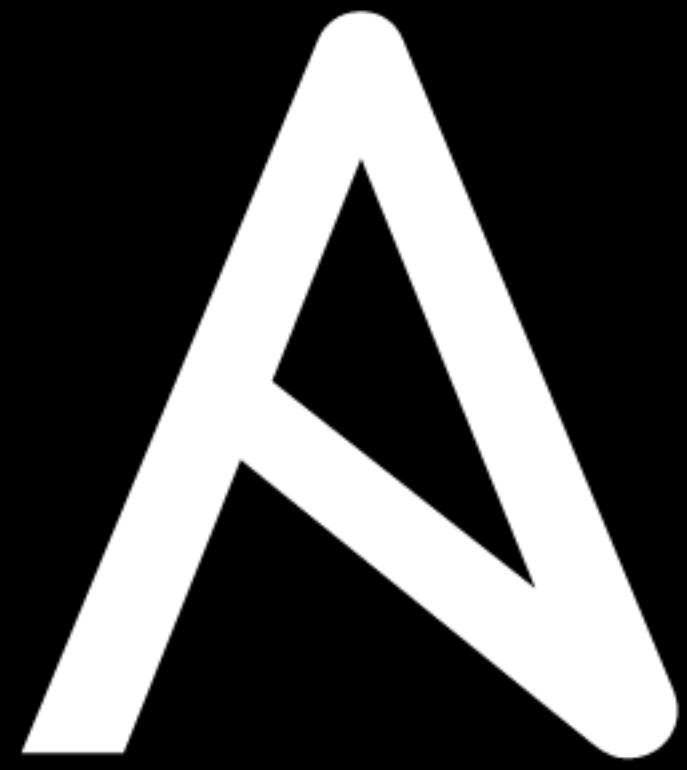
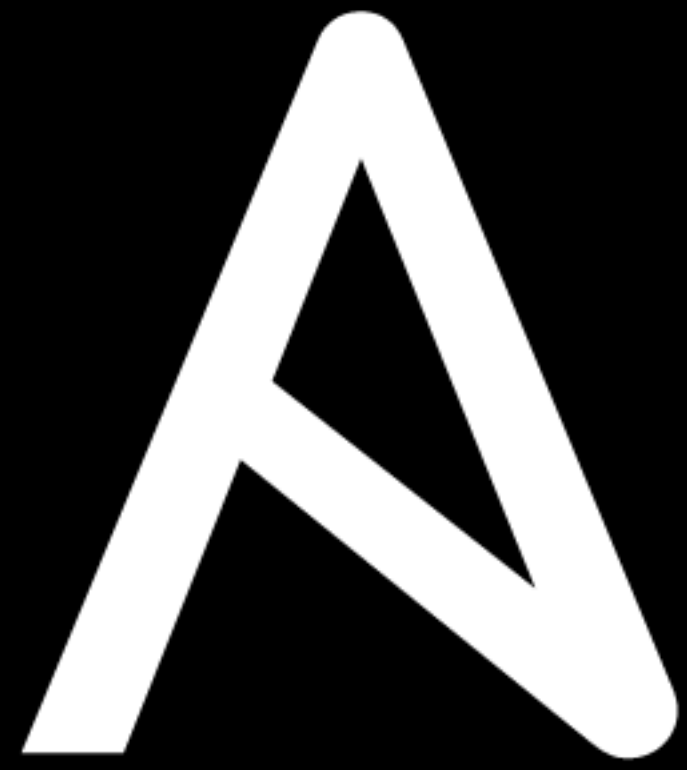


