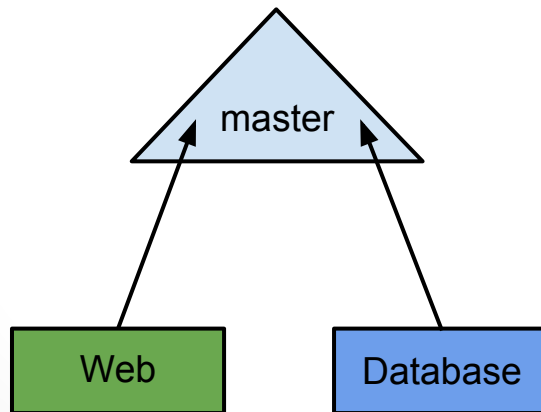# Salt Stack

Distributed System Configuration and
Management

http://goo.gl/RRe9vH

Master and Minion Servers

The Master provides a central system

Minions are simply your servers

What Makes Salt Different?

ZeroMQ provides quick communication

Work is completed by minions

Salt is written in Python

Salt States, the Core of SaltStack

States use YAML and Jinja2 or Mako

Formatting requirements create consistency

Python code can go straight into states

Salt State Example

nginx:

pkg:

- installed

service:

- running

- enabled: True

- reload: True

```
1  nginx:
2    pkg:
3      - installed
4    service:
5      - running
6      - enable: True
7      - reload: True
```

The Top File

Tells which servers should run what

Invoked on a 'highstate'

Is one of Salt's central components

Top File Example

base:

 '*':

   - ssh

 'web*':

   - nginx

 'db*':

   - cassandra

```
1  base:
2    '*':
3      - ssh
4    'web*':
5      - nginx
6    'db*':
7      - cassandra
8
```

Salt Pillars

Used for sensitive data and global variables

Information is only available to targeted machines

Multiple Pillars can exist

Pillar Example

Example pillar settings

#database example

connection_user: root

connection_pass: 'test'

{% set my_user = 'forrest' %}

#App settings

foo:

  user: {{ my_user }}

```
1  # Example pillar settings
2  #database example
3  connection_user: root
4  connection_pass: 'test'
5
6  {% set my_user = 'forrest' %}
7  #App settings
8  foo:
9    user: {{ my_user }}
```

Let's See a Live Demo

We'll install Salt on the master and a minion

Some packages will be installed on the minion

Files will be configured on the minion

Logging and Backups

Managed files can be backed up with an option

Actions taken on a Salt run are logged

```
2013-12-08 05:59:28,350 [salt.state    ][INFO    ] No changes made for /etc/nginx/sites-enabled/default
2013-12-08 05:59:28,351 [salt.state    ][INFO    ] Executing state pkg.installed for ssh
2013-12-08 05:59:28,355 [salt.state    ][INFO    ] No changes made for ssh
2013-12-08 05:59:28,355 [salt.state    ][INFO    ] Executing state file.managed for /etc/ssh/sshd_config
2013-12-08 05:59:28,356 [salt.state    ][INFO    ] No changes made for /etc/ssh/sshd_config
```

```
2013-12-08 06:04:55,700 [salt.state    ][INFO    ] Executing state file.managed for /etc/ssh/sshd_config
2013-12-08 06:04:55,702 [salt.state    ][INFO    ] File changed:
---
+++
@@ -1,6 +1,6 @@
 # Package generated configuration file
 # See the sshd_config(5) manpage for details
-
+#
 # What ports, IPs and protocols we listen for
 Port 1022
 # Use these options to restrict which interfaces/protocols sshd will bind to
```

Windows Support

Cannot be a master server

Requires configuration of a package repository

Currently tested on 2003 (32 bit), 2008R2 (64 bit), Windows 7 (64 bit), and basic testing on 2012

Questions?

Twitter: @failvarez

IRC: #salt - forresta

Github: gravyboat

https://github.com/gravyboat/desertpy-sls

http://goo.gl/RRe9vH