RED HAT
OPEN SOURCE DAY
Europe, Middle East & Africa

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Automation for accelerating DevOps adoption

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DevOps at **Kiratech**

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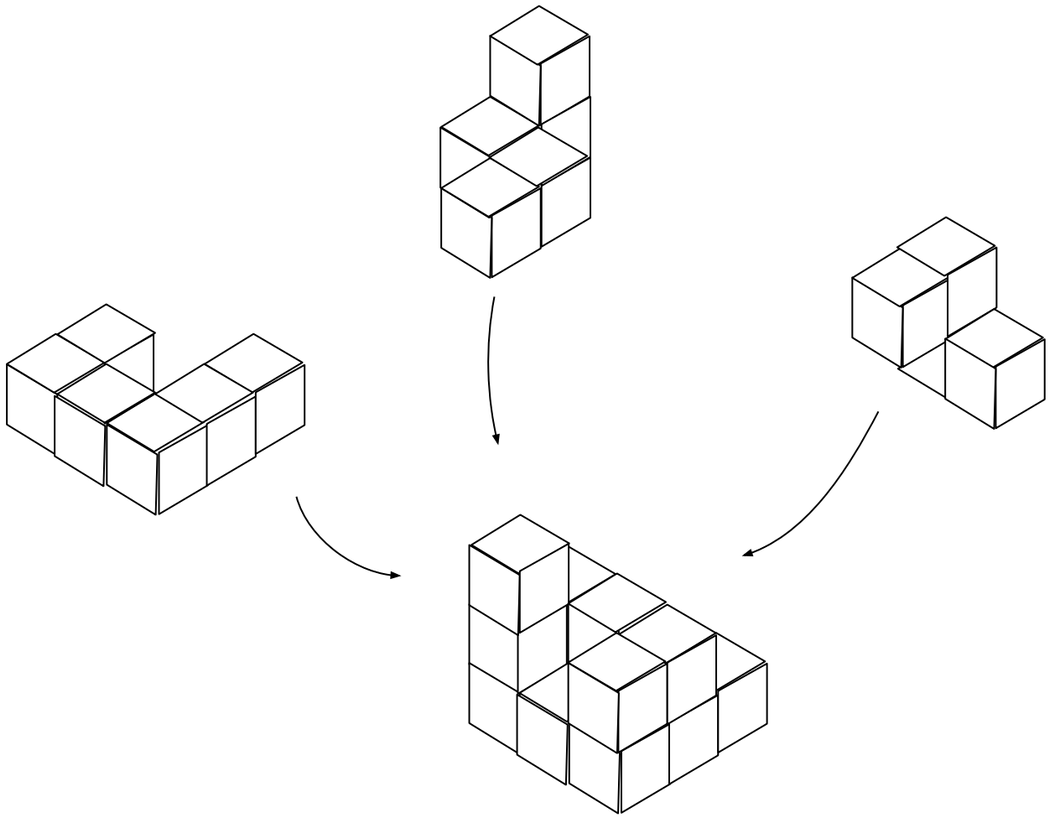
SOLVING PROBLEMS IS COOL



BASTARD
OPERATOR
FROM HELL
IN DISK SPACE, NOBODY CAN
HEAR YOUR FILES SCREAM.

RISKS FOR OPS TEAMS

Lack of communication

Slow work **iterations**

Human error

Heroes

No **focus** on **real problem solving**

KEY POINTS

- Solving everyday always the same problems **is bad**
- The team should actually **work and act as a team** and NOT as a group of people **waiting for the hero** to do something
- If the whole Operations team disappears t**he company should not die**

CAMS

CAMS

- Culture
- **Automation**
- Measurement
- Sharing

AUTOMATION IS THE KEY

NEEDS OF OPS TEAMS

Application Deployment

State of art **Documentation**

Building Blocks

System Management

People focus on what matters

Knowledge sharing

Transparency

Understandable

POSSIBLE SOLUTIONS

- A collection of reusable scripts
- A wiki
- A collaboration tool
- Integrate an application deployment tool

YEAH BUT...

- A wiki gets **outdated in 0 seconds**
- A collection of scripts is **not very scalable**
- Would be better to have something I can write once

THE REAL NEED

Something **verbose and complete like a wiki** but that can be **actually executed** to do the operations I need and that once created or updated doesn't need for me to chang other things accordingly.