docker build with Ansible



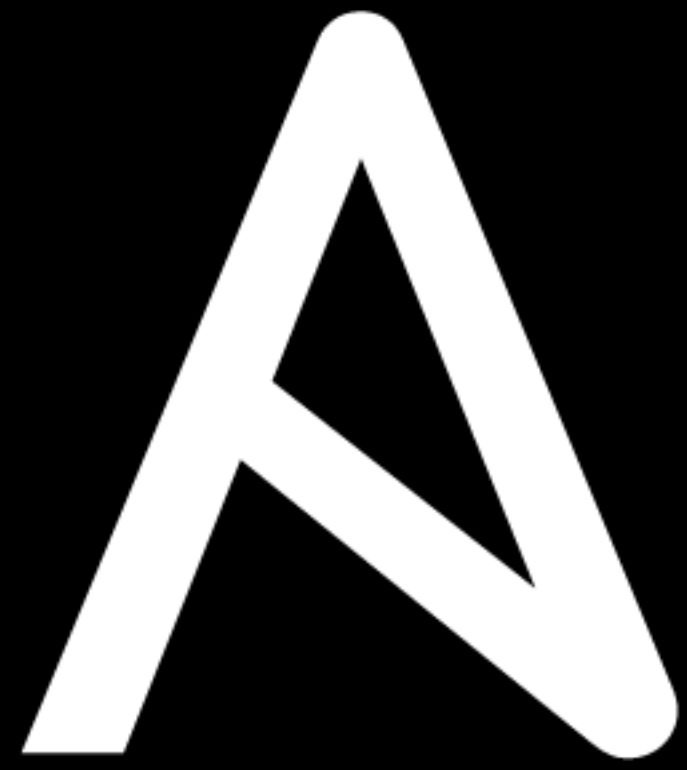
Application construction with Ansible

- vagrant, local mode
- packer, image creation
- cloud & bare metal provisioning
- deployment & remote execution



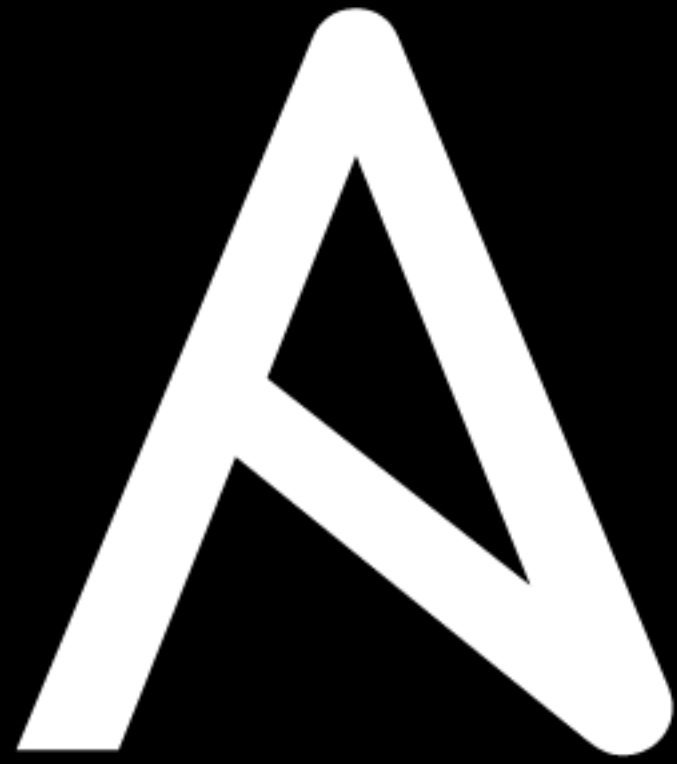
Application construction with Dockerfile

- Dockerfile is the Docker way
- Each instruction creates a layer
- Lots of bash commands
- Maintainability? Testability?
- Portability?



