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SaltStack &gt;

# Salt Cheat Sheet

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## SERVICES

**Start / Stop / Restart service on Minion**

```
salt 'target' service.start "service name"
(start/stop/restart)
```

**Restart Minion on Win target**

```
salt 'target' cmd.run 'start powershell "Restart-Service -
Name salt-minion"'
```

**Restart Minion on Linux target**

```
salt 'target' cmd.run 'service salt-minion restart''
```

**Execute a script remotely**

## FILE C

**Check if file**  

```
salt '*' f:
```

**Check if a fi**  

```
salt "*" f:
```

**check if file**  

```
salt target:
```

**Find a file**  

```
salt '*' f:
```

```
salt target cmd.exec_code python 'import sys; print
sys.version'
2.7.8 GCC 4.9.1
```

```
salt target cmd.exec_code sh 'echo $PATH'
/usr/local/bin:/usr/local/sbin
```

#### Check service on minion

```
salt target service.status httpd
```

#### Check if service is available

```
salt target service.available httpd
```

#### get all services

```
salt target service.get_all
```

#### reload a service config (avoids restart)

```
salt target service.reload httpd
```

#### start | stop | restart a service

```
salt target service.start httpd
```

## TARGETING & OUTPUT

#### by OS grain

```
salt -G os:Windows cmd.run "net stop Firewall"
```

#### by other grains

```
salt -G 'server_type:app and env:prod' state.highstate
```

#### target EC2 instances only

```
salt -G uuid:ec2\* test.ping
```

#### compound match

```
salt -C 'server_type:web and clo*' state.sls nginx
```

#### list based match

```
salt -L 'hostname1,hostname2,hostname3' state.sls ntp
```

#### Nodegroup match

```
salt -N ny_db_servers cmd.run 'ps -ef | grep mysql'
```

#### add to Nodegroup filter

```
vim /etc/salt/master.d/nodegroups.conf
```

#### nodegroups:

```
prod: 'L@nycweb1 or myhost or web*'
uat: '*-uat'
```

#### regex OR

```
salt -E "(nyweb|db5)" test.ping
```

#### by pillar value

```
salt -I 'role:webserver' test.ping
```

#### run Highstate directly from the minion, show only changes

```
salt-call state.highstate test=true --state-
output=changes
```

## KEY MANAGEMENT

#### result

```
- /etc/hosts
- /etc/hosts
- /etc/hosts
```

#### copy small f

```
salt-cp 'target'
```

#### copy dir from

```
salt 'target'
```

#### copy large f

```
salt 'target'
```

#### copy file f

```
https://do
```

#### add Minic

```
vi /etc/
```

#### add this li

```
minionfs.
file_rec
```

#### restart Ma

#### get the fil

```
salt 'target'
```

#### files are s

```
/var/cac
```

#### copy file from

```
on Master
```

```
to copy
```

```
salt \*
```

```
all file
```

#### add host en

```
salt target
```

#### Replace cor

```
salt '*' f:
```

#### Create folde

```
salt '*'
```

```
C:/temp/d
```

#### Delete folde

```
salt '*' f:
```

#### Create new

```
salt '*' f:
```

#### manage file

```
/etc/fst
```

```
file.l
```

```
- cc
```

```
- mc
```

```
- af
```

#### replace con

**Add Minions to Master**

```
salt-key -L (show pending to be accepted)
salt-key -A (accept all pending)
salt-key -a target (accept by hostname)
```

**Remove inactive minions from Salt**

```
salt-run manage.down removekeys=True
```

**Remove minions by name**

```
salt-key -D targetName
```

## SERVER DIAGNOSTICS

**Test Connection**

```
salt 'target' test.ping
```

**Diagnostics**

```
salt target status.all_status // gets all info
status.cpu_info
status.cpustats
status.uptime
status.diskusage // or disk.usage
status.loadavg
status.meminfo
status.netdev // network device
status.netstats //network stats
status.procs
status.version //system version
status.vmmstats //virtual mem stats
status.w //who is logged in
```

**Show Minions by State (Up/Down)**

```
salt-run manage.up
salt-run manage.down
salt-run manage.status (show all by status)
```

**Compliance and Audit**

to get a compliance result, run a State check with test=True

```
salt '*' state.highstate test=True
```

This will return any differences from existing configuration to whats in the Top file

