



DEVOPS 2.0

DEVOPS 2015

開發敏捷與維運高效的IT新典範

Ansible 實戰：Top-down 觀點

Practical Ansible: A Top-down Introduction

葉秉哲

Architect @ Gogolook



If you want to follow my labs...

```
$ git clone https://github.com/William-Yeh/practical-ansible.git  
$ cd practical-ansible  
$ vagrant up --no-provision
```

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1 O 12c	En	PERIODIC TABLE OF DEVOPS TOOLS (V1)												2 Fm Amazon Web Services																																									
		<table border="1"> <thead> <tr> <th>Os</th><th>Open Source</th> <th>Database</th><th>SCM</th><th>Build</th> </tr> </thead> <tbody> <tr> <td>Fr</td><td>Free</td> <td>CI</td><td>Repo Mgmt</td><td>Testing</td> </tr> <tr> <td>Fm</td><td>Freemium</td> <td>Deployment</td><td>Config / Provisioning</td><td>Containerization</td> </tr> <tr> <td>Pd</td><td>Paid</td> <td>Cloud / IaaS / Paas</td><td>Release Mgmt</td><td>Collaboration</td> </tr> <tr> <td>En</td><td>Enterprise</td> <td>BI / Monitoring</td><td>Logging</td><td>Security</td> </tr> </tbody> </table>												Os	Open Source	Database	SCM	Build	Fr	Free	CI	Repo Mgmt	Testing	Fm	Freemium	Deployment	Config / Provisioning	Containerization	Pd	Paid	Cloud / IaaS / Paas	Release Mgmt	Collaboration	En	Enterprise	BI / Monitoring	Logging	Security	Ch Chef	Pu Puppet	An Ansible	Sl Salt	Dk Docker	Az Azure											
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Mq MSSQL	Sv Subversion								Pq PostgreSQL	Mc Mercurial	Mv Maven	Gr Gradle	Mr Meister	Jn Jenkins	Bb Bamboo	Tr Travis CI	Ar Archiva	Fn FitNesse	Se Selenium	Gn Gatling	31 Pd	32 Os	33 Fr	34 Os	35 Os	36 En																													
			20 Fr	21 Os	22 Os	23 En	24 Os	25 Pd	26 Os	27 Fr	28 Os	29 Fr	30 Os	31 Gd Deployment Manager	32 Sf SmartFrog	33 Cb Cobbler	34 Bc Bcfg2	35 Kb Kubernetes	36 Rs Rackspace																																				
37 Mg MongoDB	38 Fm	39 Os	40 Os	41 Fm	42 Fm	43 Fm	44 Fm	45 Os	46 Fr	47 Os	48 Fr	49 Fr	50 Fr	51 Os	52 Os	53 Fr	54 Fm	55 En	56 Fm	57 Fm	58 En	59 Pd	60 Fm	61 Fm	62 Os	63 Os	64 Fr	65 Fr	66 Fr	67 En	68 Fm	69 En	70 En	71 En	72 En																				
Db DB2	Bb Bitbucket	Br Buildr	At ANT	Bm BuildMaster	Cs Codeship	Sn Snap CI	Cr CircleCI	Nx Nexus	Cu Cucumber	Cj Cucumber.js	Qu Qunit	Cp Capistrano	Ju JuJu	Rd Rundeck	Cf CFEngine	Pk Packer	Bx Bluemix	Cs Cassandra	Hx Helix	Msb MSBuild	Rk Rake	Lb LuntBuild	Cu Continuum	Ta Visual Build	Tc TeamCity	Sh Shippable	Cc CruiseControl	Ay Artifactory	Ju JUnit	Jm JMeter	Tn TestNG	Rd RapidDeploy	Cy CodeDeploy	Oc Octopus Deploy	No CA Nolio	Eb ElasticBox	Ad Apprenda																		
<p>Share</p> Twitter LinkedIn 8+ Email +1 <p>Embed</p>    <p>Become Excellent!</p> <p>Subscribe here!</p>													<table border="1"> <tr> <td>91 Xlr XL Release</td> <td>92 Ur UrbanCode Release</td> <td>93 Ls CA Service Virtualization</td> <td>94 Bm BMC Release Process</td> <td>95 Hp HP Cedar</td> <td>96 Ex Excel</td> <td>97 Pl Plutora Release</td> <td>98 Sr Serena Release</td> <td>99 Tr Trello</td> <td>100 Jr Jira</td> <td>101 Rf HipChat</td> <td>102 Sl Slack</td> <td>103 Fd Flowdock</td> <td>104 Pv Pivotal Tracker</td> <td>105 Sn ServiceNow</td> </tr> <tr> <td>106 Sp Splunk</td> <td>107 Ki Kibana</td> <td>108 Nr New Relic</td> <td>109 Ni Nagios</td> <td>110 Gg Ganglia</td> <td>111 Ct Cacti</td> <td>112 Gr Graphite</td> <td>113 Ic Icinga</td> <td>114 Sl Sumo Logic</td> <td>115 Ls Logstash</td> <td>116 Lg Loggly</td> <td>117 Gr Graylog</td> <td>118 Sn Snort</td> <td>119 Tr Tripwire</td> <td>120 Cy CyberArk</td> </tr> </table>													91 Xlr XL Release	92 Ur UrbanCode Release	93 Ls CA Service Virtualization	94 Bm BMC Release Process	95 Hp HP Cedar	96 Ex Excel	97 Pl Plutora Release	98 Sr Serena Release	99 Tr Trello	100 Jr Jira	101 Rf HipChat	102 Sl Slack	103 Fd Flowdock	104 Pv Pivotal Tracker	105 Sn ServiceNow	106 Sp Splunk	107 Ki Kibana	108 Nr New Relic	109 Ni Nagios	110 Gg Ganglia	111 Ct Cacti	112 Gr Graphite	113 Ic Icinga	114 Sl Sumo Logic	115 Ls Logstash	116 Lg Loggly	117 Gr Graylog	118 Sn Snort	119 Tr Tripwire	120 Cy CyberArk
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在 Modern Web 2015 時，我曾以
Bottom-up 角度介紹 **Ansible** 這把
瑞士刀等級的組態管理及 IT 自動化
系統。

這次我將改以 Top-down 任務導向
角度，探討部署管理、模組化、一
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pypi v1.9.2

downloads 199k/month

build passing

👉 <https://github.com/ansible/ansible>

Ansible

Ansible is a radically simple IT automation system. It handles configuration-management, application deployment, cloud provisioning, ad-hoc task-execution, and multinode orchestration - including trivializing things like zero downtime rolling updates with load balancers.