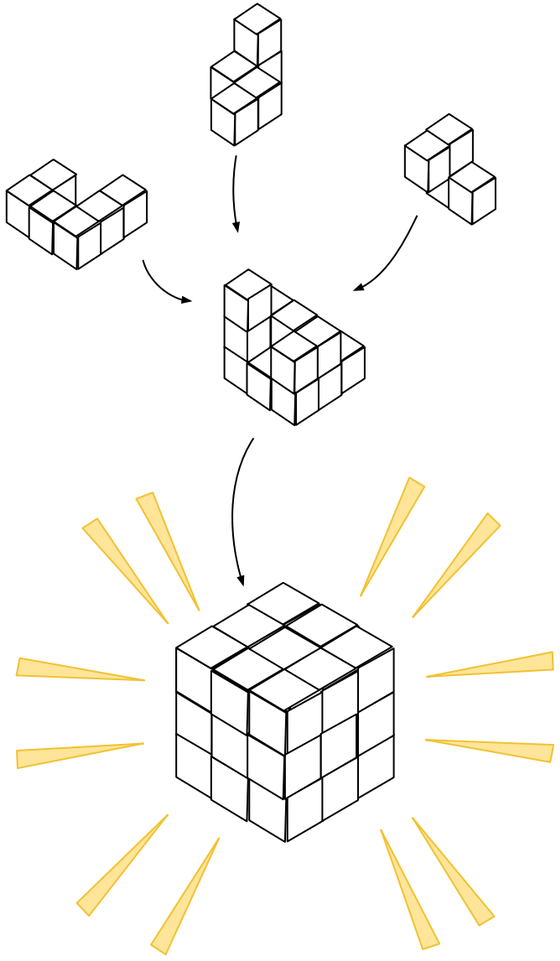
In one word:

