EPAM Systems, RD Dep., RD Dep.

MTN.*NIX.11 Automated Environment Configuration Management

Ansible. 4

REVISION HISTORY					
Ver.	**Description of Change**	**Author**	**Date**	**Approved**	
				Name	**Effective Date**
<1.0>	Initial revision	Siarhei Beliakou	17-Mar-2017		

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Lab Work Task. Web Server Provisioning

Review

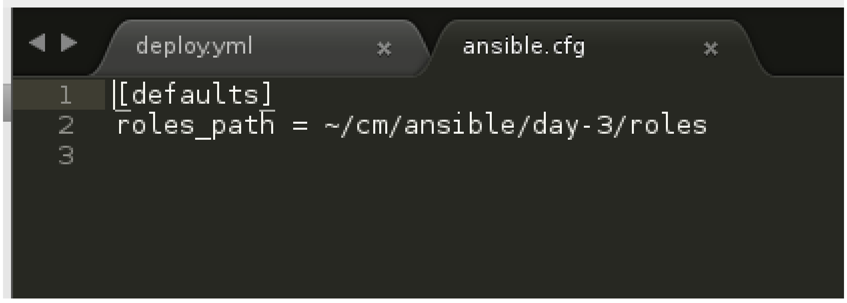
Using Ansible v2.2.1 for provisioning nginx + tomcat application stack.

Learning by doing.

Task

On Host Node (Control Machine):

1. Create folder ~/cm/ansible/day-4. All working files are supposed to be placed right there.
2. Configure Ansible to use roles from ~/cm/ansible/day-3 folder



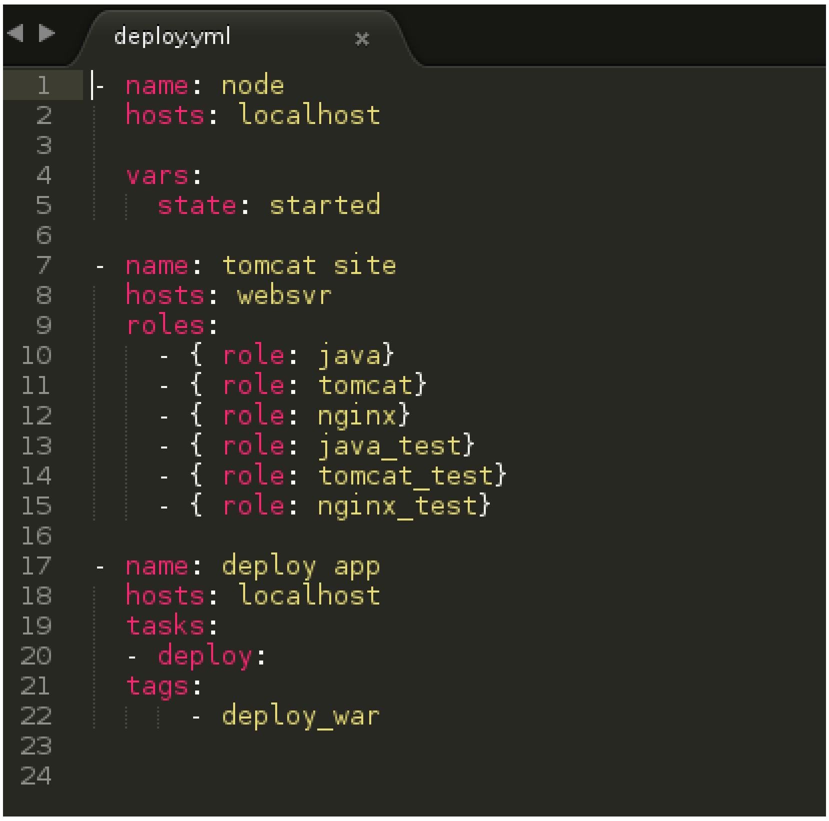
```
[defaults]
roles_path = ~/cm/ansible/day-3/roles
```

3. Build java sources with maven form here: https://github.com/sbeliakou/hello-war (MANUALLY)
   Requirements:
      Update file src/main/resources/build-info.txt with following details:
      - Build time
      - Build Machine Name
      - Build User Name
   Build command:
   $ mvn clean package -DbuildNumber=$VERSION
4. Develop a module for deploying resulted war file to Tomcat AS.
   Example:
   - deploy: url=... war=… username=… password=…

   Requirements:
    After deployment you should update file /var/lib/tomcat/webapps/deploy-info.txt
    Add following details:
    - Deployment time
    - Deploy User

5. Develop a playbook (name: **deploy.yml**) to deploy war file (role!), pass war-file as an extra-argument to playbook.
   Example:
   $ ansible-playbook deploy.yml … -e war=…

   Consider: Playbook should deploy war file and test that deployment was successful.



