



Stargate SGT final assignment

Team members:

Each team member has done independent research and practiced commands on their own; however, the biggest part of work work has been done during lessons while discussing problems together. And with support of our trainers, ofc.

▼ Anda

- Owner of the Git repository
- Performed the actual coding

▼ Santa

- Research

▼ Elina

- Git "setup" from command line
- Preparation of the presentation script

▼ Ruta

- Backup research

The goal of the assignment

- Create a VM with CentOS 7 operating system using Vagrant
- Provision the VM using Ansible commands
- Install GIT, JRE, JDK
- Create an additional user with `sudo` rights
- Connect to GitHub using the SSH key and clone the rep containing the Java Class
- Run the code

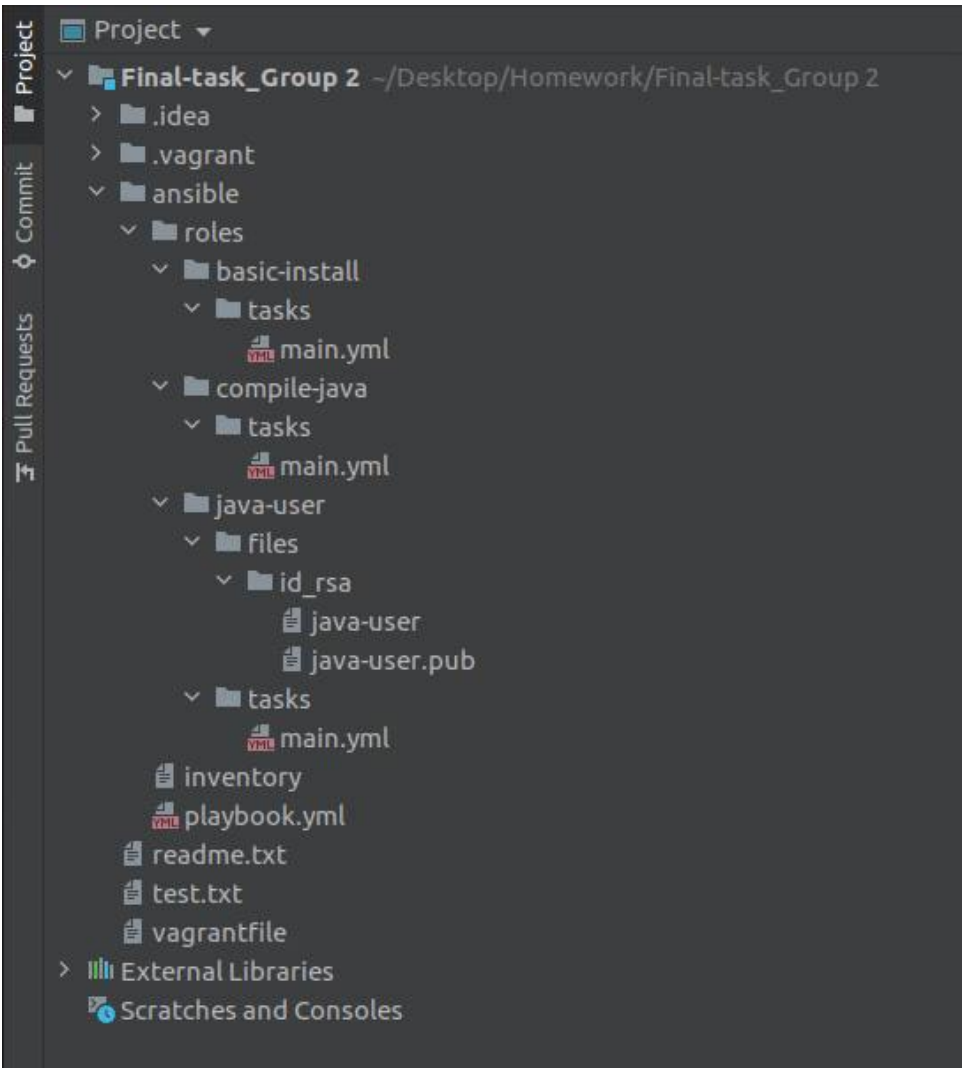
Step 1: touch Vagrantfile

Creating and configuring a VM

```
1 Vagrant.configure("2") do |config|
2
3   config.vm.define "monitoring" do |monitoring|
4     monitoring.vm.box = "centos/7"
5     monitoring.vm.network "private_network", ip: "192.168.60.10"
6
7   end
8
9   config.vm.provision "ansible" do |ansible|
10     ansible.playbook = "ansible/playbook.yml"
11
12   end
13
14 end
```

first part creates a VM with CentOS 7; second part ""instructs the machine to use Ansible commands.