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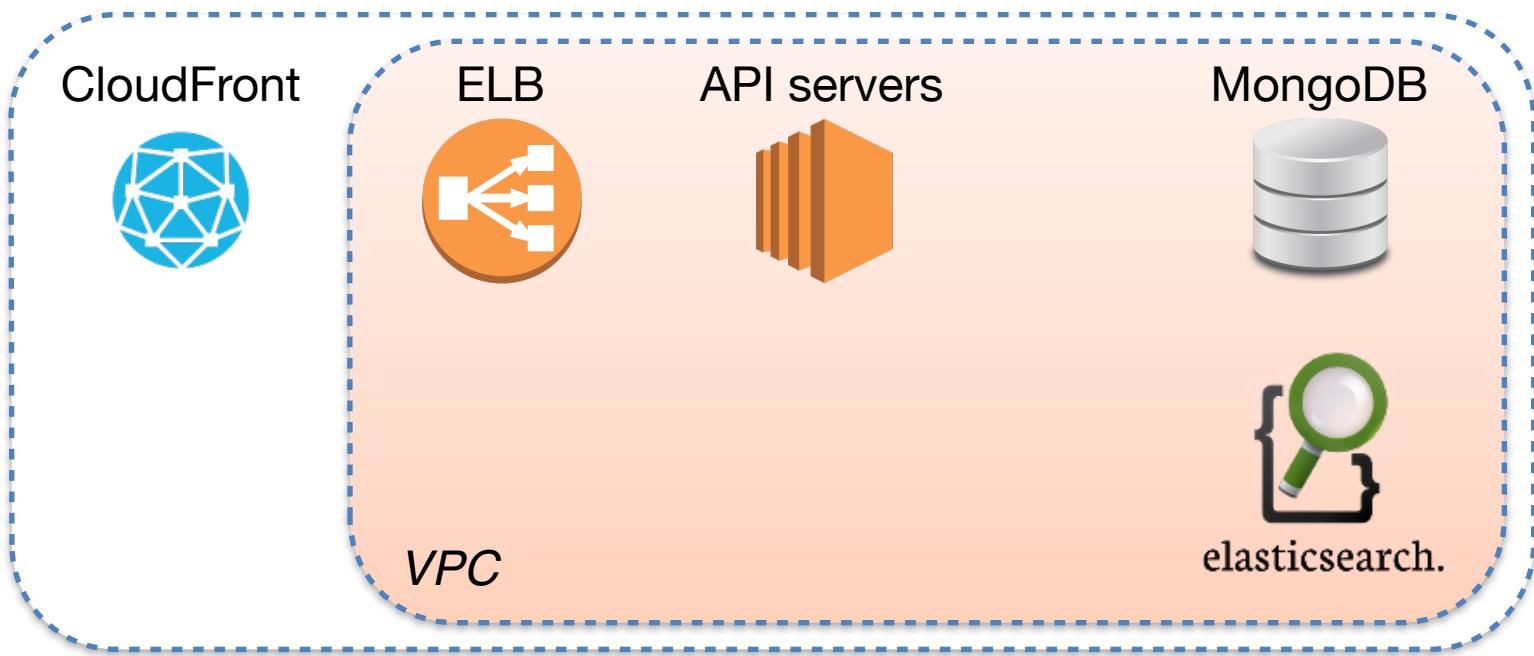
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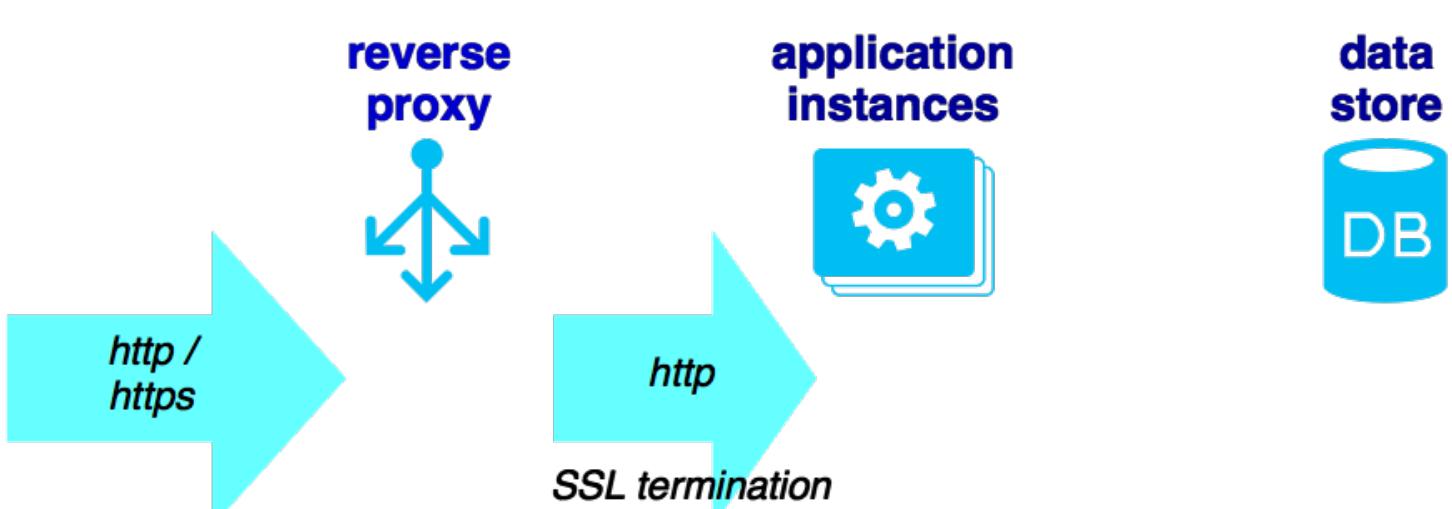
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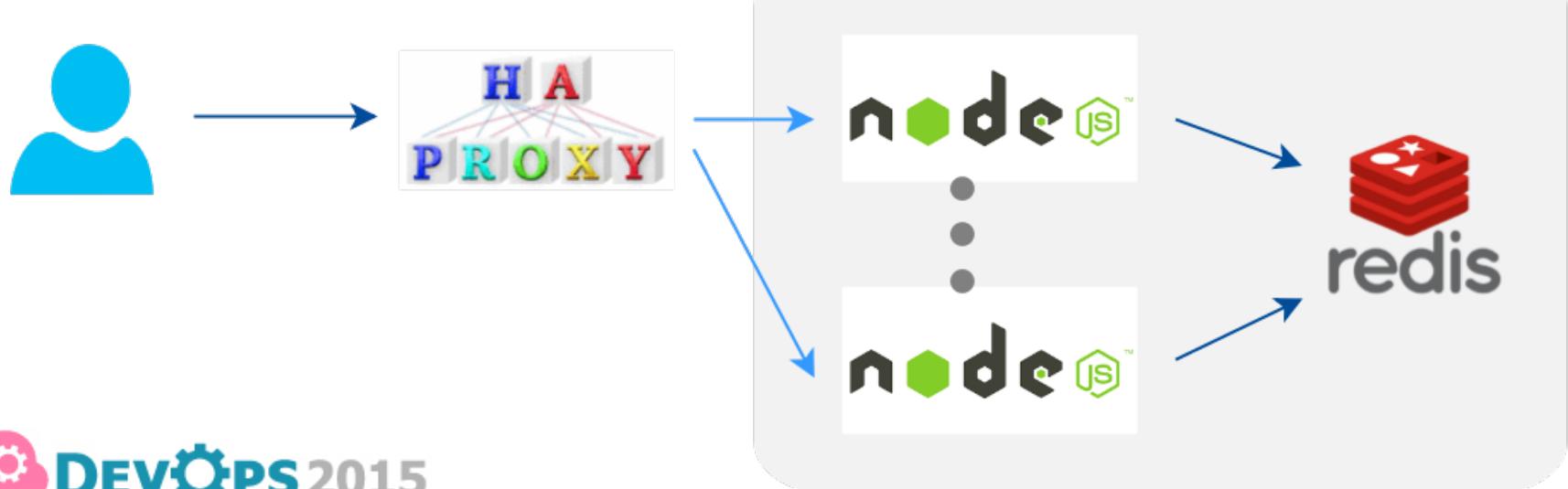
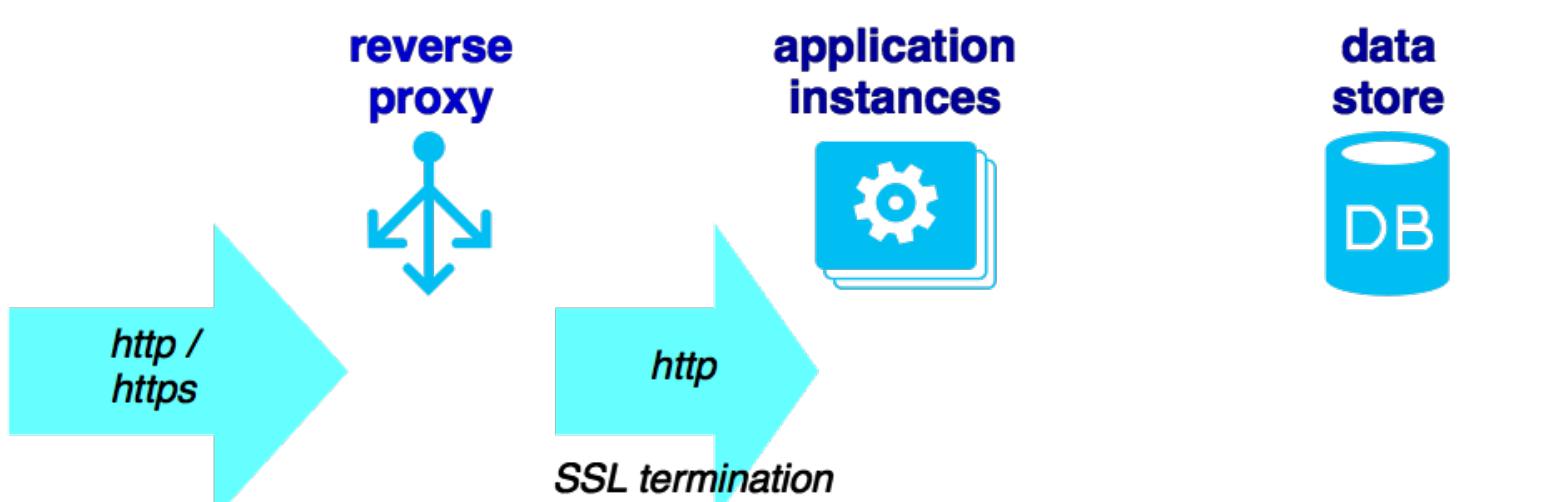
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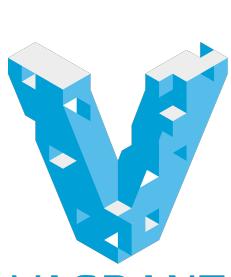


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CentOS 7.1



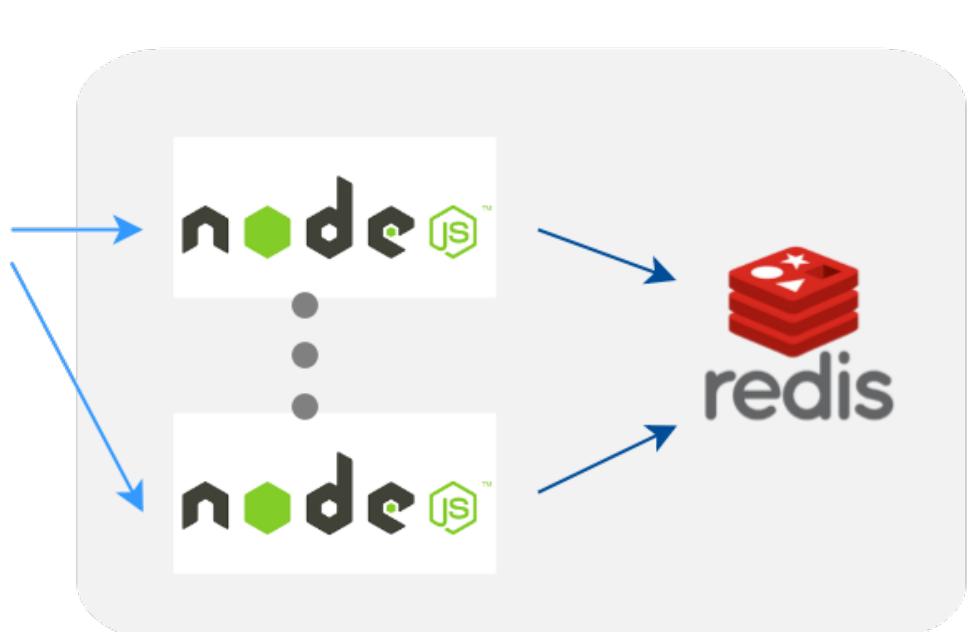
lb 10.0.0.10

Ubuntu 14.04

app1 10.0.0.20
app2 10.0.0.21
app3 10.0.0.22

CentOS 7.1

db 10.0.0.30



ad-hoc commands
inventory
playbook - push
playbook - pull

用牛刀
殺雞

ad-hoc commands
inventory
playbook - push
playbook - pull

用牛刀
殺雞

roles
selective execution

規劃

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規劃

部署

ad-hoc commands
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用牛刀
殺雞

roles
selective execution

Capistrano-style
zero-downtime
blue-green
rolling upgrade

部署



用牛刀 殺雞

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rolling upgrade

測試

部署

規劃

Ad-hoc commands

control machine



managed node



control machine



managed node



Python ≥ 2.5

control machine



managed node

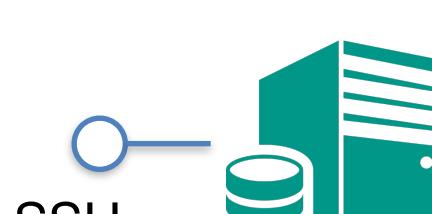


Python ≥ 2.5

control machine



managed node



Python ≥ 2.5

Ansible:

- *pip install ansible*
- *yum install ansible*
- *apt-get install ansible*
- *brew install ansible*

control machine



Python ≥ 2.6/2.7

Ansible:

- *pip install ansible*
- *yum install ansible*
- *apt-get install ansible*
- *brew install ansible*

managed node



Python ≥ 2.5

control machine



managed node



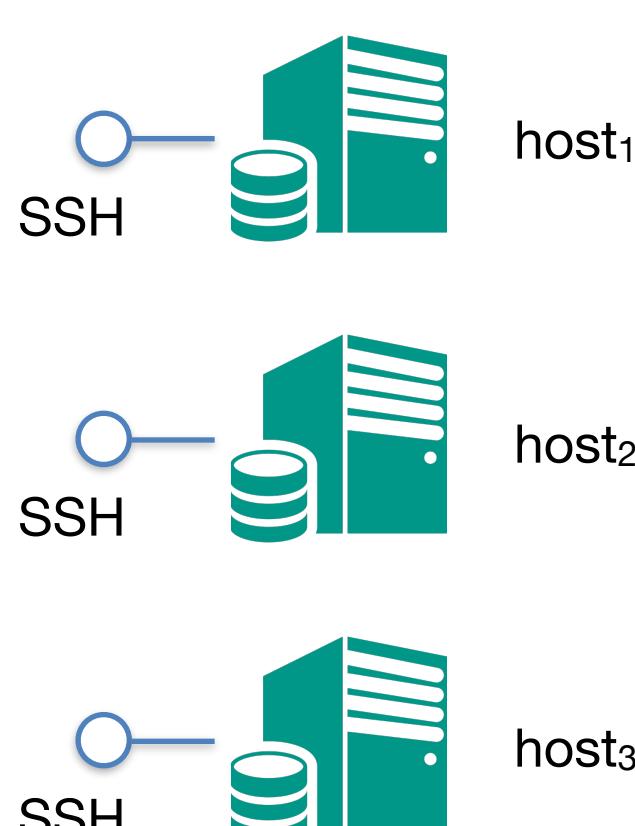
control machine



inventory file

```
host_1  
host_2 ansible_ssh_host=10.0.0.10  
host_3 ansible_ssh_port=2222
```

managed node





inventory file

```
lb      ansible_ssh_host=10.0.0.10
app1    ansible_ssh_host=10.0.0.20
app2    ansible_ssh_host=10.0.0.21
app3    ansible_ssh_host=10.0.0.22
db      ansible_ssh_host=10.0.0.30
```

ansible

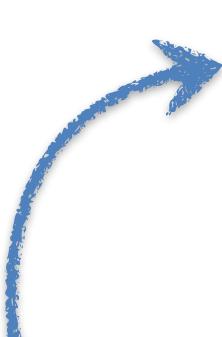
```
--inventory-file=hosts-vagrant  
--user=vagrant --ask-pass  
all  
-a hostname
```



inventory file

ansible

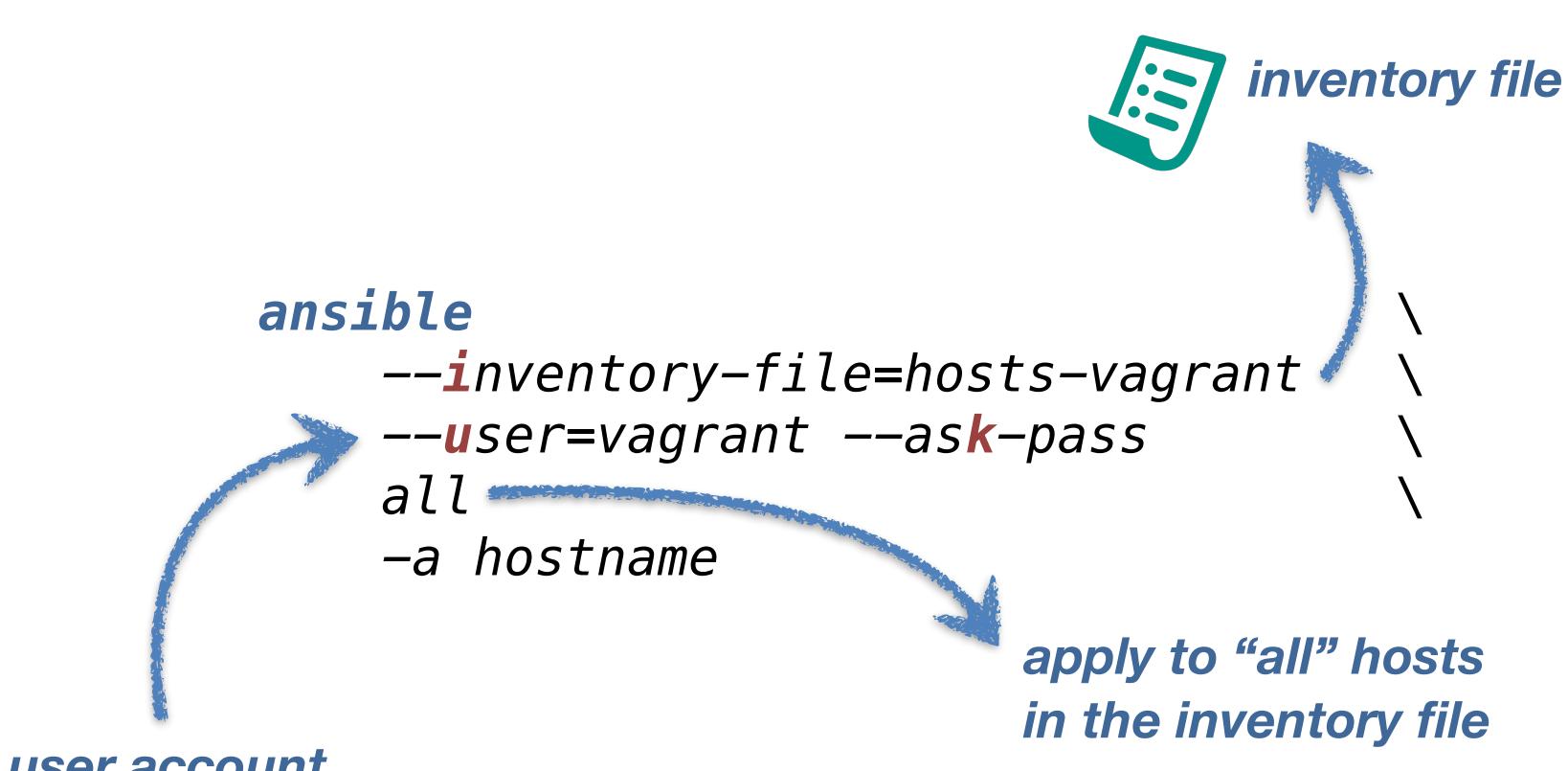
```
--inventory-file=hosts-vagrant  
--user=vagrant --ask-pass  
all  
-a hostname
```

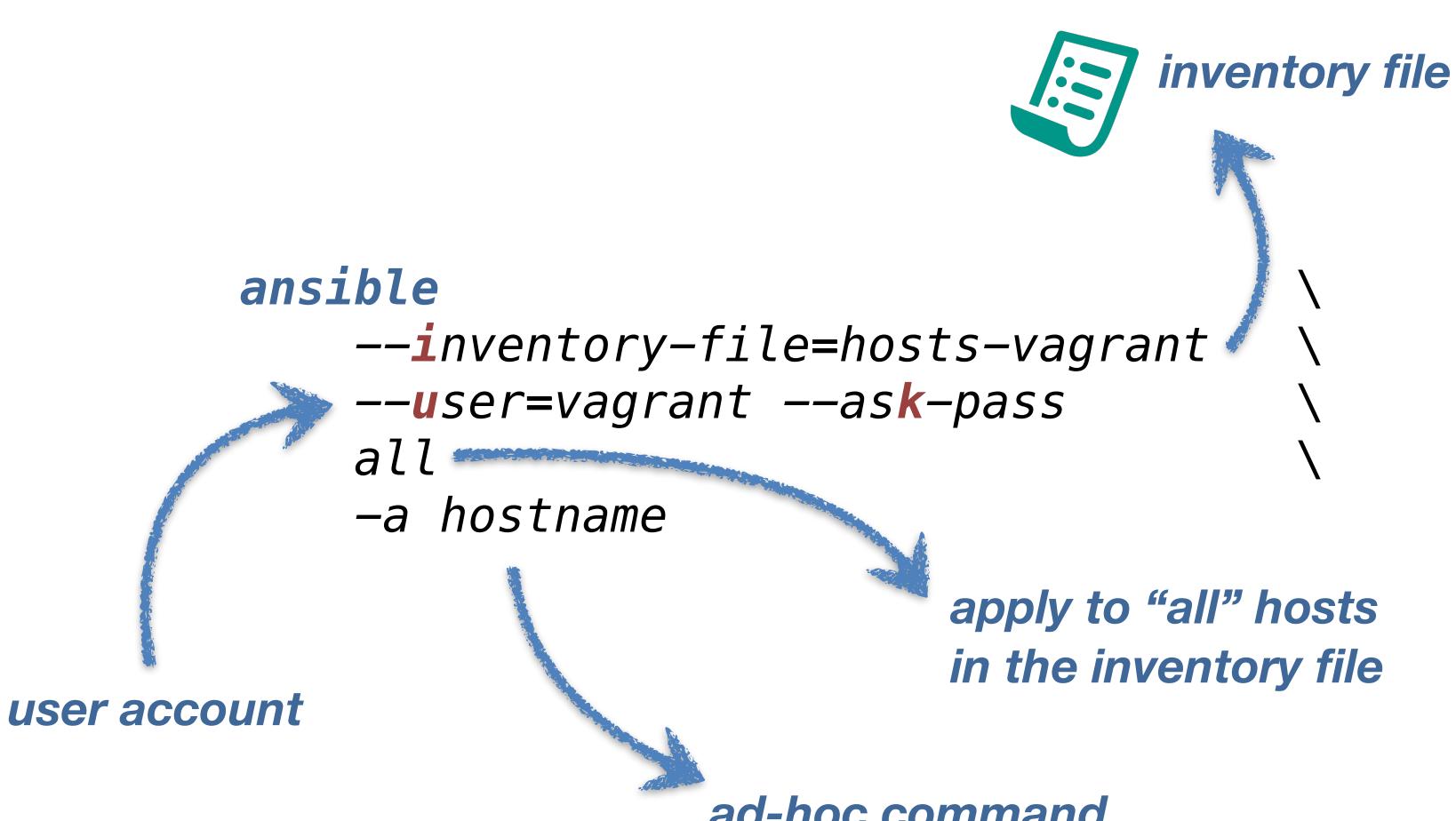


inventory file



user account





default:

