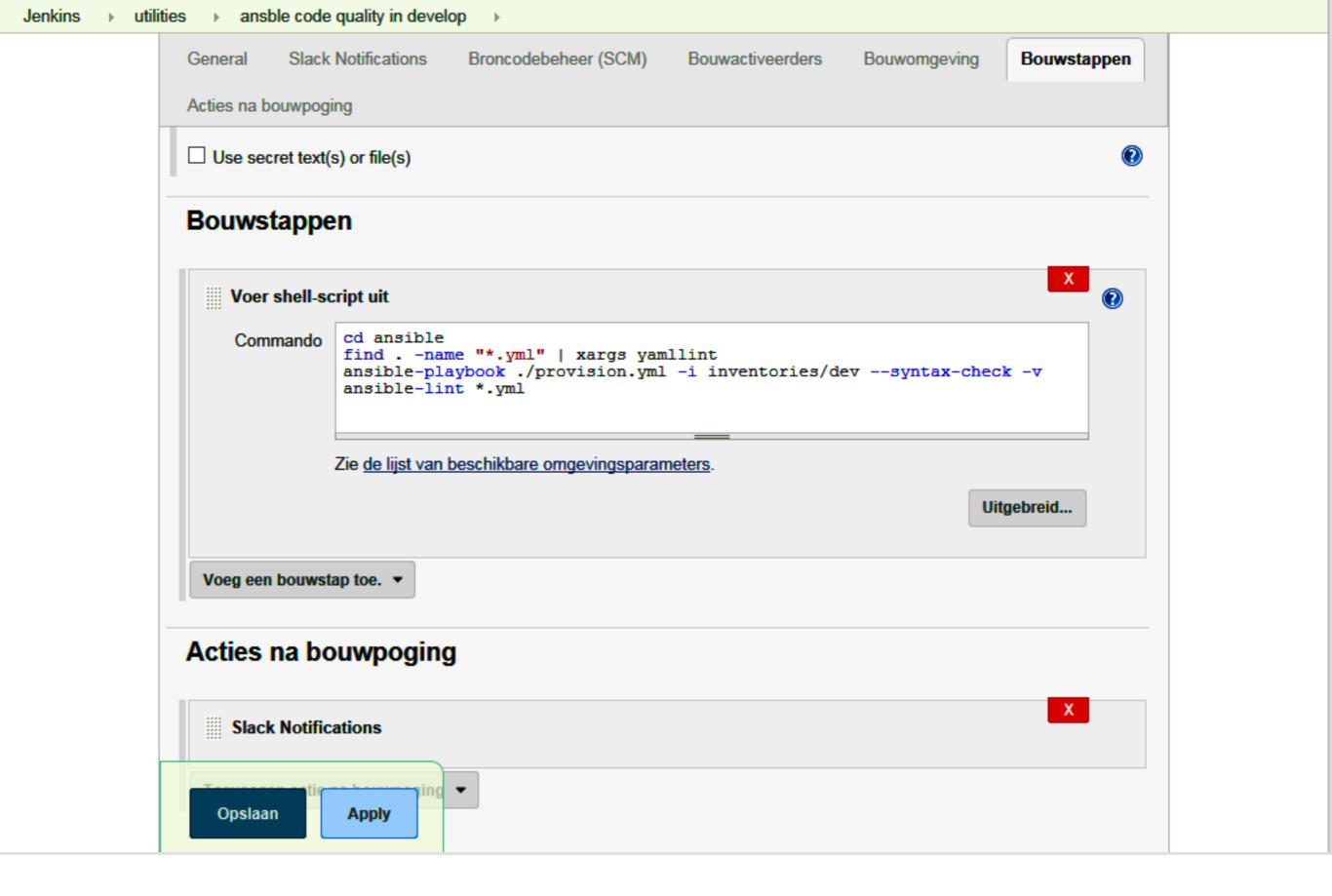
Yaml Lint failed for one file



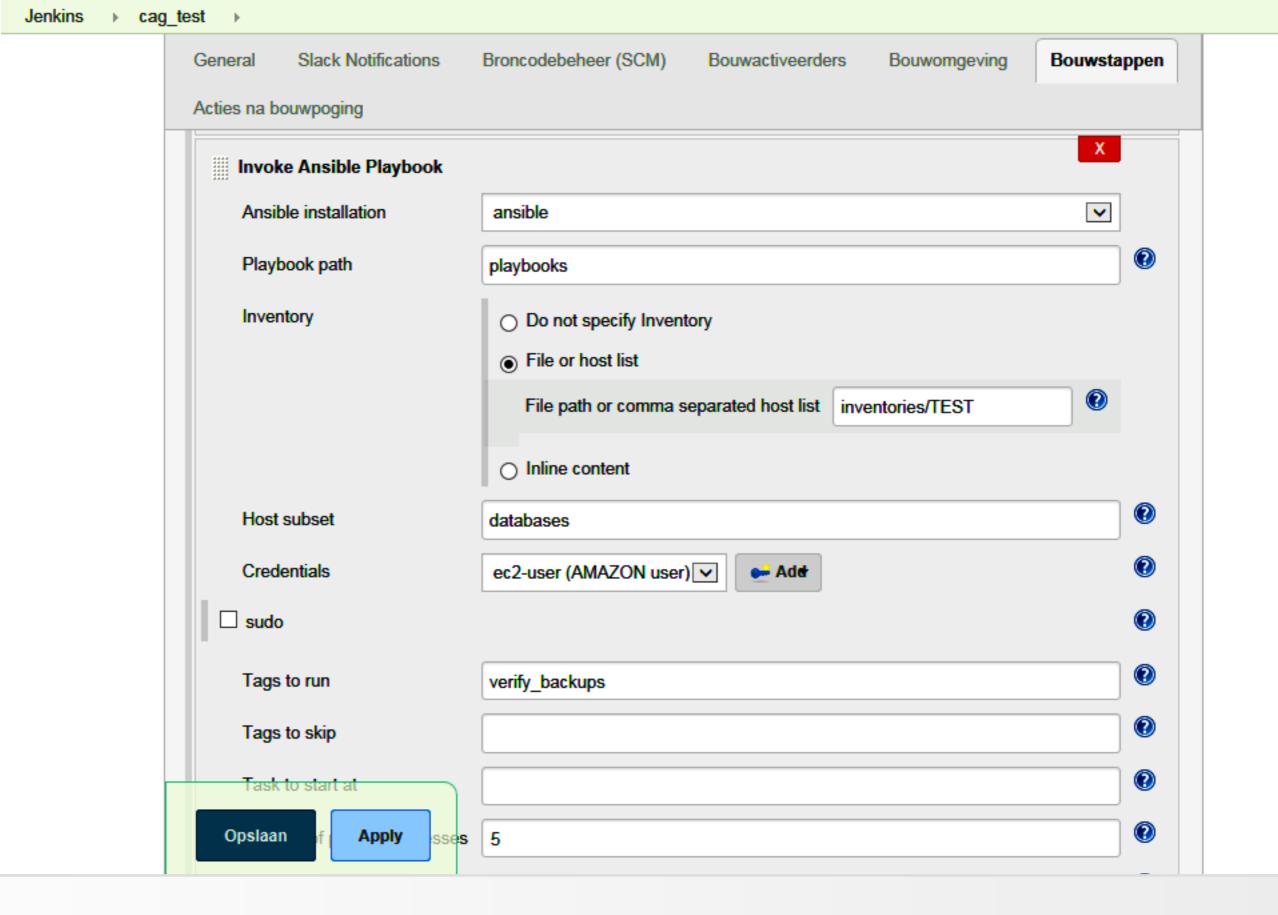
Invalid syntax: role was not found.

buildserver — ttys007 — 80×24 — 第7 [demo:buildserver bas\$ ansible-lint provision.yml [ANSIBLE0010] Package installs should not use latest /Users/bas/code/buildserver/roles/httpd/tasks/certificates.yml:3 Task/Handler: make sure ca-certificates is latest [ANSIBLE0012] Commands should not change things if nothing needs doing /Users/bas/code/buildserver/roles/httpd/tasks/certificates.yml:27 Task/Handler: CA-sign buildserver key in a way to avoid https://github.com/mitch ellh/vagrant/issues/2646 [ANSIBLE0013] Use shell only when shell functionality is required /Users/bas/code/buildserver/roles/httpd/tasks/certificates.yml:27 Task/Handler: CA-sign buildserver key in a way to avoid https://github.com/mitch ellh/vagrant/issues/2646 [ANSIBLE0002] Trailing whitespace /Users/bas/code/buildserver/roles/httpd/tasks/certificates.yml:37 [ANSIBLE0012] Commands should not change things if nothing needs doing /Users/bas/code/buildserver/roles/httpd/tasks/certificates.yml:43 Task/Handler: concatenate dh\_parameters.txt to webserver [ANSIBLE0012] Commands should not change things if nothing needs doing

## Lint finds quality issues in playbooks



One build step to find such problems



Invoke playbook after the tests

```
server is up
              ok: [8
              config ok
              TASK [rabbitmq : Checking startup err logfile] *********************************
    no errors
              ok: [£
              skipping: [
  port listens
              TASK [rabbitmq : Test RabbitMQ listening port] **************************
              ok: [8
              TASK [rabbitmq : Test RabbitMQ Web interface listening port] *******************
      web ui
              ok: [5000000000000]
              TASK [rabbitmq : Test /api/api/nodes with despite unsigned certificates] ******
     api call
              ok: [5 0000000]
              fully functional
              ok: [5-1----005---005] => {
                 "changed": false,
                 "msg": [
                      "applications": [
                          "description": "RabbitMQ AMQP Client",
                          "name": "amqp client",
                          "version": "3.6.0"
```