Demo

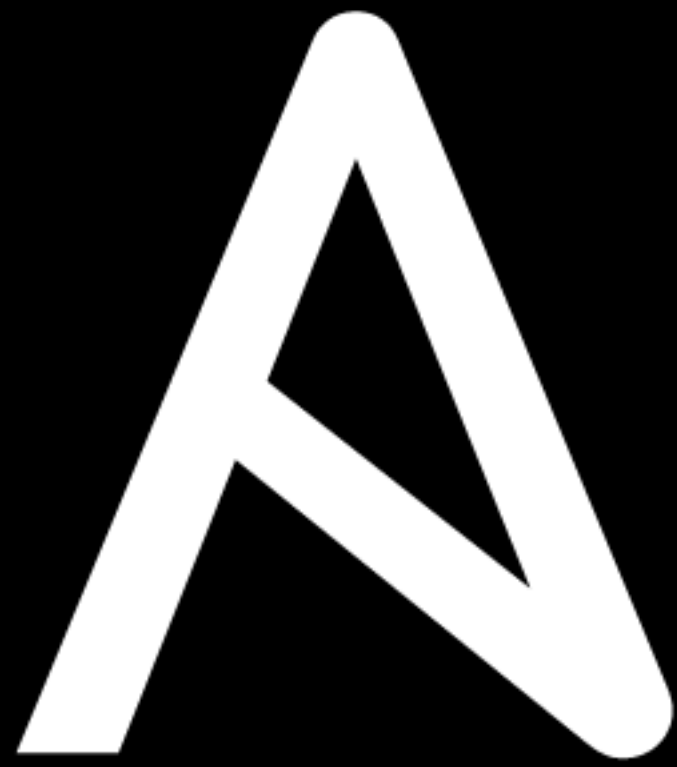
- <https://github.com/bbaassssiiee/truedemo.git>



tree

```
.
|-- Dockerfile
|-- Makefile
|-- ansible
|   |-- ansible.cfg
|   |-- hosts
|   |-- playbook.yml
|   |-- requirements.yml
|   `-- vars.yml
`-- webapps
    `-- gameoflife.war
```

2 directories, 8 files



Dockerfile

```
FROM centos:centos7
MAINTAINER Bas Meijer <bas.meijer@me.com>
LABEL running="docker run -d -p 8080:8080 dockpack/tomcat:7"
```

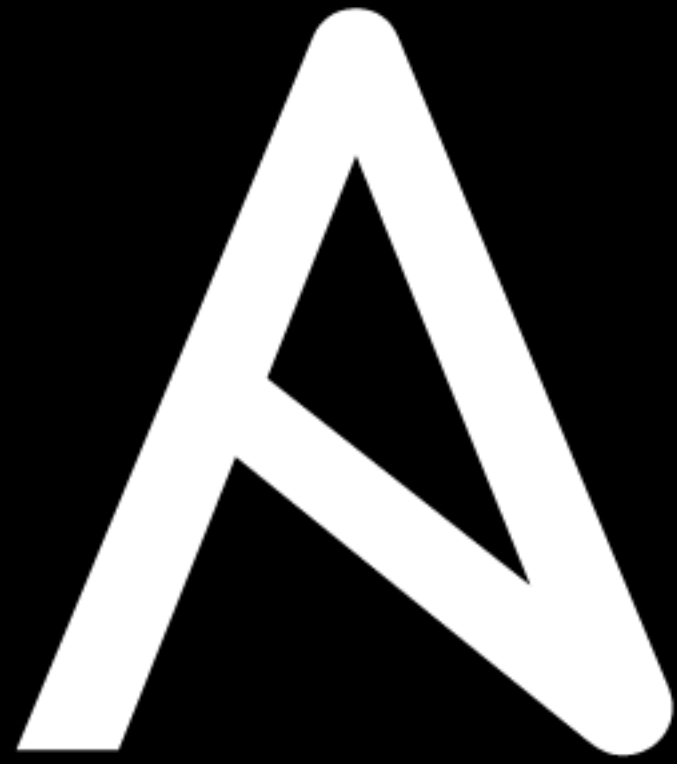
```
ADD ansible /tmp/ansible
```

```
RUN yum update -y && \
    yum install -y epel-release && \
    yum install -y ansible tar && \
    yum clean all && \
    cd /tmp/ansible && \
    ansible-galaxy install --force -r requirements.yml && \
    ansible-playbook playbook.yml
```

```
ADD webapps /opt/apache-tomcat/webapps
ENV CATALINA_HOME /opt/apache-tomcat
ENV PATH $CATALINA_HOME/bin:$PATH
WORKDIR $CATALINA_HOME
```

```
EXPOSE 8080
```

```
ENTRYPOINT ["/opt/apache-tomcat/bin/catalina.sh", "run"]
```