- */etc/ansible/hosts*
- */usr/local/etc/ansible/hosts*



inventory file

default:

- */etc/ansible/hosts*
- */usr/local/etc/ansible/hosts*



inventory file

```
cp hosts-vagrant /usr/local/etc/ansible/hosts
```

ansible

```
--user=vagrant --ask-pass
```

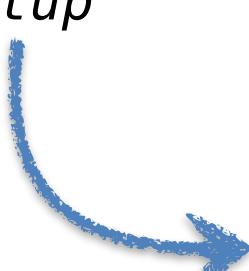
```
all
```

```
-a hostname
```

\
\
\

ansible

```
--user=vagrant --ask-pass  
all  
-m setup
```



host information

蔡宗城

趨勢科技 / 資深工程師

目前任職於趨勢科技，工作內容為管理及開發測試後台系統，讓全世界的使用者，可以更容易及輕鬆的使用趨勢科技產品。



廚師與伺服器 (Dancing with Chef)

上午頭暈目眩把OpenSSL最新版上到50台機器，下午心力交瘁把寫好的程式部署到 Dev 、Alpha 、Beta 、Staging 還有最傲嬌的Production環境，回家躺在床上歡欣鼓舞接到電話說Production伺服器再起不能o_O ||，該如何使用Chef擺脫這種超級精實的生活呢？！



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抱歉，借用一下你的講題簡介 ...
Dancing with Chef

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議程主題

廚師與伺服器 (Cooking with Chef)

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CentOS 7.1
lb 10.0.0.10

ansible

--user=vagrant --ask-pass

lb

-m yum

-a "name=openssh"



*apply to the “lb” host
in the inventory file*

CentOS 7.1
lb 10.0.0.10

```
ansible
  --user=vagrant --ask-pass
  lb
  -m yum
  -a "name=openssh"
```

invoke Ansible module “yum”

*apply to the “lb” host
in the inventory file*

CentOS 7.1
lb 10.0.0.10

```
ansible
  --user=vagrant --ask-pass
  lb
  -m yum
  -a "name=openssh"
```

invoke Ansible module “yum”

inspect package status

*apply to the “lb” host
in the inventory file*

CentOS 7.1
lb 10.0.0.10

```
ansible
    --user=vagrant --ask-pass
    --become
    lb
    -m yum
    -a "name=openssh state=latest"
```



install or update latest package

CentOS 7.1
lb 10.0.0.10

become “sudo” privilege

ansible

```
--user=vagrant --ask-pass  
--become  
lb  
-m yum  
-a "name=openssh state=latest"
```

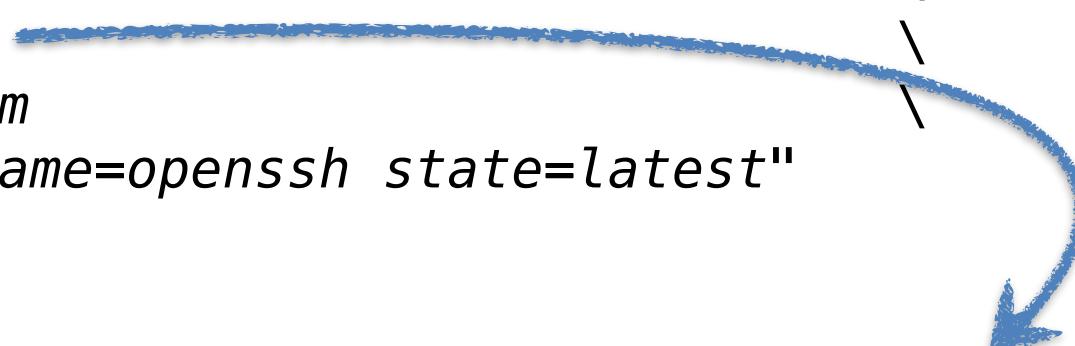
install or update latest package

CentOS 7.1
lb 10.0.0.10

CentOS 7.1
db 10.0.0.30

ansible

```
--user=vagrant --ask-pass  
--become  
lb:db  
-m yum  
-a "name=openssh state=latest"
```



*apply to the “lb” and “db” hosts
in the inventory file*

Ubuntu 14.04

```
app1 10.0.0.20  
app2 10.0.0.21  
app3 10.0.0.22
```

ansible

```
--user=vagrant --ask-pass  
--become  
'app*' -m apt  
-a "name=openssh-server state=latest"
```

apply to the “app” hosts
in the inventory file*

Ubuntu 14.04

```
app1 10.0.0.20  
app2 10.0.0.21  
app3 10.0.0.22
```

ansible

```
--user=vagrant --ask-pass  
--become  
'app*' -m apt  
-a "name=openssh-server state=latest"
```

*invoke Ansible module
“apt”*

apply to the “app” hosts
in the inventory file*

Inventory

grouping and patterns



inventory file

[lbserver]

lb ansible_ssh_host=10.0.0.10

[appservers]

app1 ansible_ssh_host=10.0.0.20

app2 ansible_ssh_host=10.0.0.21

app3 ansible_ssh_host=10.0.0.22

[dbservers]

db ansible_ssh_host=10.0.0.30

Playbooks

“push” mode

control machine



*inventory
file*

managed node



control machine



*inventory
file*



playbook

managed node



control machine



*inventory
file*



playbook

managed node



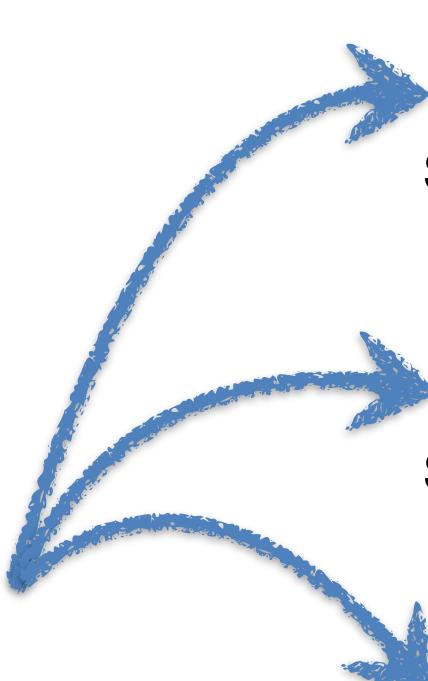
host₁



host₂



host₃





playbook

- *hosts: lbservers:dbservers*
tasks:
 - *name: update openssh*
yum: name=openssh state=latest

- *hosts: appservers*
tasks:
 - *name: update openssh*
apt: name=openssh-server state=latest

ansible-playbook

```
--user=vagrant --ask-pass  
--become  
openssh.yml
```



*apply Ansible playbook “openssh.yml”
to all hosts in the inventory*

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Playbooks

How about the “**pull**” mode?

playbook



1

managed node



host₁



host₂

playbook



managed node



host₁



host₂

- ①
- git pull ...
- sftp ...
- rsync ...
- wget ...
- ...

playbook



1

- git pull ...
- sftp ...
- rsync ...
- wget ...
- ...

