Ansible模块知多少

ansible 默认提供了很多模块来供我们使用。在 Linux 中，我们可以通过 ansible-doc -l 命令查看到当前 ansible 都支持哪些模块，通过 ansible-doc -s 模块名 又可以查看该模块有哪些参数可以使用。

下面介绍比较常用的几个模块：

```
1    copy模块
2    file模块
3    cron模块
4    group模块
5    user模块
6    yum模块
7    service模块
8    script模块
9    ping模块
10   command模块
11   raw模块
12   get_url模块
13   synchronize模块
```

copy模块：

目的：把主控端/root目录下的a.sh文件拷贝到到指定节点上

命令：ansible 10.1.1.113 -m copy -a 'src=/root/a.sh dest=/tmp/'

执行效果：

file模块：

目的：更改指定节点上/tmp/t.sh的权限为755，属主和属组为root

命令：ansible all -m file -a "dest=/tmp/t.sh mode=755 owner=root group=root"

执行效果：

```
[root@relay-ops01-rj relay-ops01-rj.btr   /root]
# ansible 10.1.1.113 -m file -a "dest=/tmp/t.sh mode=755 owner=root group=root"
 [WARNING]: The version of gmp you have installed has a known issue regarding
timing vulnerabilities when used with pycrypto. If possible, you should update
it (ie. yum update gmp).

10.1.1.113 | success >> {
    "changed": true,
    "gid": 0,
    "group": "root",
    "mode": "0755",
    "owner": "root",
    "path": "/tmp/t.sh",
    "size": 0,
    "state": "file",
    "uid": 0
}
```

cron模块：

目的：在指定节点上定义一个计划任务，每隔3分钟到主控端更新一次时间

命令：ansible all -m cron -a 'name="custom job" minute=*/3 hour=* day=* month=* weekday=* job="/usr/sbin/ntpdate 172.16.254.139"'

执行效果：

```
[root@relay-ops01-rj relay-ops01-rj.btr   /root]
# ansible 10.1.1.113 -m cron -a 'name="custom job" minute=*/3 hour=* day=* month=* weekday=* job="/usr/sbin/ntpdate 10.1.1.101"'
 [WARNING]: The version of gmp you have installed has a known issue regarding
timing vulnerabilities when used with pycrypto. If possible, you should update
it (ie. yum update gmp).

10.1.1.113 | success >> {
    "changed": true,
    "jobs": [
        "custom job"
    ]
}

[root@relay-ops01-rj relay-ops01-rj.btr   /root]
# ansible 10.1.1.113 -a 'crontab -l'
 [WARNING]: The version of gmp you have installed has a known issue regarding
timing vulnerabilities when used with pycrypto. If possible, you should update
it (ie. yum update gmp).

10.1.1.113 | success | rc=0 >>
30 23 * * * /usr/local/scripts/auto-del-20-days-ago-log.sh
#Ansible: custom job
*/3 * * * * /usr/sbin/ntpdate 10.1.1.101
```

group模块：

目的：在所有节点上创建一个组名为nolinux，gid为2014的组

命令：ansible all -m group -a 'gid=2014 name=nolinux'

执行效果：

```
[root@relay-ops01-rj relay-ops01-rj.btr   /root]
# ansible 10.1.1.113 -m group -a 'gid=2014 name=nolinux'
 [WARNING]: The version of gmp you have installed has a known issue regarding
timing vulnerabilities when used with pycrypto. If possible, you should update
it (ie. yum update gmp).

10.1.1.113 | success >> {
    "changed": true,
    "gid": 2014,
    "name": "nolinux",
    "state": "present",
    "system": false
}
```

user模块：

目的：在指定节点上创建一个用户名为nolinux，组为nolinux的用户

命令：ansible 10.1.1.113 -m user -a 'name=nolinux groups=nolinux state=present'

执行命令：

补充：删除用户示例

yum模块：

目的：在指定节点上安装 lrzsz 服务

命令：ansible all -m yum -a "state=present name=httpd"