Makefile

```
AUTHOR=dockpack  
NAME=tomcat  
VERSION=7
```

```
.PHONY: all build bash run help  
all: build
```

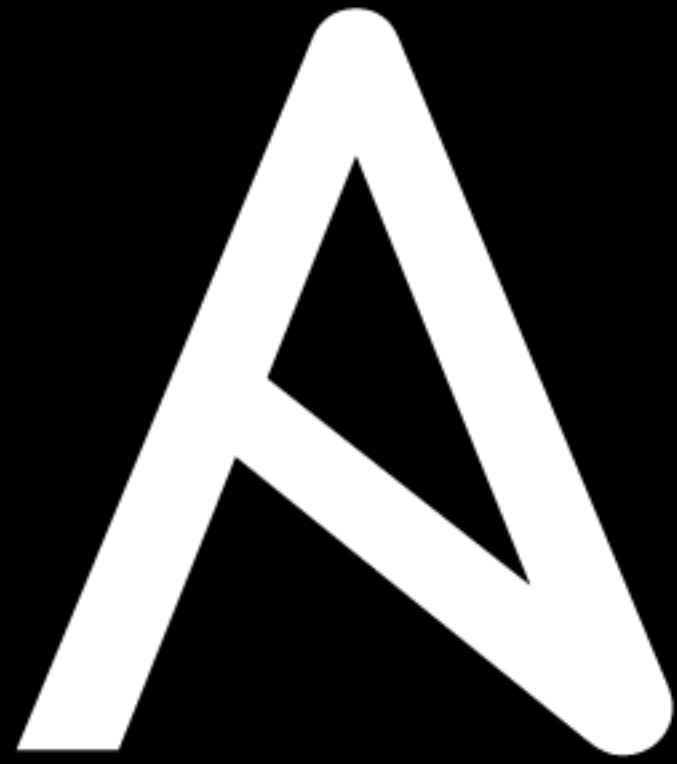
```
build:  
    docker build -t $(AUTHOR)/$(NAME):$(VERSION) .
```

```
bash:  
    docker exec -ti dockpacktomcat /bin/bash
```

```
run:  
    docker run --name dockpacktomcat -h dockpacktomcat -d -p 8080:8080 $  
    (AUTHOR)/$(NAME):$(VERSION)
```

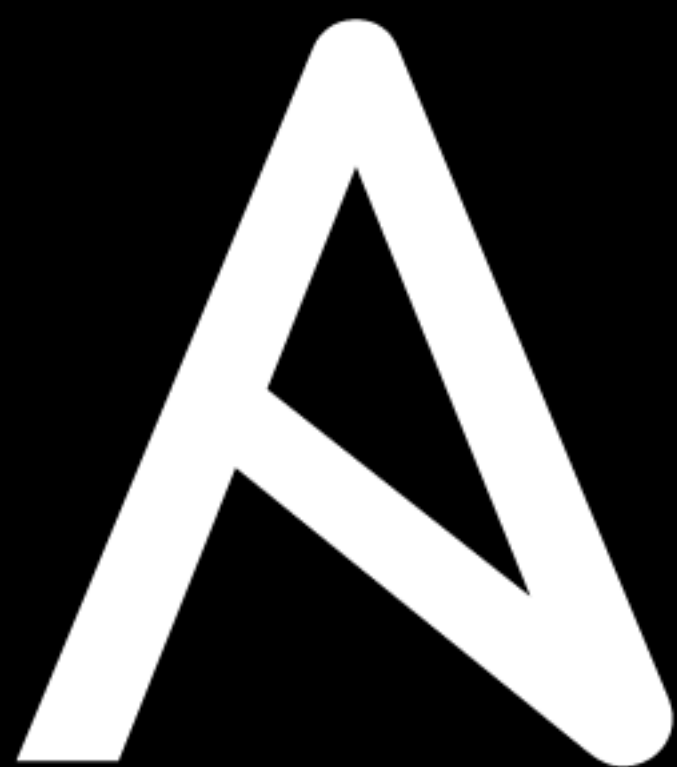
```
help:  
    @docker inspect $(AUTHOR)/$(NAME):$(VERSION) | grep -i running | head -1
```

```
test:  
    open http://$(DOCKERHOST):8080/gameoflife/
```