managed node



host₁



host₂

apply locally

2

*ansible-playbook
--connection=local
playbook.yml*

playbook



managed node



host₁



host₂



ansible-pull --url=xxxx

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playbook



managed node



host₁



host₂

1

2

ansible-pull --url=xxxx

DEVOPS 2015 開發敏捷與維運高效的IT新典範

playbook



managed node



host₁

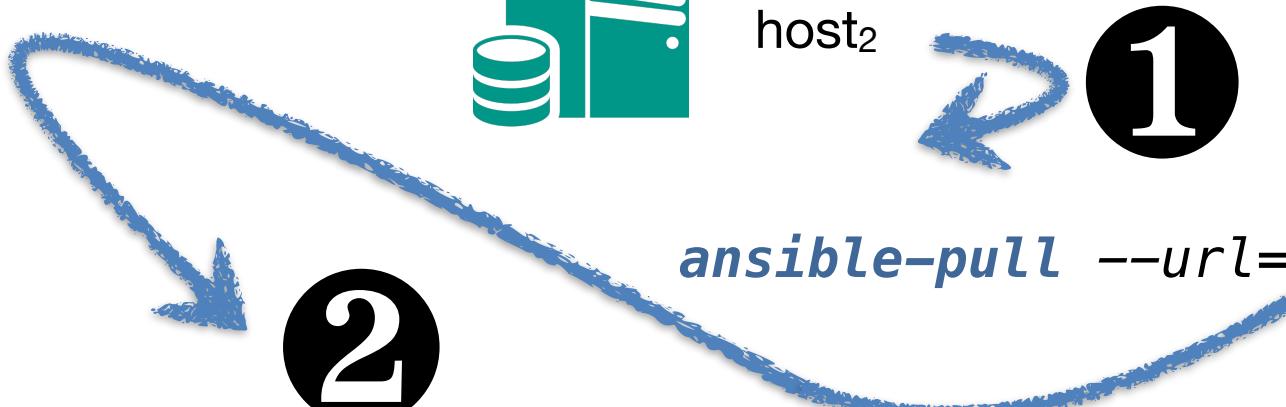


host₂

1

ansible-pull --url=xxxx

2



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ad-hoc commands
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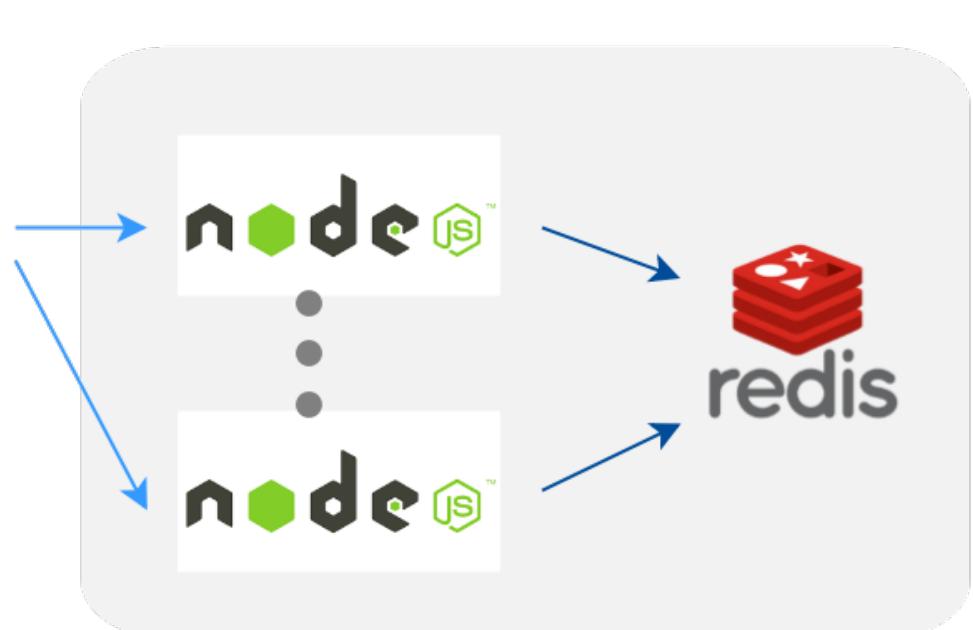
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Ubuntu 14.04

app1 10.0.0.20
app2 10.0.0.21
app3 10.0.0.22

CentOS 7.1

db 10.0.0.30



Roles

generalization vs. specialization



CentOS 7.1

lb 10.0.0.10

Ubuntu 14.04

app1 10.0.0.20
app2 10.0.0.21
app3 10.0.0.22

CentOS 7.1

db 10.0.0.30

timezone
ntp

All nodes will need these...

CentOS 7.1



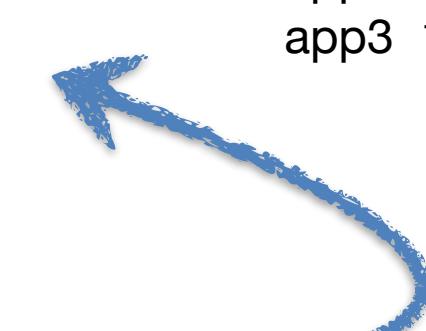
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app3 10.0.0.22

CentOS 7.1

db 10.0.0.30



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CentOS 7.1



lb 10.0.0.10

Ubuntu 14.04

app1 10.0.0.20
app2 10.0.0.21
app3 10.0.0.22

CentOS 7.1

*repo-epel
redis*



CentOS 7.1

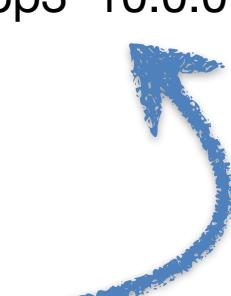


lb 10.0.0.10

Ubuntu 14.04

app1 10.0.0.20
app2 10.0.0.21
app3 10.0.0.22

CentOS 7.1



*nodejs
git
project_deploy*



playbook

- *hosts: all*
tasks: ...
- *hosts: lbservers*
tasks: ...
- *hosts: appservers*
tasks: ...
- *hosts: dbservers*
tasks: ...

timezone, ntp

haproxy

nodejs, git, project_deploy

repo-epel, redis

[ABOUT](#)[EXPLORE](#)[BROWSE ROLES](#)[BROWSE USERS](#)[ADD A ROLE](#) [WILLIAMYEH ▾](#)

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DEVOPS 2015 開發敏捷與維運高效的IT新典範



playbook

- *hosts: all*
- *tasks: ...*

CentOS 7.1

lb 10.0.0.10

Ubuntu 14.04

app1 10.0.0.20
app2 10.0.0.21
app3 10.0.0.22

CentOS 7.1

db 10.0.0.30



DEVOPS 2015 開發敏捷與維運高效的IT新典範



playbook

- *hosts: all*
 tasks: ...

CentOS 7.1

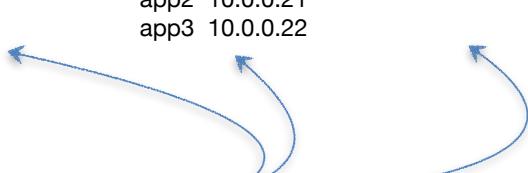
lb 10.0.0.10

Ubuntu 14.04

app1 10.0.0.20
app2 10.0.0.21
app3 10.0.0.22

CentOS 7.1

db 10.0.0.30



DEVOPS 2015 開發敏捷與維運高效的IT新典範



playbook

- *hosts: all*
~~tasks: ...~~

roles:
- *yatesr.timezone*
- *geerlingguy.ntp*

CentOS 7.1

lb 10.0.0.10

Ubuntu 14.04

app1 10.0.0.20
app2 10.0.0.21
app3 10.0.0.22

CentOS 7.1

db 10.0.0.30



DEVOPS 2015 開發敏捷與維運高效的IT新典範



playbook

- *hosts: all*
 tasks: ...

roles:
 - *yatesr.timezone*
 - *geerlingguy.ntp*

vars:
 timezone: Asia/Taipei
 ntp_timezone: Asia/Taipei

CentOS 7.1

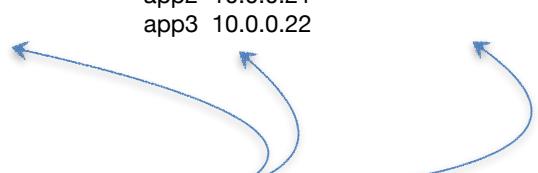
lb 10.0.0.10

Ubuntu 14.04

app1 10.0.0.20
app2 10.0.0.21
app3 10.0.0.22

CentOS 7.1

db 10.0.0.30





playbook

- *hosts: appservers*
- *roles:*
 - *williamyeh.nodejs*
 - *geerlingguy.git*
 - *project_deploy*

CentOS 7.1

lb 10.0.0.10

Ubuntu 14.04

app1 10.0.0.20
app2 10.0.0.21
app3 10.0.0.22

CentOS 7.1

db 10.0.0.30



playbook

```
- hosts: appservers
  roles:
    - williamyeh.nodejs
    - geerlingguy.git
    - project_deploy
```

```
vars:
  project_git_repo: "https://github.com/..."
  project_version: "master"
  project_has_npm: true
```

CentOS 7.1

lb 10.0.0.10

Ubuntu 14.04

app1 10.0.0.20
app2 10.0.0.21
app3 10.0.0.22

CentOS 7.1

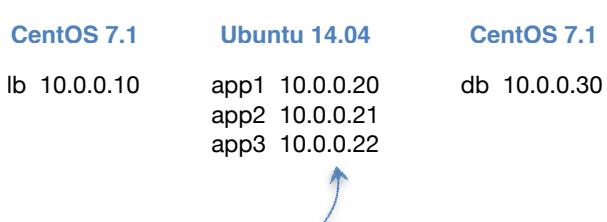
db 10.0.0.30

Selective execution of roles/tasks

selective hosts

selective tags

selective hosts



ansible-playbook

```
--user=vagrant --ask-pass  
--become  
--limit=appservers  
playbook.yml
```

apply to all “appservers” hosts in the inventory



playbook

```
- hosts: appservers
  roles:
    - williamyeh.nodejs
    - geerlingguy.git
    - project_deploy
```

```
vars:
  project_git_repo: "https://github.com/..."
  project_version: "master"
  project_has_npm: true
```

CentOS 7.1

lb 10.0.0.10

Ubuntu 14.04

app1 10.0.0.20
app2 10.0.0.21
app3 10.0.0.22

CentOS 7.1

db 10.0.0.30





playbook

```
- hosts: appservers
  roles:
    - williamyeh.nodejs
    - geerlingguy.git
    - project_deploy
```

```
vars:
  project_git_repo: "https://github.com/..."
  project_version: "master"
  project_has_npm: true
```

CentOS 7.1

lb 10.0.0.10

Ubuntu 14.04

app1 10.0.0.20
app2 10.0.0.21
app3 10.0.0.22

CentOS 7.1

db 10.0.0.30





playbook

```
- hosts: appservers
  roles:
    - williamyeh.nodejs
    - geerlingguy.git
    - project_deploy
    - { role: project_deploy, tags: ['deploy'] }

  vars:
    project_git_repo: "https://github.com/..."
    project_version: "master"
    project_has_npm: true
```

CentOS 7.1

lb 10.0.0.10

Ubuntu 14.04

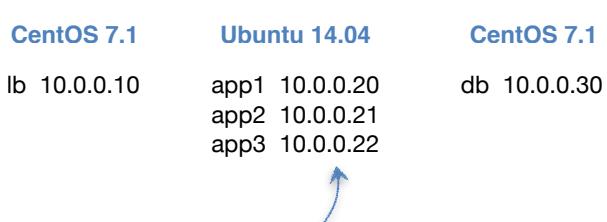
app1 10.0.0.20
app2 10.0.0.21
app3 10.0.0.22

CentOS 7.1

db 10.0.0.30



selective tags



ansible-playbook

```
--user=vagrant --ask-pass  
--become  
--tags=deploy  
playbook.yml
```



*apply only the roles/tasks with a “deploy” tag
to all hosts in the inventory*

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ad-hoc commands
inventory
playbook - push
playbook - pull