**Show Salt Master version**

```
salt --versions-report
```

**Show Salt Minion version**

```
salt-call --versions-report
```

**Start Minion in Debug mode**

```
salt-master --log-level=debug
```

**Restart everything on Master:**

```
kill salt-minion //Kill minion
kill salt-syndic // Kill Syndic
salt-run cache.clear_all //Clear all cache
salt '*' saltutil.sync_grains //Sync grains
```

```
update_n
file.r
- na
- pa
- re
- ap
```

**create syml**

```
symlink:
file.sy
- nam
- tar
```

**create direc**

```
/home/qt
file.c
- us
- gr
- di
- fi
- re
```

**replace file c**

```
sshd_conf
augeas.c
- cont
- char
- se
- se
- se
```

**copy directo**

```
app_ta_n
file
```

**File Manag****try several f**

```
monit_co
file
```

```
salt-master -d //Start master daemon
salt-minion -d //Start minion daemon
salt-syndic -d //Start syndic daemon
```

## Agent Env Info

show all information about a minion (lots of data)

```
salt minion status.all_status
```

show memory

```
salt minion status.meminfo
```

show disk usage

```
salt minion status.diskusage
```

show who is logged in

```
salt minion status.w
```

## GRAINS

Show Grain data

```
salt '*' grains.ls
salt '*' grains.items
```

get specific Grain

```
salt cent7 grains.get selinux
cent7:
```

```
-----
enabled:
  True
enforced:
  Enforcing
```

can also do the same with

```
salt cent7 grains.item selinux
```

set a Grain data on a node

```
salt cent7 grains.set 'apps:Myapp:port' 2500
```

```
salt cent7 grains.item apps
cent7:
```

```
-----
apps:
  -----
  Myapp:
    -----
    port:
      2500
```

All grain data is stored on the minion in **/etc/salt/grains file**

if adding more data manually, refresh Grains on the Master to pick up changes

```
salt target saltutil.refresh_modules
```

Use grain in a state file

```
apache:
  pkg.installed:
    {% if grains['os'] == 'RedHat' %}
    - name: httpd
```

show JSON output

## USER

Set user's p

```
salt '*' s
'$6$EYk3o5
```

Generate a

```
salt 'tang
$6$nTul6WF
```

Additional w

1. pythc
2. open

Add User

```
salt target
```

Remove Us

```
salt '*' u
```

Show all use

```
salt target
```

Info on all u:

```
salt target
```

Info on spec

```
salt target u
```

Add User to

```
salt target
```

// or

```
salt target
```

Remove Us

```
salt targe
```

Show users

```
salt target
```

Change Use

```
salt '*' u:
```

get info on a

```
salt target
```

get info o a

```
salt targe
```

Delete grou

```
salt targe
```

## STATE

Highstate

```
salt '*' s
```

Deploy spec

```
salt '*' s
```

Run multiple

```
salt target
```

```
salt target grains.item ipv4 --out=json
{
  "target": {
    "ipv4": [
      "10.0.2.15",
      "127.0.0.1",
      "192.168.56.102"
    ]
  }
}
```

### Use grain as a variable

```
{% set nodename = grains['nodename'] %}
```

```
base:
  '*':
    - common
    - packages
    - users
    - servers.{{ nodename }}
```

## MINE

### show mine data

```
salt '*' mine.get '*' x509.get_pem_entries
```

## PACKAGES AND INSTALLATION

### Verbose output (timeout 300 sec)

```
salt 'target' state.highstate -t 300 -v
```

### Show package version

```
salt 'target' pkg.version apache
```

### install package on minions

```
salt 'target' pkg.install apache
```

### Uninstall pkg

```
salt 'target' pkg.remove 'npp'
salt 'target' pkg.purge 'npp'
```

### Show Installed Packages or Software

```
salt 'target' pkg.list_pkgs
```

### show all packages that need updates

```
salt target pkg.list_upgrades
```

### Requisites

<https://docs.saltstack.com/en/latest/topics/tutorials/walkthrough.html#requisites>

### unless

```
vim:
  pkg.installed:
    - unless:
      - test -f /etc/passwd
```

### onlyif

```
set_rtc:
  cmd.run:
    - name: date +%Y-%m-%d
    - or:
      - test -f /etc/passwd
```

### require

```
bar:
  pkg.installed:
    - require:
      - foo
```

### onchange

```
extract_archive:
  archive.extract:
    - name: /tmp/archive.tar.gz
    - source: /tmp/archive.tar.gz
    - archive: tar
    - onchanges:
      - foo
```