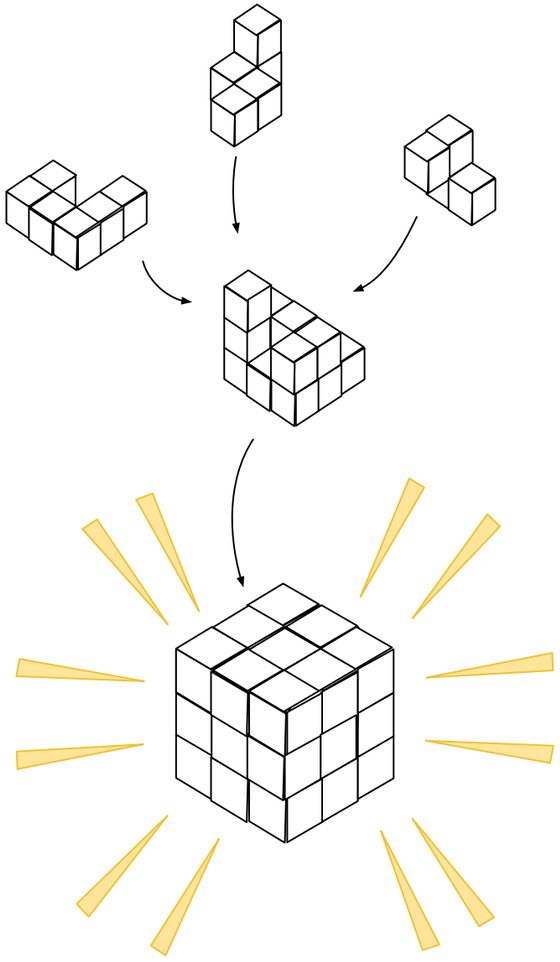
#executableselfexplainingdocumentation

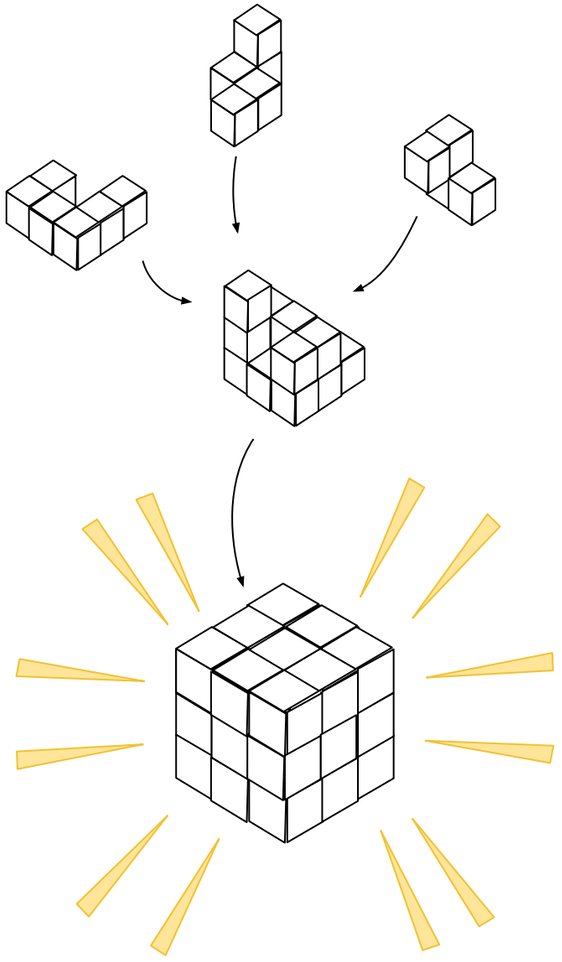
ANSIBLE POINTS

- You can solve a problem once by writing a role
- The role can be shared with others
- Perfect to be introducted in any infrastructure.
- Agentless
- Roles act as documentation
- Multi tier deployments
- Good with eterogeneous IT environments
- Modular (400+ modules or build your own)
- Ansible Galaxy

```yaml
---
  - name: Install MariaDB
    yum: name={{ item }} update_cache=yes cache_valid_time=3600 state=present
    sudo: yes
    with_items:
    - python-mysqldb
    - mariadb
  - name: copy cnf
    copy: src=.my.cnf dest=~/.my.cnf owner=mysqld mode=0644
    sudo: yes
  - name: Start the MySQL service
    sudo: yes
    service:
      name: mariadb
      state: started
      enabled: true
  - name: update mysql root password for all root accounts
    sudo: yes
    mysql_user:
      name: root
      host: "{{ item }}"
      password: "{{ mysql_root_password }}"
      login_user: root
      login_password: "{{ mysql_root_password }}"
      check_implicit_admin: yes
      priv: "*.*:ALL,GRANT"
    with_items:
      - "{{ ansible_hostname }}"
      - 127.0.0.1
      - ::1
```







ANSIBLE
TOWER
by Red Hat®
KIRATECH®
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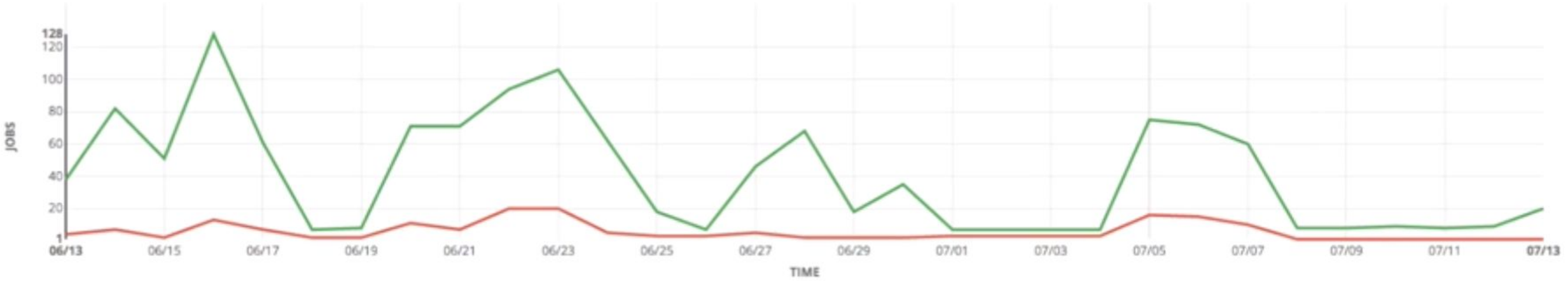
TOWER PROJECTS INVENTORIES JOB TEMPLATES JOBS jnemmers