执行效果：

service模块：

目的：启动指定节点上的 puppet 服务，并让其开机自启动

命令：ansible 10.1.1.113 -m service -a 'name=puppet state=restarted enabled=yes'

执行效果：

```
[root@relay-ops01-rj relay-ops01-rj.btr  /root]
# ansible 10.1.1.113 -m service -a "name=puppet state=restarted enabled=yes"
 [WARNING]: The version of gmp you have installed has a known issue regarding
timing vulnerabilities when used with pycrypto. If possible, you should update
it (ie. yum update gmp).

10.1.1.113 | success >> {
    "changed": true,
    "enabled": true,
    "name": "puppet",
    "state": "started"
}
```

script模块：

目的：在指定节点上执行/root/a.sh脚本(该脚本是在ansible控制节点上的)

命令：ansible 10.1.1.113 -m script -a '/root/a.sh'

执行效果：

```
[root@relay-ops01-rj relay-ops01-rj.btr  /root]
# cat a.sh
hostname
[root@relay-ops01-rj relay-ops01-rj.btr  /root]
# ansible 10.1.1.113 -m script -a '/root/a.sh'
 [WARNING]: The version of gmp you have installed has a known issue regarding
timing vulnerabilities when used with pycrypto. If possible, you should update
it (ie. yum update gmp).

10.1.1.113 | success >> {
    "changed": true,
    "rc": 0,
    "stderr": "",
    "stdout": "repair-web01-rj.btr\n"
}
```

ping模块：

目的：检查指定节点机器是否还能连通

命令：ansible 10.1.1.113 -m ping

执行效果：

```
[root@relay-ops01-rj relay-ops01-rj.btr  /root]
# ansible 10.1.1.113 -m ping
 [WARNING]: The version of gmp you have installed has a known issue regarding
timing vulnerabilities when used with pycrypto. If possible, you should update
it (ie. yum update gmp).

10.1.1.113 | success >> {
    "changed": false,
    "ping": "pong"
}
```

command模块：

目的：在指定节点上运行hostname命令

命令：ansible 10.1.1.113 -m command -a 'hostname'

执行效果：

```
[root@relay-ops01-rj relay-ops01-rj.btr   /root]
# ansible 10.1.1.113 -m command -a 'hostname'
 [WARNING]: The version of gmp you have installed has a known issue regarding
timing vulnerabilities when used with pycrypto. If possible, you should update
it (ie. yum update gmp).

10.1.1.113 | success | rc=0 >>
repair-web01-rj.btr


[root@relay-ops01-rj relay-ops01-rj.btr   /root]
# ansible 10.1.1.113 -m command -a 'hostname|tee'
 [WARNING]: The version of gmp you have installed has a known issue regarding
timing vulnerabilities when used with pycrypto. If possible, you should update
it (ie. yum update gmp).

10.1.1.113 | FAILED | rc=2 >>
[Errno 2] No such file or directory
```

raw模块：

目的：在10.1.1.113节点上运行hostname命令

命令：ansible 10.1.1.113 -m raw-a 'hostname|tee'

执行效果：

```
[root@relay-ops01-rj relay-ops01-rj.btr   /root]
# ansible 10.1.1.113 -m raw -a 'hostname|tee'
 [WARNING]: The version of gmp you have installed has a known issue regarding
timing vulnerabilities when used with pycrypto. If possible, you should update
it (ie. yum update gmp).

10.1.1.113 | success | rc=0 >>
repair-web01-rj.btr
```

get_url模块：

目的：将http://10.1.1.116/favicon.ico文件下载到指定节点的/tmp目录下

命令：ansible 10.1.1.113 -m get_url -a 'url=http://10.1.1.116/favicon.ico dest=/tmp'