用牛刀
殺雞

roles
selective execution

測試

Capistrano-style
zero-downtime
blue-green
rolling upgrade

規劃

部署

The Addison-Wesley Signature Series



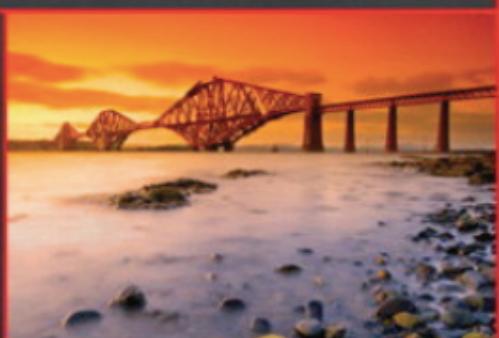
OPS 2015

開發敏捷與維運高效的IT新典範

CONTINUOUS DELIVERY

RELIABLE SOFTWARE RELEASES THROUGH BUILD,
TEST, AND DEPLOYMENT AUTOMATION

JEZ HUMBLE
DAVID FARLEY



Foreword by Martin Fowler

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CONTINUOUS DELIVERY

RELIABLE SOFTWARE TEST, AND DEPLOYMENT

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A MARTIN FOWLER SIGNATURE
Book by Martin Fowler

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Foreword by Martin Fowler

Deployment

Capistrano-style deployment

project_deploy

Deploy software projects (Capistrano-like)

[Details](#)[README](#)[Ratings 2](#)

Community Score	4.0
Wow! Factor	4.0
Documentation	4.0
Reliability	4.0
Code Quality	4.0

Ratings: 2

[Rate this role](#)

Minimum Ansible Version

1.4
Installation

`$ ansible-galaxy install f500.project_deploy`

Version History

Version	Release Date
v2.2.0	7/6/15 7:56 AM
v2.1.0	1/13/15 9:30 AM
v2.0.3	12/15/14 10:10 AM
v2.0.2	11/27/14 11:48 AM
v2.0.1	11/27/14 11:37 AM
v2.0.0	11/27/14 11:35 AM
v1.0.0	6/27/14 7:57 AM
v0.9.4	5/1/14 9:54 PM

Supported Platforms

Platform	Version
Debian	etch
Debian	jessie
Debian	lenny
Debian	squeeze
Debian	wheezy
Fedora	16
Fedora	17
Fedora	18



GALAXY

ABOUT

ME USERS

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Role Detail

project_deploy

Deploy software projects (Capistrano-like)



f500

[Details](#)[README](#)[Ratings 2](#)

Community Score  4.0

Wow! Factor  4.0

Documentation  4.0

Reliability  4.0

Code Quality  4.0



GALAXY

ABOUT

USERS

ADD A ROLE

WILLIAMYEH ▾

Role Detail

project_deploy

Deploy software projects (Capistrano-like)



Details

README

Ratings 2

Community Score  4.0

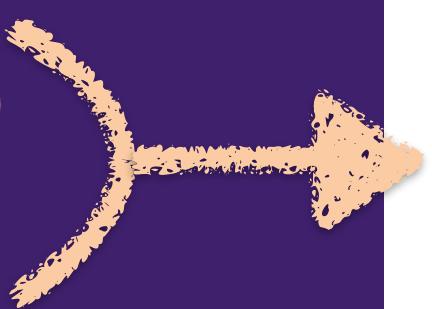
Wow! Factor  4.0

Documentation  4.0

Reliability  4.0

Code Quality  4.0

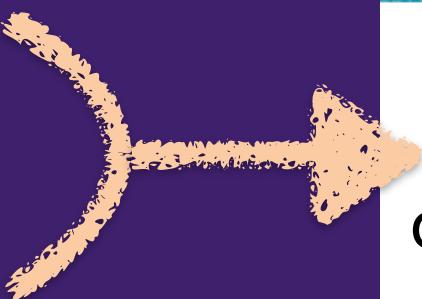
```
|-- current -> /opt/app/releases/20150901191029
|-- releases
|   |-- 20150901190438
|       |-- Dockerfile
|       |-- index.js
|       |-- node_modules
|       |-- npm-debug.log
|       |-- package.json
|       `-- README.md
|   |-- 20150901190754
|       |-- Dockerfile
|       |-- index.js
|       |-- node_modules
|       |-- npm-debug.log
|       |-- package.json
|       `-- README.md
`-- 20150901191029
    |-- Dockerfile
    |-- index.js
    |-- node_modules
    |-- npm-debug.log
    |-- package.json
    `-- README.md
`-- shared
    '-- source
        |-- DEPLOY_UNFINISHED
        |-- Dockerfile
        |-- index.js
        |-- package.json
        `-- README.md
```



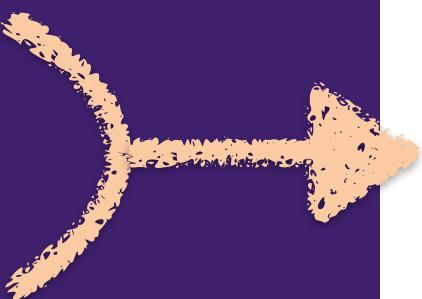
git source

DEVOPS 2015 開發敏捷與維運高效的IT新典範

```
|-- current -> /opt/app/releases/20150901191029  
|-- releases  
|   |-- 20150901190438  
|       |-- Dockerfile  
|       |-- index.js  
|       |-- node_modules  
|       |-- npm-debug.log  
|       |-- package.json  
|       `-- README.md  
|   |-- 20150901190754  
|       |-- Dockerfile  
|       |-- index.js  
|       |-- node_modules  
|       |-- npm-debug.log  
|       |-- package.json  
|       `-- README.md  
`-- 20150901191029  
    |-- Dockerfile  
    |-- index.js  
    |-- node_modules  
    |-- npm-debug.log  
    |-- package.json  
    `-- README.md  
-- shared  
  '-- source  
    |-- DEPLOY_UNFINISHED  
    |-- Dockerfile  
    |-- index.js  
    |-- package.json  
    `-- README.md
```

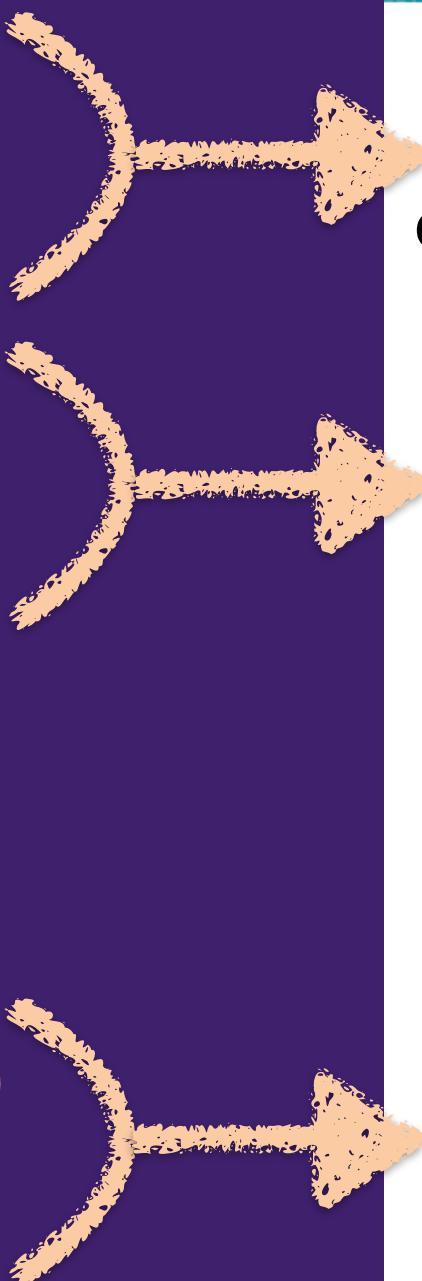


older build



git source

```
|--- current -> /opt/app/releases/20150901191029
|--- releases
|   |-- 20150901190438
|       |-- Dockerfile
|       |-- index.js
|       |-- node_modules
|       |-- npm-debug.log
|       |-- package.json
|       `-- README.md
|   |-- 20150901190754
|       |-- Dockerfile
|       |-- index.js
|       |-- node_modules
|       |-- npm-debug.log
|       |-- package.json
|       `-- README.md
|   `-- 20150901191029
|       |-- Dockerfile
|       |-- index.js
|       |-- node_modules
|       |-- npm-debug.log
|       |-- package.json
|       `-- README.md
`-- shared
    '-- source
        |-- DEPLOY_UNFINISHED
        |-- Dockerfile
        |-- index.js
        |-- package.json
        `-- README.md
```



