tedu_py1812_devops_day03

zabbix

官方文档页：https://www.zabbix.com/documentation/3.4/zh/manual

这里演示的环境路径是：/var/www/html/zabbix/

那么zabbix api地址是：http://192.168.4.2/zabbix/api_jsonrpc.php

ansible

准备环境

启动三台虚拟机：

node4.tedu.cn	192.168.4.4/24
node5.tedu.cn	192.168.4.5/24
node6.tedu.cn	192.168.4.6/24

名称解析：

```
[root@room8pc16 nsd2019]# for i in {1..254}
> do
> echo -e "192.168.4.$i\tnode$i.tedu.cn\tnode$i" >> /etc/hosts
> done
```

收集主机密钥：

```
[root@room8pc16 ~]# ssh-keyscan 192.168.4.{4..6} node{4..6} node{4..6}.tedu.cn >>
~/.ssh/known_hosts
```

安装ansible：

```
[root@room8pc16 zzg_pypkgs]# yum install -y sshpass
[root@room8pc16 zzg_pypkgs]# cd ansible_pkg/
[root@room8pc16 ansible_pkg]# pip3 install *
或
[root@room8pc16 ansible_pkg]# pip3 install ansible
```

配置ansible的基础应用环境

```
[root@room8pc16 day03]# mkdir myansible
[root@room8pc16 day03]# cd myansible/
[root@room8pc16 myansible]# vim ansible.cfg
[defaults]
inventory = hosts
remote_user = root
[dbservers]
node4.tedu.cn

[webservers]
node5.tedu.cn
node6.tedu.cn
[root@room8pc16 myansible]# ansible all -m ping -k
```

playbook

调整vim的配置，使它能够适应yaml的语法

```
[root@room8pc16 ~]# cat ~/.vimrc
set ai
set ts=4
set et
set encoding=utf8
autocmd FileType yaml setlocal sw=2 ts=2 et ai
```

创建playbook，实现免密登陆

```
[root@room8pc16 ~]# ansible-doc authorized_key
[root@room8pc16 myansible]# vim auth.yml
---
- name: user auth key
  hosts: all
  tasks:
    - name: upload root pub key
      authorized_key:
        user: root
        state: present
        key: "{{ lookup('file', '/root/.ssh/id_rsa.pub') }}"
[root@room8pc16 myansible]# ansible-playbook --syntax-check auth.yml
[root@room8pc16 myansible]# ansible-playbook auth.yml -k
```

通过playbook配置yum

```
[root@room8pc16 myansible]# mkdir files
[root@room8pc16 myansible]# vim files/server.repo
[root@room8pc16 myansible]# vim yum.yml
---
- name: upload yum repo file
  hosts: all
  tasks:
    - name: upload server.repo
```

```
      copy:
        src: files/server.repo
        dest: /etc/yum.repos.d/server.repo
[root@room8pc16 myansible]# ansible-playbook --syntax-check yum.yml
[root@room8pc16 myansible]# ansible-playbook yum.yml
# 检查web服务器是否安装了mariadb-server
[root@room8pc16 myansible]# ansible dbservers -m yum -a "list=mariadb-server"
```

playbook：在dbservers上配置mariadb，在webservers上配置apache

```
[root@room8pc16 myansible]# vim lamp.yml
---
- name: configure dbservers
  hosts: dbservers
  tasks:
    - name: install mariadb
      yum:
        name: mariadb-server
        state: present
    - name: start mariadb
      service:
        name: mariadb
        state: started
        enabled: yes

- name: configure webservers
  hosts: webservers
  tasks:
    - name: install apache
      yum:
        name: [httpd, php, php-mysql]
        state: latest
    - name: start httpd
      service:
        name: httpd
        state: started
        enabled: yes
[root@room8pc16 myansible]# ansible-playbook --syntax-check lamp.yml
[root@room8pc16 myansible]# ansible-playbook lamp.yml
```

ansible python api

官方手册页：https://docs.ansible.com/ ->Ansible Documentation -> 搜索python api。把python api example中的
代码复制粘贴到adhoc.py

命名元组：为元组的下标起名，仍然具有元组的属性

```
>>> from collections import namedtuple
>>> Point = namedtuple('Point', ['x', 'y', 'z'])
>>> p1 = Point(10, 20, 25)
>>> len(p1)
3
```

```
>>> p1[0]
10
>>> p1[1:]
(20, 25)
>>> p1.x
10
>>> p1.y
20
>>> p1.z
25
```

ansible模块开发

```
# 建立自定义模块目录
[root@room8pc16 day03]# mkdir library
[root@room8pc16 day03]# cd library
[root@room8pc16 library]# export
ANSIBLE_LIBRARY=/var/ftp/nsd2019/nsd1812/devops/day03/library
# 编写模块，用于在远程主机上将一个文件拷贝到目标位置
[root@room8pc16 library]# vim mycopy.py
import shutil
from ansible.module_utils.basic import AnsibleModule

def main():
    module = AnsibleModule(
        argument_spec=dict(
            yuan=dict(required=True, type='str'),
            mubiao=dict(required=True, type='str')
        )
    )
    shutil.copy(module.params['yuan'], module.params['mubiao'])
    module.exit_json(changed=True)

if __name__ == '__main__':
    main()

[root@room8pc16 myansible]# ansible dbservers -m mycopy -a "yuan=/etc/hosts
mubiao=/tmp/zj.txt"
```

ansible-cmdb模块

用于将ansible收集下来的主机信息转换成html页面

```
[root@room8pc16 zzg_pypkgs]# cd ansible-cmdb_pkgs/
[root@room8pc16 ansible-cmdb_pkgs]# pip3 install *
[root@room8pc16 ansible-cmdb_pkgs]# vim /usr/local/bin/ansible-cmdb
PY_BIN=$(which python3)    # 第8行改为python3，默认是python2

# 通过setup模块收集远程主机信息并保存到/tmp/out/目录
[root@room8pc16 myansible]# ansible all -m setup --tree /tmp/out/
# 利用ansible-cmdb分析/tmp/out/下的文件，生成html
[root@room8pc16 myansible]# ansible-cmdb /tmp/out/ > /tmp/hosts.html
[root@room8pc16 myansible]# firefox /tmp/hosts.html
```