Step 2: Directory structure



Step 3: Ansible files

touch inventory

```
1 [monitoring]
2 192.168.60.10
```

the inventory file contains a list of hosts

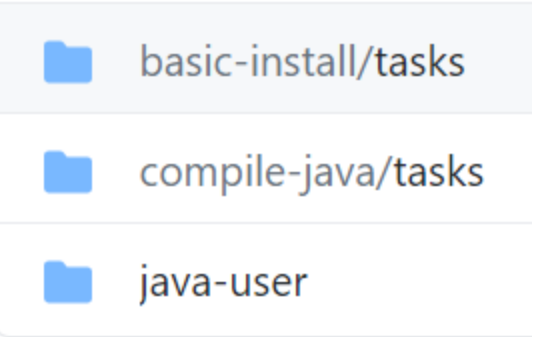
touch playbook.yml

```
1  - hosts: monitoring
2    become: true
3    roles:
4      - basic-install
5      - java-user
6      - compile-java
```

the playbook contains a list of roles to be performed on particular server

mkdir roles

We have agreed to create three roles to achieve the goal



basic-install role installs (duh) git, jre, jdk; java-user is for creating the additional user, providing sudo permissions and storing the ssh keys; compile-java role connects to github, clones the repository with simple java class, compiles the code and runs the program

mkdir tasks

Each role contains the tasks directory and supporting files if necessary. For example, there is an additional directory in java-user - for storing the ssh keys.

touch main.yml

Each tasks directory contains the main.yml file.

```
1  ---
2  - name: install some application on Centos
3    package:
4      state: present
5      name: "{{ item }}"
6    loop:
7      - git
8      - jre
9
10 - name: install OpenJDK 11 JRE
11   package:
12     name: java-11-openjdk
13     state: present
14     update_cache: yes
15
16 - name: install java - devel
17   package:
18     name: java-1.7.0-openjdk-devel
19     state: present
20     update_cache: yes
    basic-install
```

```
1  ---
2  - name: Create java-user
3    user:
4      name: java-user
5      state: present
6      append: yes
7      groups: wheel
8
9  - name: Create ssh directory
10   file:
11     path: /home/java-user/.ssh
12     state: directory
13     owner: java-user
14     group: java-user
15     mode: '0700'
16
17 - name: Copy public key
18   copy:
19     src: ../java-user/files/id_rsa/java-user.pub
20     dest: /home/java-user/.ssh/
21     owner: java-user
22     group: java-user
23     mode: '0644'
24
25 - name: Copy private key
26   copy:
27     src: ../java-user/files/id_rsa/java-user
28     dest: /home/java-user/.ssh
29     owner: java-user
30     group: java-user
31     mode: '0600'
32
33 - name: Add key to ssh-agent
34   shell: eval "$(ssh-agent -s)" && ssh-add /home/java-user/.ssh/java-user
35   become_user: java-user
```

java-user

```
1  ---
2  - name: Clone a repository
3    git:
4      repo: git@github.com:AndaBim/Branching.git
5      dest: /home/java-user/compile-java/
6      accept_hostkey: yes
7      key_file: /home/java-user/.ssh/java-user
8
9    become_user: java-user
10
11 - name: 'Compile app.java'
12   shell: javac /home/java-user/compile-java/src/com/company/Main.java
13   become_user: java-user
14
15 - name: run Java programme
16   shell: java Main
17   become_user: java-user
18   register: out
19   args:
20     chdir: /home/java-user/compile-java/src/com/company
21
22 - debug: var=out.stdout_lines
23
```


compile-java

Links

Please find the links to repositories with Vagrant/Ansible...

AndaBim/Final-task_Group-2


Contribute to AndaBim/Final-task_Group-2 development by creating an account on GitHub.

 https://github.com/AndaBim/Final-task_Group-2

...and Java class

AndaBim/Branching

Contribute to AndaBim/Branching development by creating an account on GitHub.

 <https://github.com/AndaBim/Branching>

Resources used:

- She Goes Tech study materials
- Stackoverflow
- Docs.Ansible