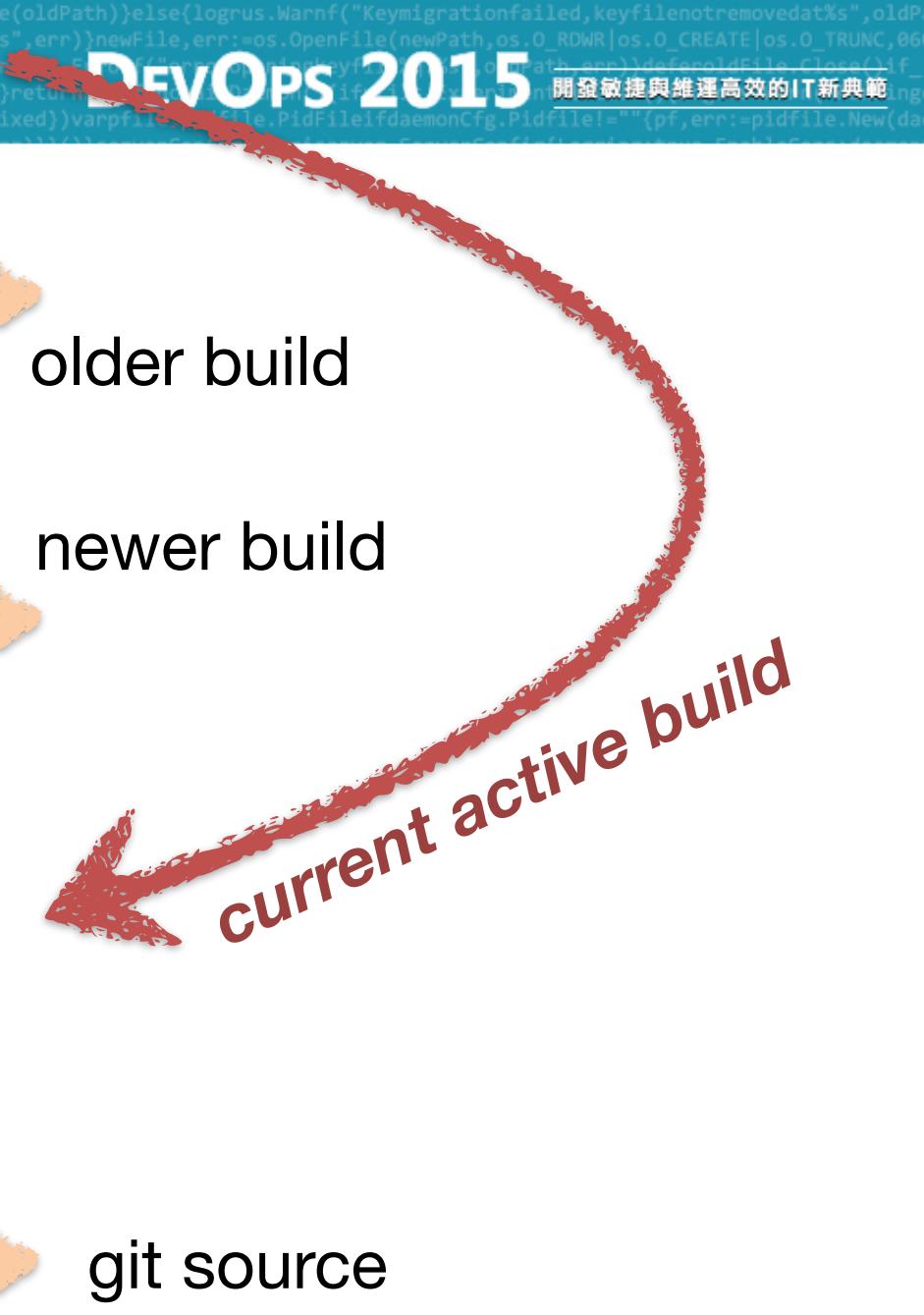
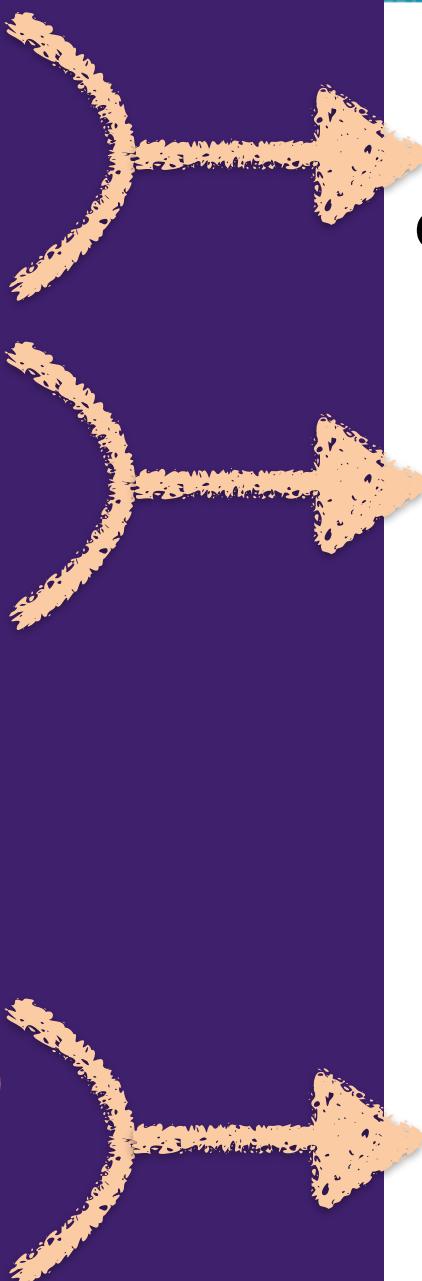
DevOps 2015 開發敏捷與維運高效的IT新典範

older build

newer build

git source

```
|-- current -> /opt/app/releases/20150901191029  
|-- releases  
|   |-- 20150901190438  
|   |   |-- Dockerfile  
|   |   |-- index.js  
|   |   |-- node_modules  
|   |   |-- npm-debug.log  
|   |   |-- package.json  
|   |   `-- README.md  
|   |-- 20150901190754  
|   |   |-- Dockerfile  
|   |   |-- index.js  
|   |   |-- node_modules  
|   |   |-- npm-debug.log  
|   |   |-- package.json  
|   |   `-- README.md  
`-- 20150901191029  
    |-- Dockerfile  
    |-- index.js  
    |-- node_modules  
    |-- npm-debug.log  
    |-- package.json  
    `-- README.md  
-- shared  
  `-- source  
    |-- DEPLOY_UNFINISHED  
    |-- Dockerfile  
    |-- index.js  
    |-- package.json  
    `-- README.md
```

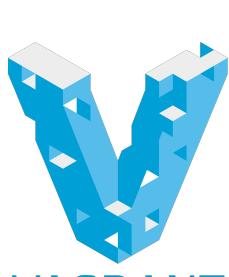


Deployment

zero-downtime deployment

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CentOS 7.1



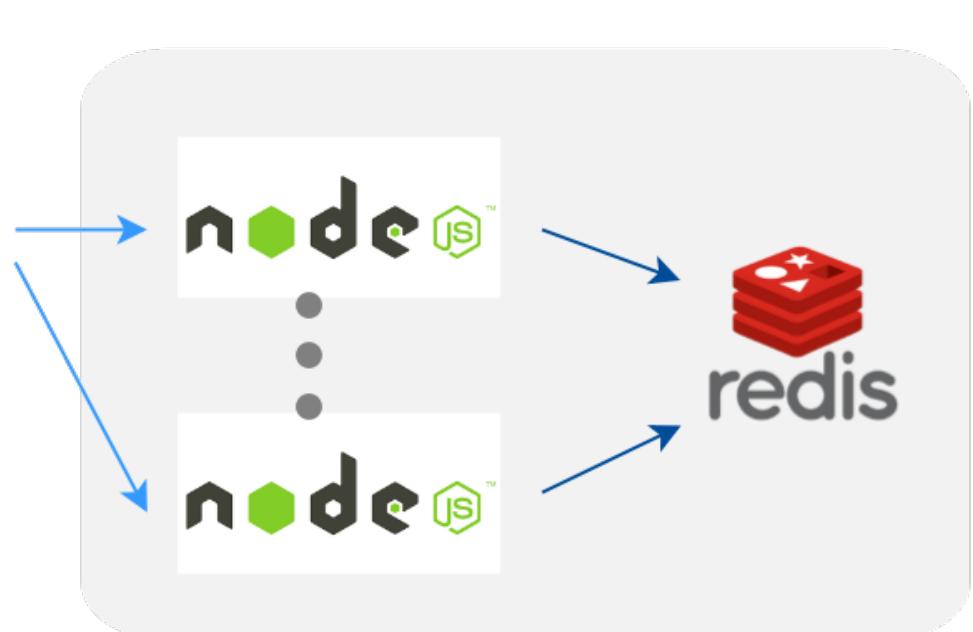
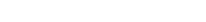
lb 10.0.0.10

Ubuntu 14.04

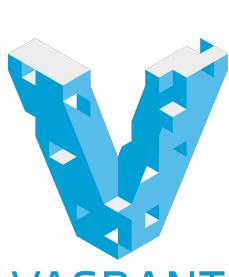
app1 10.0.0.20
app2 10.0.0.21
app3 10.0.0.22

CentOS 7.1

db 10.0.0.30



DEVOPS 2015 開發敏捷與維運高效的IT新典範



CentOS 7.1

lb 10.0.0.10

Ubuntu 14.04

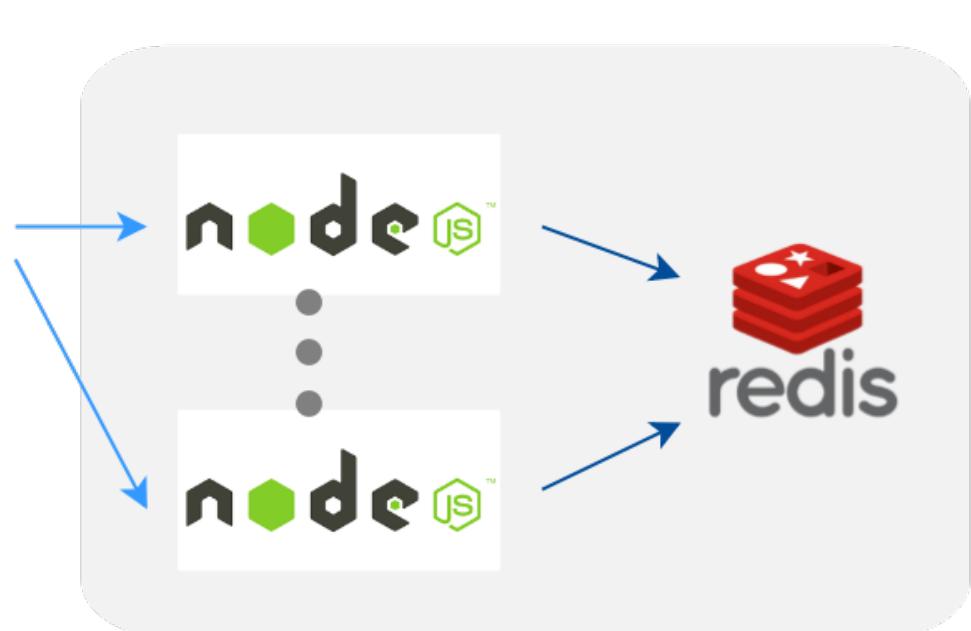
app1 10.0.0.20
app2 10.0.0.21
~~app3 10.0.0.22~~

CentOS 7.1

db 10.0.0.30



shutdown this on purpose!



