

SALTCONF



SaltStack Configuration Management Best Practices

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#SaltConf15



Writing Formulas

Style

- Use a descriptive State ID
- Use module.function notation
- Specify the name parameter
- Comment state files



Easy on the Jinja!

- Know the evaluation and execution order
- Avoid changing the underlying system with Jinja
- Avoid heavy logic and programming

When to use Jinja

- Inspect the local system
- Gather external data
- Light conditionals and looping
- Avoid inter-mixing states with Jinja
- Jinja Macros

Abstracting static defaults into a lookup table

- Collecting common values
- Overriding values in the lookup table
- When to use lookup tables
 - Platform-specific information
 - Sane defaults
 - Environment specific information

Single-purpose SLS files



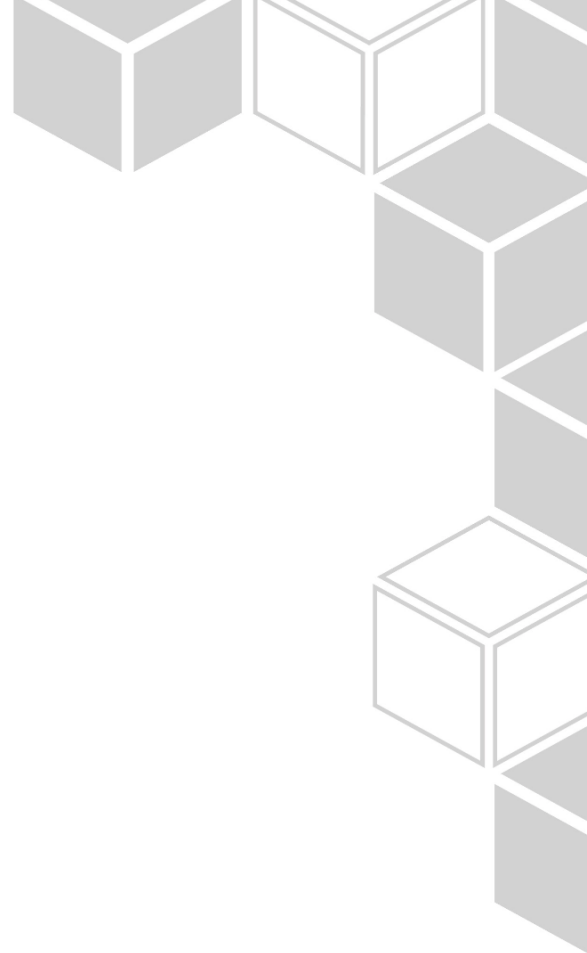
- Do one thing and do it well
- Mix-and-match:
 - Top files
 - Orchestrate
 - Reactor
- ...or use sequential ordering with `listen`

Parameterization

- As much variable data as possible

Configuration

- Platform defaults
- Upstream defaults
- Sane defaults
- Allow Pillar overrides



Pillar Overrides

- Automatic merges
 - ``pillar_source_merging_strategy``
- Manual merges
 - ``update`` method
 - ``pillar.get``
 - ``filter_by``

Scripting

- Python renderer
- Execution modules



Organization

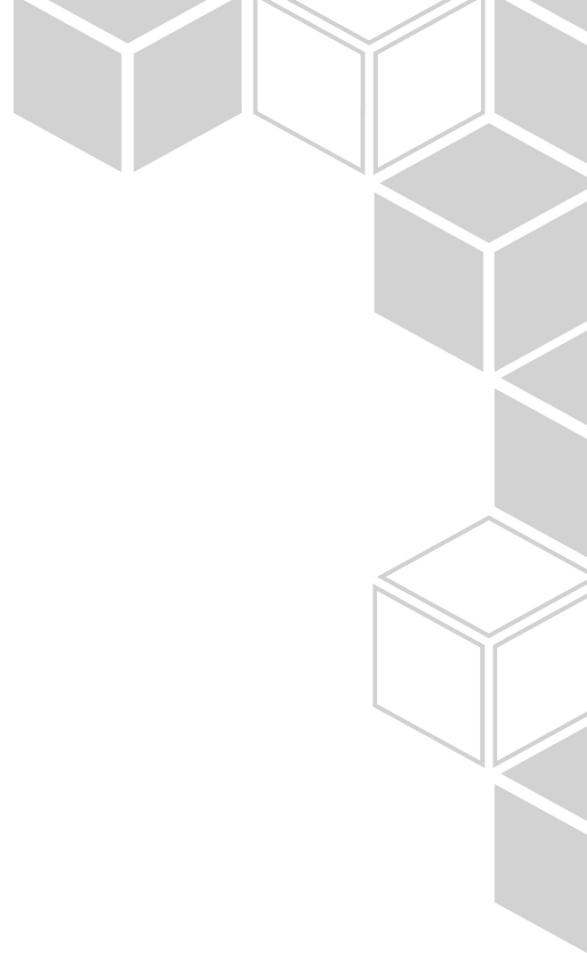
- Document!
- Shallow directories
- Group related files