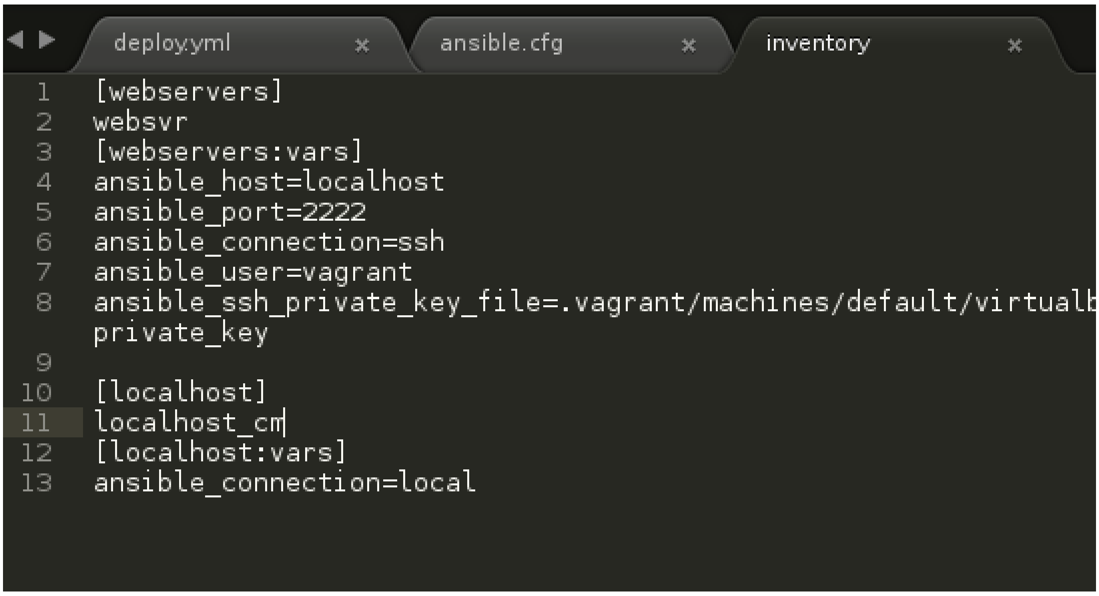
```
- name: node
  hosts: localhost

  vars:
    state: started

- name: tomcat site
  hosts: websvr
  roles:
    - { role: java}
    - { role: tomcat}
    - { role: nginx}
    - { role: java_test}
    - { role: tomcat_test}
    - { role: nginx_test}

- name: deploy app
  hosts: localhost
  tasks:
  - deploy:
  tags:
      - deploy_war


```



```
[webservers]
websvr
[webservers:vars]
ansible_host=localhost
ansible_port=2222
ansible_connection=ssh
ansible_user=vagrant
ansible_ssh_private_key_file=.vagrant/machines/default/virtualb
private_key

[localhost]
localhost_cm
[localhost:vars]
ansible_connection=local
```

6. Develop custom callback plugin to make playbook output more human readable.
   Example: Appendix A.
7. Verification Procedure: playbook will be checked by instructor’s CI system as follows:
   7.1 Connect to student’s host by ssh (username “student”) with own ssh key.
   7.2 Go into the folder mentioned in point 1
   7.3 Destroy/Launch VM: vagrant destroy && vagrant up
   7.4 Execute VM provisioning: ansible-playbook deploy.yml -i inventory -vv
   7.5 If previous steps are done successfully, instructor will check report (pdf-file)
8. Feedback: report issues/problems you had during the development of playbook and time spent for development.

APPENDIX A

Playbook:

```
$ cat demo.yml
- hosts: localhost
  connection: local

  tasks:
    - name: Greetings
      shell: echo Hello

    - name: Skip
      debug: msg="Hello again"
      when: False

    - name: Fail and continue
      fail: msg="What can go wrong?"
      ignore_errors: True

    - name: Fail
      fail: msg="OH SHI--"
```

Run:

```
1 plays in demo.yml
TASK: setup | localhost | OK | rc=n/a >>

TASK: Greetings | localhost | OK | rc=0 >>
Hello

TASK: Skip | localhost | SKIPPED | rc=n/a >>
```

```
TASK: Fail and continue | localhost | FAILED | rc=n/a >>
What can go wrong?

TASK: Fail | localhost | FAILED | rc=n/a >>
OH SHI--
```

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