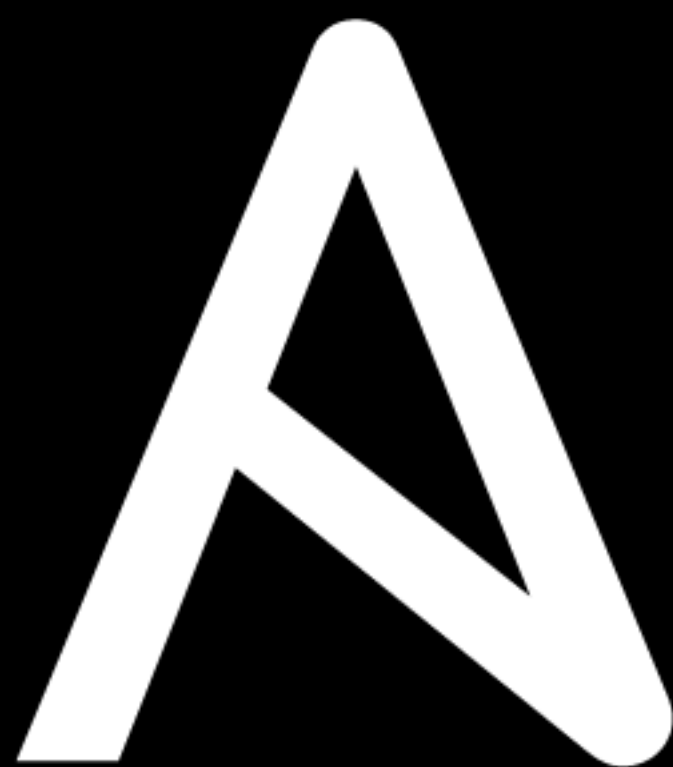
playbook.yml

```
---  
- hosts: docker  
  connection: local  
  user: root  
  gather_facts: False  
  
vars_files:  
  - vars.yml  
  
roles:  
  - geerlingguy.java  
  - hudecof.tomcat
```

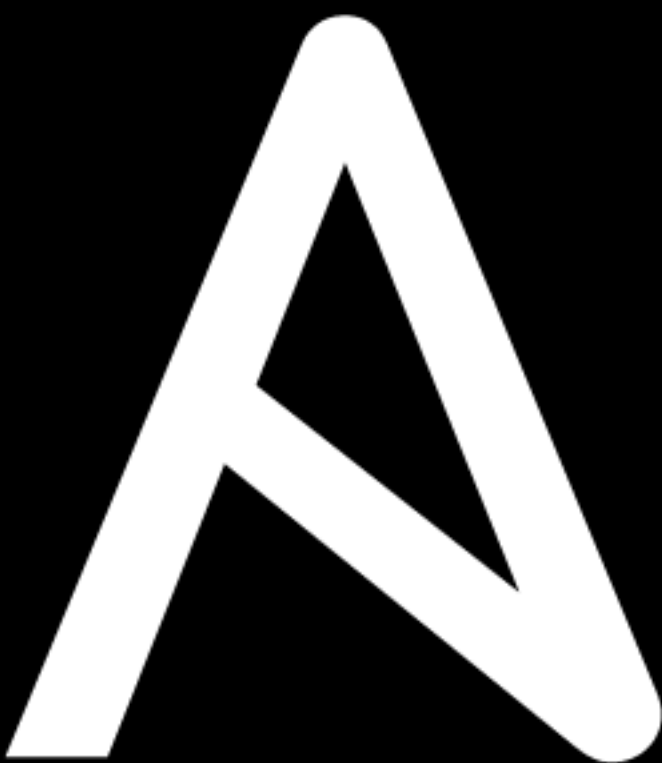
docker build

```
docker build -t dockpack/tomcat:7 .  
Sending build context to Docker daemon 6.578 MB  
Step 0 : FROM centos:centos7  
--> ce20c473cd8a  
Step 1 : MAINTAINER Bas Meijer <bas.meijer@me.com>  
--> Running in 5e577b479ab4  
--> 836c1c700c00  
Removing intermediate container 5e577b479ab4  
Step 2 : LABEL running "docker run -d -p 8080:8080 dockpack/tomcat:7"  
--> Running in 56b9e596adc7  
--> 2b0f03a6e415  
Removing intermediate container 56b9e596adc7  
Step 3 : ADD ansible /tmp/ansible  
--> b282cb737950  
Removing intermediate container b20ea1f41fef  
Step 4 : RUN yum update -y && yum install -y epel-release &&  
yum install -y ansible tar && yum clean all && cd /tmp/ansible  
&& ansible-galaxy install --force -r requirements.yml &&  
ansible-playbook playbook.yml  
--> Running in 8ed5acb65b06
```