DASHBOARD

331	25	54	1	37	3
HOSTS	FAILED HOSTS	INVENTORIES	INVENTORY SYNC FAILURES	PROJECTS	PROJECT SYNC FAILURES

JOB STATUS

PERIOD PAST MONTH JOB TYPE ALL VIEW ALL



RECENTLY USED JOB TEMPLATES

VIEW ALL

TITLE	ACTIVITY	ACTIONS
Justin / Deploy JBoss Webapp Stack		
Justin / Add demo webservers		
Justin / Update JBoss Webapp Stack		
Justin / Deploy Demo Instances		
Z - Terminate ALL AWS demo instances		

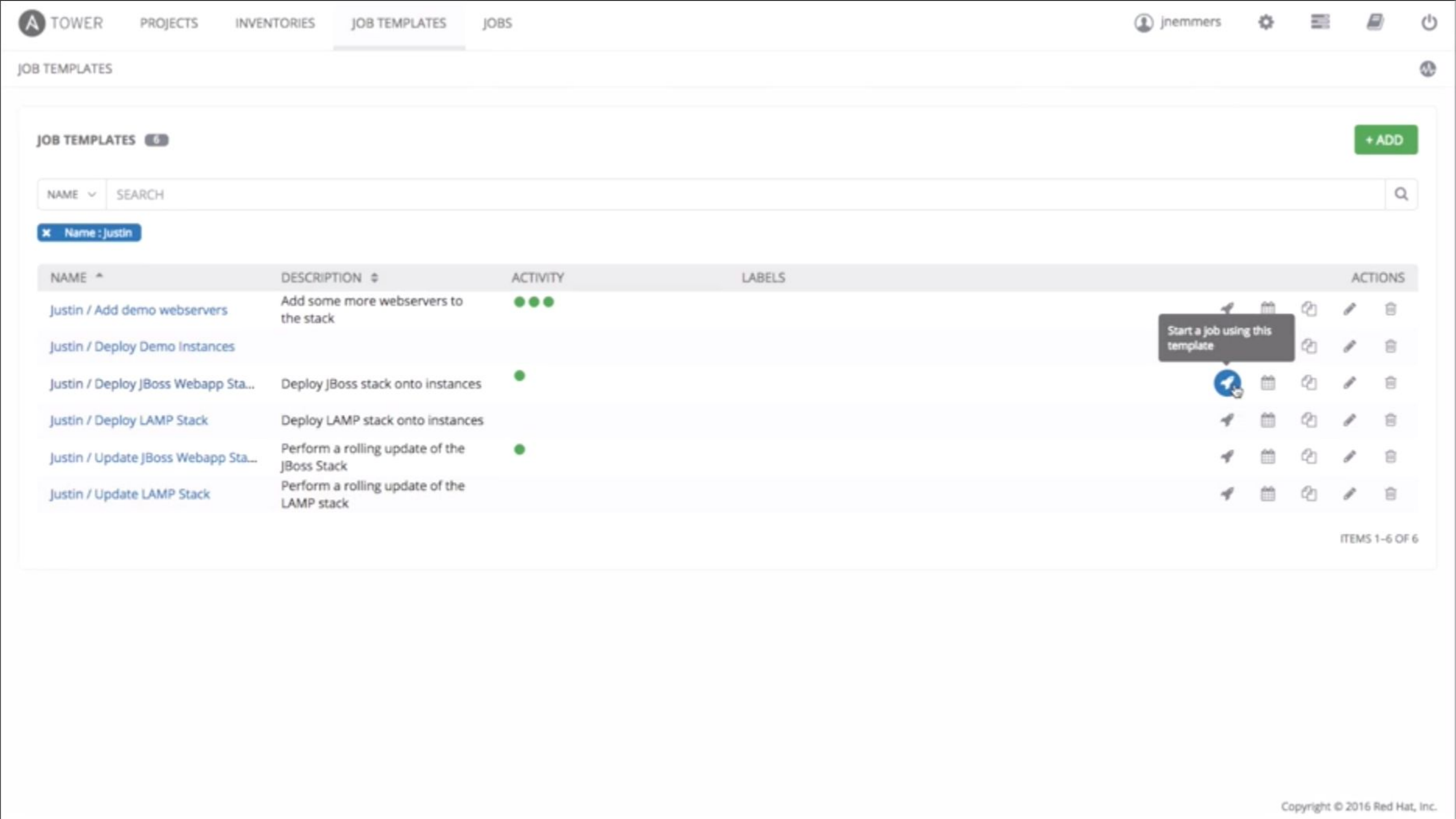
RECENT JOB RUNS

VIEW ALL

TITLE	TIME
Justin / Deploy JBoss Webapp Stack	7/13/2016 12:24:50 PM
Justin / Add demo webservers	7/13/2016 12:07:06 PM
Justin / Update JBoss Webapp Stack	7/13/2016 12:02:27 PM
Justi n / Deploy JBoss Webapp Stack	7/13/2016 11:51:33 AM
Justin / Deploy JBoss Webapp Stack	7/13/2016 11:24:20 AM