Testing Formulas

Development Steps

- One piece at a time
- What are you testing right now?
- Combine into a whole



All About the Data Structure



- Syntax errors
 - Jinja errors
 - YAML errors
 - Salt errors

SaltStack Enterprise GUI

The screenshot displays the SaltStack Enterprise GUI interface. On the left, a sidebar contains 'RESOURCE VIEWS' (Masters, Minions, Minions Ent, Minions Open, Expired Minions, Quick Target), 'Cloud Providers' (AWS, Digital Ocean, GCE, ESX QA1), 'Another Option', 'NAV ITEM', and 'TARGET GROUPS' (Public: QA_1, QA_2, Prod_1, Prod_2; Private: QA_1, QA_2, Prod_1, Prod_2; Patch Groups: Win2k12 SP1, SQL-all; Test States).

The main area features a search bar with 'text' and 'grain' filters. Below it, a 'TEXT' section shows 'node name' and 'contains' filters, and a 'GRAINS' section shows 'OS Family', 'OS Version', and 'Kernel Release' filters. The central table lists minion data:

Name	IP Address	Status	Minion Type	Master	Environment	Last Job Run	Last Job ID	Status	OS	Version	Key
HR_1	10.0.0.1	Connected	Enterprise	10.0.0.254	HR Prod, HR Test	08.07.2014 01:32	Deploy RHEL	Complete	Debian	5.5	Valid
HR_1	10.0.0.2	Connected	Enterprise	10.0.0.254	HR Prod, HR Test	08.07.2014 01:32	Deploy RHEL	Complete	WinSrvr	5.5	Valid
HR_1	10.0.0.3	Connected	Open	10.0.0.254	HR Prod, HR Test	08.07.2014 01:32	Deploy RHEL	Complete	WinSrvr	5.5	Valid
HR_1	10.0.0.4	Connected	Enterprise	10.0.0.254	HR Prod, HR Test	08.07.2014 01:32	Deploy RHEL	Complete	CentOS	5.5	Valid
HR_1	10.0.0.5	Connected	Enterprise	10.0.0.254	HR Prod, HR Test	08.07.2014 01:32	Deploy RHEL	Failed	CentOS	5.5	Valid
HR_1	10.0.0.6	Connected	Enterprise	10.0.0.254	HR Prod, HR Test	08.07.2014 01:32	Deploy RHEL	Complete	Debian	5.5	Valid
HR_1	10.0.0.7	Connected	Enterprise	10.0.0.254	HR Prod, HR Test	08.07.2014 01:32	Deploy RHEL	Complete	Debian	5.5	Valid
HR_1	10.0.0.8	Offline	Open	10.0.0.254	HR Prod, HR Test	08.07.2014 01:32	Deploy RHEL	Complete	Debian	5.5	Valid
HR_1	10.0.0.9	Offline	Enterprise	10.0.0.254	HR Prod, HR Test	08.07.2014 01:32	Deploy RHEL	Complete	CentOS	5.5	Valid
HR_1	10.0.0.10	Archive	Open	10.0.0.254	HR Prod, HR Test	08.07.2014 01:32	Deploy RHEL	In Progress	WinSrvr	5.5	Valid
HR_1	10.0.0.11	Archive	Enterprise	10.0.0.254	HR Prod, HR Test	08.07.2014 01:32	Deploy RHEL	Blocked	WinSrvr	5.5	Valid

The right sidebar shows 'DETAILS' for 'thatch', including 'MINION STATS' (Minion 1: Status: CONNECTED, IP Address: 10.1.1.1, OS: RHEL7, Minion: 2014.7) and 'JOB STATUS' (HR_1: In-Progress, HR_2: In-Progress, HR_3: In-Progress, HR_4: In-Progress, HR_TEST: Complete, HR_TEST2: Complete, HR_TestVn: Complete, HR_TRAIN1: Complete, HR_TRAIN2: Complete, HR_STAGING: Complete, HR_BACKUP: Complete, HR_BACKUP2: Failed, HR_SPUKE: Failed).

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Thank you

Please provide session feedback in the SaltConf15 mobile event guide

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