Jenkins → Prod → mypprod tests → #18409

## Component tests for RabbitMQ

```
Jenkins
       Acc → mvpacc tests → #1428
                                TASK [php: Test PHP listening socket] ****************
            local port listens
                                ok: [{| changed | false, "elapsed": 0, "path": null, "port": 9000,
                                "search regex": null, "state": "started"}
                  test setup
                                TASK [php : Copy test template] ****************************
                                       "changed": false, "checksum":
                                "dd7b9cc8455a23c04d3a1a53535b719b0022a16a", "dest": "/usr/local/bin/pdo.php", "gid":
                                0, "group": "root", "md5sum": "eaa6fad931323bf151f12444cf7f0f92", "mode": "0700",
                                "owner": "root", "secontext": "system u:object r:bin t:s0", "size": 339, "src":
                                "/home/deploy/.ansible/tmp/ansible-tmp-1494392879.34-219961557540436/source",
                                "state": "file", "uid": 0}
   php to mysql connect with
                                TASK [php : Run mysql connect test] ************************
                                             | => {"censored": "the output has been hidden due to the fact that
real credentials and libraries
                                'no log: true' was specified for this result"}
                                TASK [php : Remove test template] ********************************
               test teardown
                                             B] => {"changed": false, "path": "/usr/local/bin/pdo.php", "state":
                                "absent"}
      client server tcp check
                                "item": " ^ ^ ^ ^ ^ 7", "path": null, "port": 9200, "search regex": null, "state":
                                "started"}
          non-applicable test
                                TASK [php : Test rabbitmg server connectivity] *********************************
                                client-server tcp check
                                      "item": "s ", "path": null, "port": 6379, "search regex": null, "state":
                                "started"}
                                PLAY [Jenkins Slaves] *********************
```

## Testing connectivity between components

Finished: SUCCESS

## 1000 sanity tests per hour, in PRODUCTION!

changed=0

changed=0

unreachable=0

unreachable=0

failed=0

failed=0

: ok=10

: ok=10

# DAILY security auditing using Ansible

ok: [ "changed": false, "cmd": "rpm -aq | grep -q openIdap-

clients", "delta": "0:00:01.324779", "end": "2017-05-11 19:26:53.903050", "failed":

CIS/tasks/section2.yml:995

```
stat: path: fail: when:
```

```
- name: Checking startup_err logfile stat:
    path: /var/log/rabbitmq/startup_err register: startup_err tags:
    - test
- name: skipping when startup_err is empty fail:
    when: startup_err.stat.size != 0 tags:
    - test
```

- name: Collecting data with rabbitmg api

### uri: register: registered json

```
un:
  url: "https://{{ inventory_hostname }}:15672/api/nodes"
  return_content: yes
  user: "{{ rabbitmq.administrator }}"
  password: "{{ rabbitmq.users[0].password }}"
  no_log: yes
  register: uri_return
  tags:
  - test
- name: Checking rabbit_exchanges_count
  fail:
  when: "(uri_return.json)[0]['exchange_types']|count != rabbit_exch"
  tags:
  - test
```

### script:

## assert:

#### that:

```
- name: Verify if main_user is defined
assert:
that: "'{{ main_user }}' is defined"
```

### template: command:

```
    name: Copy test code template
template:
    src: pdo.php.j2
    dest: '/usr/local/bin/pdo.php'
    mode: 0700
changed_when: no # test is not a 'real' change tags:
    - test
    name: Run mysql connect test code
```

name: Run mysql connect test code

command: /usr/local/bin/pdo.php

changed\_when: no # test is not a 'real' change
no\_log: yes # hide credentials

tags:
- test

## wait\_for: delegate\_to:

- name: Test RabbitMQ listening port

```
wait_for:
   port: 5672
tags:
   - test

- name: Test remote connect on RabbitMQ port
   delegate_to: "{{ groups['webserver'][0] }}"
   wait_for:
    host: "{{ groups['rabbit'][0] }}"
   port: 5672
   timeout: 10
tags:
```

#### command: command.rc

```
- name: Verify time synchronization
command: ntpstat
 register: ntpstat
 changed when: no
 ignore errors: yes
 tags:
  - test
  - ntp
- name: Stop ntpd as a service
 service:
  name: ntpd
  enabled: yes
  state: stopped
 when: ntpstat.rc is defined and ntpstat.rc != 0
 tags:
  - ntp
- name: Sync the clock to the nl ntp pool
 command: ntpdate 0.nl.pool.ntp.org
 when: ntpstat.rc is defined and ntpstat.rc != 0
 changed_when: yes
 tags:
  - ntp
- name: Start ntpd after syncing
 service:
 name: ntpd
  state: started
 when: ntpstat.rc is defined and ntpstat.rc != 0
 tags:
```

- ntp

## Batteries to use in testing

test

# Ansible

## Multi-purpose IT tool!

- Tested modules
- Versatile usage
- Build quality in!
- End-to-end tests
- Confidence tests
- Security audits





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