TOWER POINTS

- Role based access control
- Push button deployment
- Centralized logging and auditing
- Rest API
- Visual Dashboard
- Job scheduling
- Graphical inventory management



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TOWER
PROJECTS
INVENTORIES
JOB TEMPLATES
JOBS
jnemmers
JOB TEMPLATES
JOB TEMPLATES 6
+ ADD
NAME
SEARCH
Name : Justin
NAME
DESCRIPTION
ACTIONS
Justin / Add demo webservers
Add some mo
the stack
Justin / Deploy Demo Instances
Justin / Deploy JBoss Webapp Sta...
Deploy JBoss
Justin / Deploy LAMP Stack
Deploy LAMP
Justin / Update JBoss Webapp Sta...
Perform a roll
JBoss Stack
Justin / Update LAMP Stack
Perform a roll
LAMP stack
ITEMS 1-6 OF 6
LAUNCH JOB | JUSTIN / DEPLOY JBOSS WEBAPP STACK
SURVEY
* WHAT VERSION OF THE APPLICATION SHOULD BE DEPLOYED?
v1.0
INVENTORY
Justin's Hosts
CREDENTIAL
Justin - AWS Base
CANCEL
LAUNCH
KIRATECH
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TASKS	STARTED	ELAPSED	HOST STATUS
s	14:01:37	00:00:06	5
sat_reg : Enable plugin	14:01:44	00:00:02	5
sat_reg : Install Bootst...	14:01:46	00:00:25	5
sat_reg : Register to th...	14:02:11	00:00:36	5
sat_reg : Remove Ama...	14:02:48	00:00:02	5
sat_reg : update subsc...	14:02:50	00:00:56	5
sat_reg : Attach all sub...	14:03:46	00:00:11	5
sat_reg : Install Katello...	14:03:58	00:00:41	5
common : Install pyth...	14:04:40	00:00:02	5
common : Create the r...	14:04:42	00:00:02	5
common : Create the ...	14:04:44	00:00:02	5
common : install some...	14:04:47	00:01:13	5
common : Install ntp	14:06:01	00:00:02	5
common : Configure n...	14:06:03	00:00:02	5
common : Start the nt...	14:06:06	00:00:02	5
common : insert iptab...	14:06:09	00:00:02	5
common : test to see i...	14:06:11	00:00:01	5
common : Remediate ...	14:06:12	00:01:12	15

Event ID: 206697
Status: Changed

Please select a host below to view associated task details

RESULTS

STATUS	Successful	TEMPLATE	Justin / Deploy JBoss Webapp Stack
STARTED	7/13/2016 2:01:36 PM	JOB TYPE	Run
FINISHED	7/13/2016 2:16:18 PM	LAUNCHED BY	jnemmers
ELAPSED	00:14:41	INVENTORY	Justin's Hosts
PROJECT	Justin's Conference Demos	PLAYBOOK	Satellite/stack-deploy-jboss.yml
MACHINE CREDENTIAL	Justin - AWS Base	CLOUD CREDENTIAL	Justin AWS Acct - Ansible
LIMIT	tag_ansible_group_webservers,tag_ansible_group_dbservers,tag_ansible_group_lbservers,tag_ansible_group_monitoring	VERBOSITY	Debug

EXTRA VARIABLES

```
app_name: webapp
balance: roundrobin
daemonname: myapplb
dbname: foodb
dbuser: root
group_dbservers: tag_ansible_group_dbservers
group_lbservers: tag_ansible_group_lbservers
group_monitoring: tag_ansible_group_monitoring
group_webservers: tag_ansible_group_webservers
http_port: 8080
```

DETAILS

Please select from a play below to view its associated tasks.