docker build

```
---> 600eb11ee771
Removing intermediate container 8ed5acb65b06
Step 5 : ADD webapps /opt/apache-tomcat/webapps
---> 4db505c0ad3a
Removing intermediate container 9ef85479e13b
Step 6 : ENV CATALINA_HOME /opt/apache-tomcat
---> Running in e0898552f75b
---> acd4777b6cff
Removing intermediate container e0898552f75b
Step 7 : ENV PATH $CATALINA_HOME/bin:$PATH
---> Running in cd95c5057ae6
---> 3757a691866e
Removing intermediate container cd95c5057ae6
Step 8 : WORKDIR $CATALINA_HOME
---> Running in 10ffaf35619e
---> ffae6214c059
Removing intermediate container 10ffaf35619e
Step 9 : EXPOSE 8080
---> Running in d728ed59907a
---> 729cb0905aa4
Removing intermediate container d728ed59907a
Step 10 : ENTRYPOINT /opt/apache-tomcat/bin/catalina.sh run
---> Running in d3014eaa2706
---> d73eddf84268
Removing intermediate container d3014eaa2706
Successfully built d73eddf84268
```



ansible is 27 Mb

| | | | | |
|-------------------------------------|--------|--------------------|--------|-------|
| Installing: | | | | |
| ansible | noarch | 1.9.4-1.el7 | epel | 1.7 M |
| Installing for dependencies: | | | | |
| PyYAML | x86_64 | 3.10-11.el7 | base | 153 k |
| libyaml | x86_64 | 0.1.4-11.el7_0 | base | 55 k |
| python-babel | noarch | 0.9.6-8.el7 | base | 1.4 M |
| python-backports | x86_64 | 1.0-8.el7 | base | 5.8 k |
| python-backports-ssl_match_hostname | noarch | 3.4.0.2-4.el7 | base | 12 k |
| python-crypto | x86_64 | 2.6.1-1.el7.centos | extras | 470 k |
| python-ecdsa | noarch | 0.11-3.el7.centos | extras | 69 k |
| python-httplib2 | noarch | 0.7.7-3.el7 | epel | 70 k |
| python-jinja2 | noarch | 2.7.2-2.el7 | base | 515 k |
| python-keyczar | noarch | 0.71c-2.el7 | epel | 218 k |
| python-markupsafe | x86_64 | 0.11-10.el7 | base | 25 k |
| python-paramiko | noarch | 1.15.1-1.el7 | epel | 999 k |
| python-pyasn1 | noarch | 0.1.6-2.el7 | base | 91 k |
| python-setuptools | noarch | 0.9.8-3.el7 | base | 396 k |
| python-six | noarch | 1.3.0-4.el7 | base | 18 k |
| sshpass | x86_64 | 1.05-5.el7 | epel | 21 k |