DEVOPS 2015 開發敏捷與維運高效的IT新典範

CentOS 7.1



lb 10.0.0.10

Ubuntu 14.04

app1 10.0.0.20
app2 10.0.0.21
~~app3 10.0.0.22~~

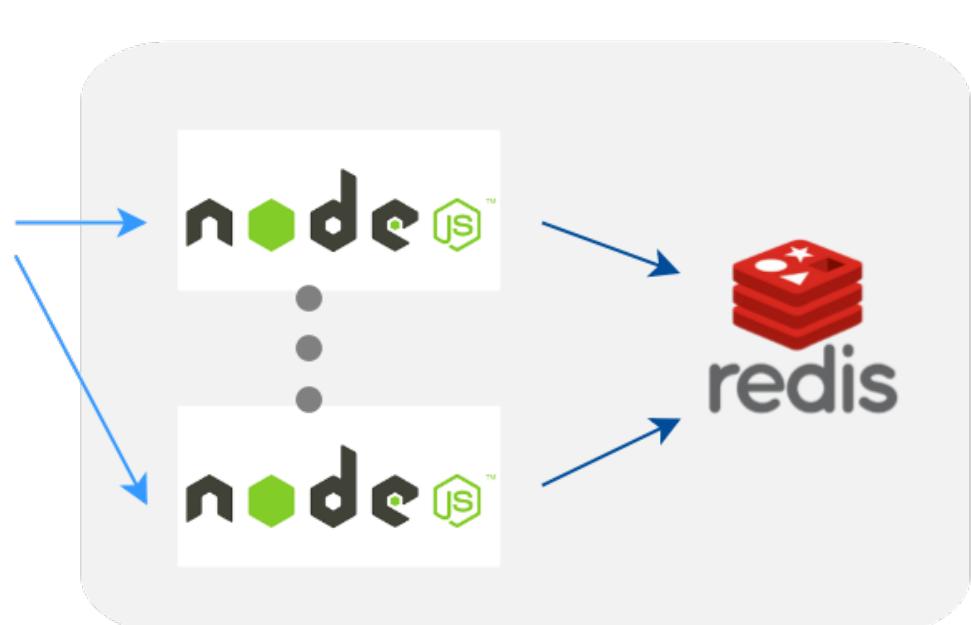
CentOS 7.1

db 10.0.0.30



shutdown this on purpose!

visible downtime?



Deployment

blue-green deployment



playbook

CentOS 7.1

lb 10.0.0.10

Ubuntu 14.04

app1 10.0.0.20
app2 10.0.0.21
app3 10.0.0.22

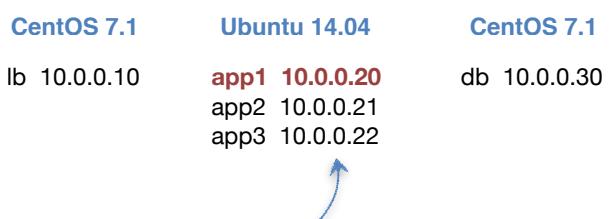
CentOS 7.1

db 10.0.0.30

```
- hosts: appservers
  roles:
    - williamyeh.nodejs
    - geerlingguy.git
    - { role: project_deploy, tags: ['deploy'] }

vars:
  project_git_repo: "https://github.com/..."
  project_version: "master"
  project_npm_repo: "https://npm.yourcompany.com/"
  project_has_npm: true
```

DEVOPS 2015 開發敏捷與維運高效的IT新典範



ansible-playbook

```
--user=vagrant --ask-pass  
--become  
--extra-vars='project_version=green'  
--limit=app1  
--tags=deploy  
playbook.yml
```

apply to the “app1” host

apply only the roles/tasks with a “deploy” tag

CentOS 7.1

lb 10.0.0.10

Ubuntu 14.04

app1 10.0.0.20
app2 10.0.0.21
app3 10.0.0.22

CentOS 7.1

db 10.0.0.30

checkout “green” branch

ansible-playbook

```
--user=vagrant --ask-pass  
--become  
--extra-vars='project_version=green'  
--limit=app1  
--tags=deploy  
playbook.yml
```

apply to the “app1” host

apply only the roles/tasks with a “deploy” tag

Deployment

rolling upgrade



playbook

	CentOS 7.1	Ubuntu 14.04	CentOS 7.1
lb	10.0.0.10	app1 10.0.0.20 app2 10.0.0.21 app3 10.0.0.22	
			db 10.0.0.30
			↑

```
- hosts: appservers
  serial: 1
```

```
roles:
```

- williamyeh.nodejs
- geerlingguy.git
- { role: project_deploy, tags: ['deploy'] }

```
vars:
```

```
project_git_repo: "https://github.com/..."  
project_version: "master"  
project_has_npm: true
```

ad-hoc commands
inventory
playbook - push
playbook - pull

用牛刀
殺雞

roles
selective execution

測試

Capistrano-style
zero-downtime
blue-green
rolling upgrade

規劃

部署

Automated configuration testing

Automated configuration testing

- Virtual machines + CI

Automated configuration testing

- Virtual machines + CI
- Docker + CI

Automated configuration testing

- Virtual machines + CI
- Docker + CI

- Test Kitchen



Conclusion

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pypi v1.9.2

downloads 199k/month

build passing

👉 <https://github.com/ansible/ansible>

Ansible

Ansible is a radically simple IT automation system. It handles configuration-management, application deployment, cloud provisioning, ad-hoc task-execution, and multinode orchestration - including trivializing things like zero downtime rolling updates with load balancers.

Read the documentation and more at <http://ansible.com/>

pypi v1.9.2

downloads 199k/month

build passing

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pypi v1.9.2

downloads

199k/month

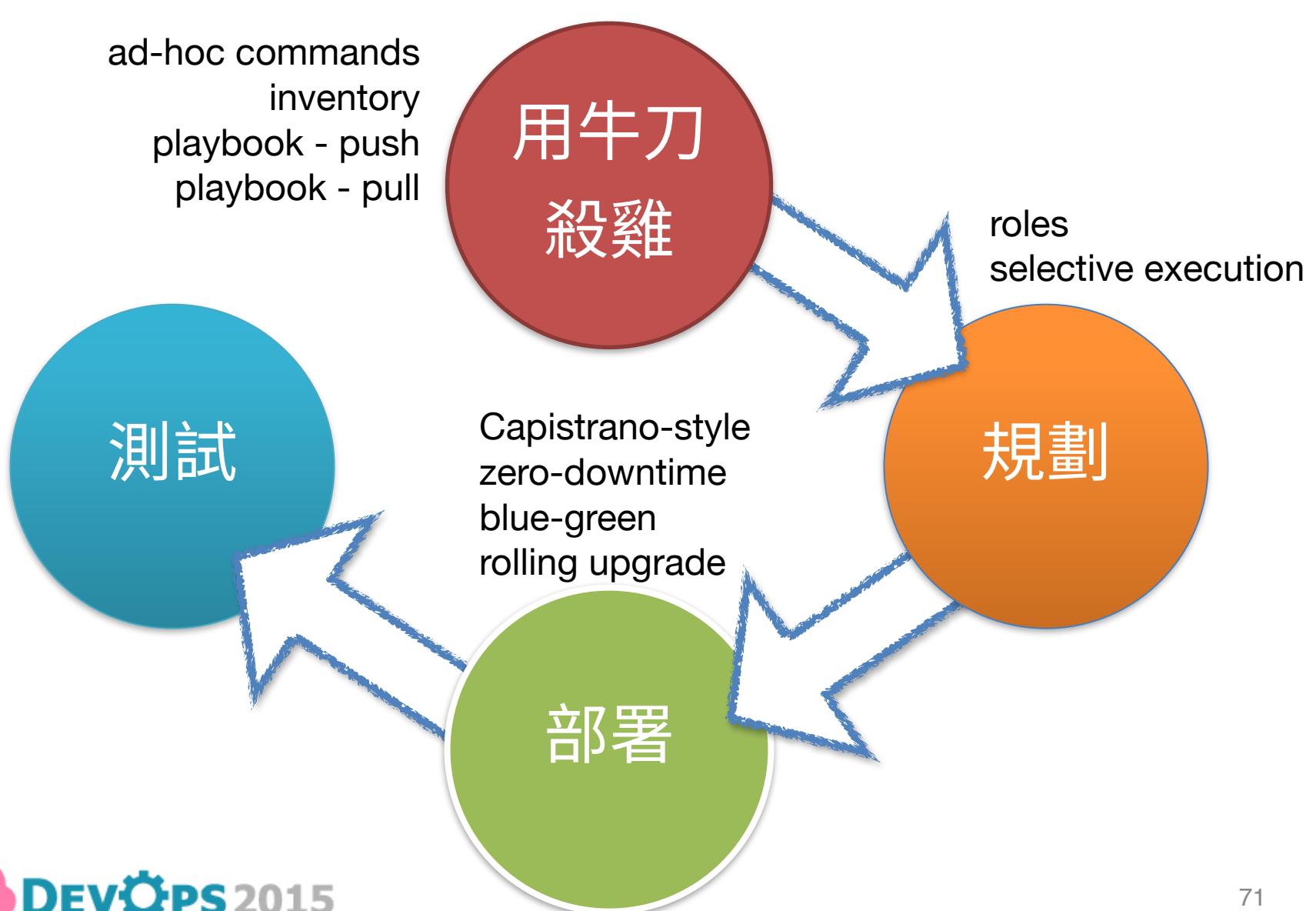
build passing

👉 <https://github.com/ansible/ansible>

Ansible

Ansible is a radically simple IT automation system. It handles configuration-management, application deployment, cloud provisioning, ad-hoc task-execution, and multinode orchestration - including trivializing things like zero downtime rolling updates with load balancers.

Read the documentation and more at <http://ansible.com/>



2015/10/25 恒逸教育訓練中心

Ansible 自動化組態管理實戰講堂

DevOps 2015 workshop 系列

Ansible 自動化組態管理實戰講堂

掌握自動化組態管理最佳實務

輕量但功能強大的 Ansible，除了在傳統的組態管理能與 Chef、Puppet、Salt 競爭之外，在應用程式部署方面，也能與 Fabric、Capistrano 一較高下，無怪乎它能在 2014 年獲選為 OpenSource.com 公認的 10 大開源軟體。

Ansible 除了功能具足，學習門檻也相對不高，安裝與執行的速度都快，透過 SSH 方式進行管理，也讓它無需安裝 Agent 即可與遠端伺服器溝通和進行管理。本課程將從自動化組態管理觀念著手，一步步介紹 Ansible 的使用方法和情境，並實際動手操作，完整介紹 Ansible 的妙用之處。

立即報名