STANDARD OUT

```
Identity added: /tmp/ansible_tower_DgdKSB/credential (/tmp/ansible_tower_DgdKSB/credential)
Using /etc/ansible/ansible.cfg as config file

PLAYBOOK: stack-deploy-jboss.yml ***********************************************
5 plays in Satellite/stack-deploy-jboss.yml

PLAY [all] *********************************************************************

TASK [setup] *******************************************************************
<52.23.253.0> ESTABLISH SSH CONNECTION FOR USER: ec2-user
<54.172.160.219> ESTABLISH SSH CONNECTION FOR USER: ec2-user
<52.23.253.0> SSH: EXEC ssh -C -q -o ControlMaster=auto -o ControlPersist=60s -o
StrictHostKeyChecking=no -o KbdInteractiveAuthentication=no -o PreferredAuthentications=gssapi-
with-mic,gssapi-keyex,hostbased,publickey -o PasswordAuthentication=no -o User=ec2-user -o
ConnectTimeout=10 -o ControlPath=/tmp/ansible_tower_DgdKSB/cp/ansible-ssh-%h-%p-%r 52.23.253.0
'/bin/sh -c '"'"'( umask 77 && mkdir -p "` echo $HOME/.ansible/tmp/ansible-tmp-1468432898.08-
229528733021951 `" && echo ansible-tmp-1468432898.08-229528733021951="` echo
$HOME/.ansible/tmp/ansible-tmp-1468432898.08-229528733021951 `" ) && sleep 0'"'"''
<54.172.160.219> SSH: EXEC ssh -C -q -o ControlMaster=auto -o ControlPersist=60s -o
StrictHostKeyChecking=no -o KbdInteractiveAuthentication=no -o PreferredAuthentications=gssapi-
with-mic,gssapi-keyex,hostbased,publickey -o PasswordAuthentication=no -o User=ec2-user -o
ConnectTimeout=10 -o ControlPath=/tmp/ansible_tower_DgdKSB/cp/ansible-ssh-%h-%p-%r
54.172.160.219 '/bin/sh -c '"'"'( umask 77 && mkdir -p "` echo $HOME/.ansible/tmp/ansible-tmp-
1468432898.08-9955492081408 `" && echo ansible-tmp-1468432898.08-9955492081408="` echo
$HOME/.ansible/tmp/ansible-tmp-1468432898.08-9955492081408 `" ) && sleep 0'"'"''
<52.90.174.29> ESTABLISH SSH CONNECTION FOR USER: ec2-user
<52.90.174.29> SSH: EXEC ssh -C -q -o ControlMaster=auto -o ControlPersist=60s -o
StrictHostKeyChecking=no -o KbdInteractiveAuthentication=no -o PreferredAuthentications=gssapi-
with-mic,gssapi-keyex,hostbased,publickey -o PasswordAuthentication=no -o User=ec2-user -o
ConnectTimeout=10 -o ControlPath=/tmp/ansible_tower_DgdKSB/cp/ansible-ssh-%h-%p-%r 52.90.174.29
'/bin/sh -c '"'"'( umask 77 && mkdir -p "` echo $HOME/.ansible/tmp/ansible-tmp-1468432898.08-
135514554706444 `" && echo ansible-tmp-1468432898.08-135514554706444="` echo
$HOME/.ansible/tmp/ansible-tmp-1468432898.08-135514554706444 `" ) && sleep 0'"'"''
<54.227.203.51> ESTABLISH SSH CONNECTION FOR USER: ec2-user
<54.227.203.51> SSH: EXEC ssh -C -q -o ControlMaster=auto -o ControlPersist=60s -o
StrictHostKeyChecking=no -o KbdInteractiveAuthentication=no -o PreferredAuthentications=gssapi-
with-mic,gssapi-keyex,hostbased,publickey -o PasswordAuthentication=no -o User=ec2-user -o
ConnectTimeout=10 -o ControlPath=/tmp/ansible_tower_DgdKSB/cp/ansible-ssh-%h-%p-%r 54.227.203.51
```

QUICK RECAP

- Ansible is the tool **which enable teams** to do *configuration management* and *infrastructure automation* by defining and executing roles and playbooks

- Ansible Tower is the tool **which enable Enterprise** adoption with its **extended features**

WHY IS ANSIBLE SO IMPORTANT ?

- Ansible is a key tool for your DevOps Toolbox
- Ansible is the perfect tool to take you to the containers journey

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Thank you!

and please, do more Ansible

Lorenzo Fontana
DevOps at **Kiratech**

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