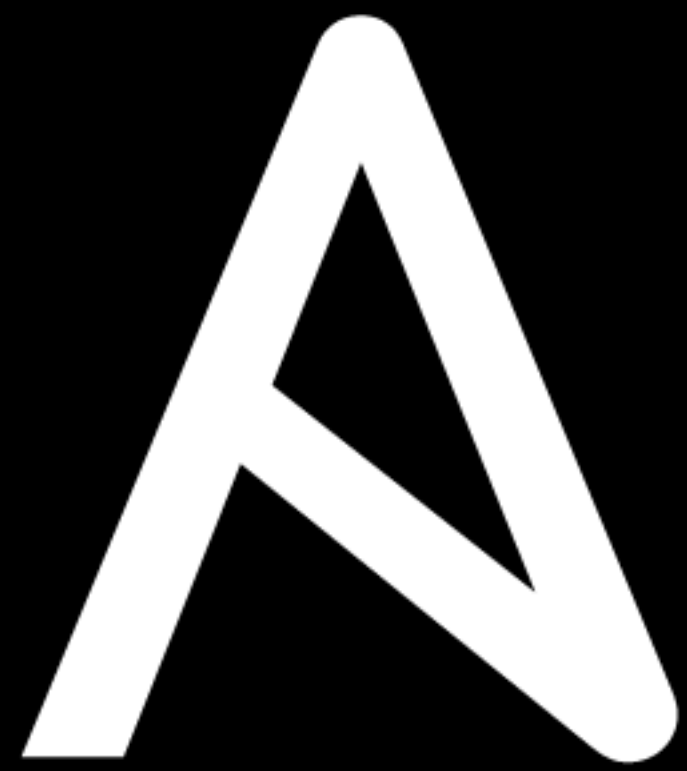
Transaction Summary

=====

Install 1 Package (+16 Dependent packages)

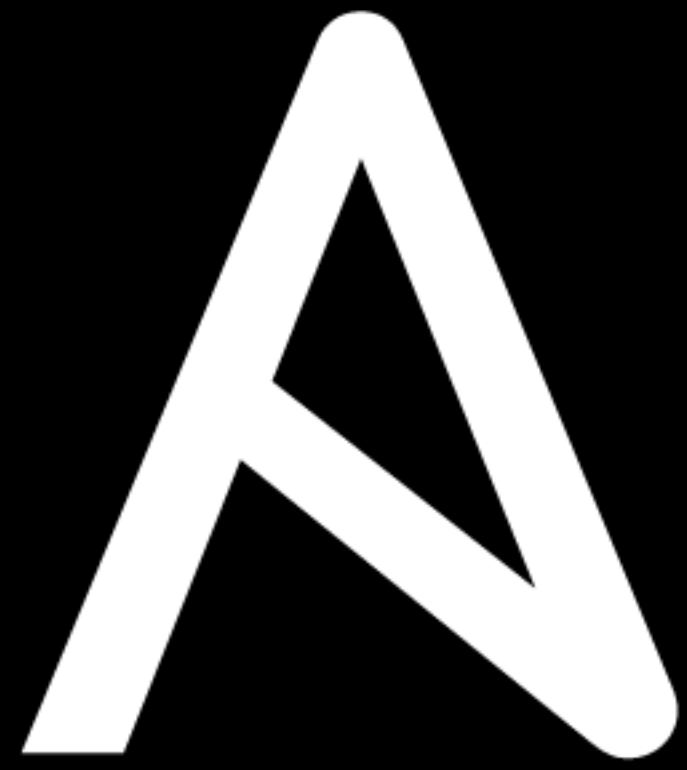
Total download size: 6.1 M

Installed size: 27 M



docker build with Ansible

- postpone decision how to run
- re-use app construction plays
- well-structured Ansible
- reduce number of layers
- little extra space



That`s all folks!