执行效果：

```
[root@relay-ops01-rj relay-ops01-rj.btr   /root]
# ansible 10.1.1.113 -a 'ls /tmp/favicon.ico'
 [WARNING]: The version of gmp you have installed has a known issue regarding
timing vulnerabilities when used with pycrypto. If possible, you should update
it (ie. yum update gmp).

10.1.1.113 | FAILED | rc=2 >>
ls: cannot access /tmp/favicon.ico: No such file or directory

[root@relay-ops01-rj relay-ops01-rj.btr   /root]
# ansible 10.1.1.113 -m get_url -a 'url=http://10.1.1.116/favicon.ico dest=/tmp'
 [WARNING]: The version of gmp you have installed has a known issue regarding
timing vulnerabilities when used with pycrypto. If possible, you should update
it (ie. yum update gmp).

10.1.1.113 | success >> {
    "changed": true,
    "dest": "/tmp/favicon.ico",
    "gid": 0,
    "group": "root",
    "md5sum": "d41d8cd98f00b204e9800998ecf8427e",
    "mode": "0644",
    "msg": "OK (0 bytes)",
    "owner": "root",
    "secontext": "unconfined_u:object_r:user_tmp_t:s0",
    "sha256sum": "",
    "size": 0,
    "src": "/tmp/tmpcyZGhl",
    "state": "file",
    "uid": 0,
    "url": "http://10.1.1.116/favicon.ico"
}


[root@relay-ops01-rj relay-ops01-rj.btr   /root]
# ansible 10.1.1.113 -a 'ls /tmp/favicon.ico'
 [WARNING]: The version of gmp you have installed has a known issue regarding
timing vulnerabilities when used with pycrypto. If possible, you should update
it (ie. yum update gmp).

10.1.1.113 | success | rc=0 >>
/tmp/favicon.ico
```

synchronize模块：

目的：将主控方/root/a目录推送到指定节点的/tmp目录下

命令：ansible 10.1.1.113 -m synchronize -a 'src=/root/a dest=/tmp/ compress=yes'

执行效果：

delete=yes　使两边的内容一样（即以推送方为主）

compress=yes 开启压缩，默认为开启

--exclude=.git 忽略同步.git结尾的文件

由于模块，默认都是推送push。因此，如果你在使用拉取pull功能的时候，可以参考如下来实现

mode=pull　更改推送模式为拉取模式

目的：将10.1.1.113节点的/tmp/a目录拉取到主控节点的/root目录下

命令：ansible 10.1.1.113 -m synchronize -a 'mode=pull src=/tmp/a dest=/root/'

执行效果：

由于模块默认启用了archive参数，该参数默认开启了recursive, links, perms, times, owner，group和-D参数。如果你将该参数设置为no，那么你将停止很多参数，比如会导致如下目的递归失败，导致无法拉取

```
[root@relay-ops01-rj relay-ops01-rj.btr  /root]
#  rm -rf a

[root@relay-ops01-rj relay-ops01-rj.btr  /root]
# ansible 10.1.1.113 -m synchronize -a 'archive=no mode=pull src=/tmp/a dest=/root/'
 [WARNING]: The version of gmp you have installed has a known issue regarding
timing vulnerabilities when used with pycrypto. If possible, you should update
it (ie. yum update gmp).

10.1.1.113 | success >> {
    "changed": false,
    "cmd": "rsync --delay-updates -FF --compress --rsh 'ssh  -o StrictHostKeyChecking=no' --out-format='<<CHANGED>>%i %n%L' \"root@10.1.1.113:/tmp/a\" \"/root/\"",
    "msg": "skipping directory a\n",
    "rc": 0,
    "stdout_lines": [
        "skipping directory a"
    ]
}

[root@relay-ops01-rj relay-ops01-rj.btr  /root]
# tree a
a [error opening dir]

0 directories, 0 files
```

其它相关的参数解释：

```
1   dest_port=22        # 指定目的主机的ssh端口，ansible配置文件中的  ansible_ssh_port  变量优先级高于该  dest_port
    变量
2   rsync_path          # 指定  rsync  命令来在远程服务器上运行。这个参考rsync命令的--rsync-path参数，--rsync-path=
3   PATH        # 指定远程服务器上的rsync命令所在路径信息
    rsync_timeout       # 指定  rsync  操作的  IP  超时时间，和rsync命令的  --timeout  参数效果一样
```

OK！

以上暂且列举这些日常运维中经常会用到的一些模块，更多的模块信息后期会继续完善，大家也可以去官网查看更多的信息。