### watch

```
ntpd:
  service.running:
    - watch:
      - foo
```

### prereq

prereq allow state contain statement is

```
graceful_restart:
  cmd.run:
    - name: service restart
    - prereq:
      - foo
```

### use

The use requires need to have

```
/etc/focus:
  file.managed:
    - source: /etc/focus
    - template: jinja
```

upgrade all packages  
 salt target pkg.upgrade

### Windows (Chocolatey)

install chocolatey  
 salt wintarget chocolatey.bootstrap

install pkg using choco  
 salt mrxwin7 chocolatey.install 7zip

```
- mk
- us
- gr
- mc
```

```
/etc/bar
file.n
- sc
- us
-
```

### require\_i

```
vim:
pkg.in:
- rei
-
```

### import YAM

```
{% impor
show_cor
- test
- te
```

## JOBS AND PROCESS CONTROL

Show all Salt jobs run history  
 salt-run jobs.list\_jobs

Show active Salt jobs  
 salt-run jobs.active // returns a Job ID

Show currently running processes on a minion  
 salt '\*' saltutil.running

Kill active job  
 salt 'target' saltutil.kill\_job \$JOB\_ID  
 salt '\*' saltutil.term\_job <job id>

Clear Job cache  
 salt '\*' saltutil.clear\_cache

## SSH M

edit the Ros

```
vi /etc/sa:
```

```
# Sample se
mrxcloud1:
  host: 104.
  user: fred
  passwd: fr
  sudo: True
```

## REACTOR

examples of reactor matching

/etc/salt/master.d/reactor.conf

```
reactor:
- 'sayhello':
- /srv/reactor/test.sls
```

/srv/reactor/test.sls

```
{% if data['id'].startswith('web') %}
sayhello:
  local.state.apply:
    - tgt: {{ data['id'] }}
    - arg:
      - say-hello

  local.cmd.run:
    - tgt: minion1
    - arg:
      - "echo 'hello' > /tmp hello"

{% endif %}
```

Run comma  
 salt-ssh -i m

### To run SSH

1. copy  
 shou  
 /hom  
 /hom  
 /hom  
 /hom  
 /hom  
 /hom  
 /hom

2. confi

## DEBUG

Run highstate in debug  
 salt-call -l debug state.highstate

**Run specific state in debug**

```
salt-call -l debug state.sls elasticsearch
```

**show highstate process (debug YAML syntax errors)**

```
salt-call state.show_highstate
```

**show specific State details**

```
salt 'target' state.show_sls apache
```

**show only Changed and Failed during run**

modify /etc/salt/master and /etc/salt/minion, restart Master after change

```
state_verbose: True
```

```
state_output: mixed
```

**start minion in debug, see connection errors**

```
salt-minion -l debug
```

<https://docs.saltstack.com/en/latest/topics/troubleshooting/minion.html>

if Master not seeing Minion key requests, add IPTables rules to Master,

```
root@master# iptables -I INPUT -s 172.31.23.0/24 -p tcp -m multiport --dports 4505,4506 -j ACCEPT
root@master# iptables -I INPUT -s 172.31.25.0/24 -p tcp -m multiport --dports 4505,4506 -j ACCEPT
```

```
# reject everything else,
root@master# iptables -A INPUT -p tcp -m multiport --dports 4505,4506 -j REJECT
```

**Log Jinja variables to Minion**

```
{% do salt.log.error('testing jinja logging') -%}
```

**show Options passed to a State (ie, test=true)**

```
{% do salt.log.error(opts['test']) -%}
```

**Output variables from State file,**

```
show_var:
  - test.show_notification:
    - text: This is my var {{ var }}
```

**Exit w failure message**

```
fail_run:
  test.fail_without_changes:
    - name: your message here
```

3. edit /

4. chan

pidf

log\_

pki\_

cach

5. Add t

mach

ho

us

su

pr

6. run c

salt

7. apply

salt

**Salt Roster****PILLA**

Sample Pillar

Salt top file

/srv/salt/top

```
base:
  '*':
    - co
    - us
```

Pillar top file

/srv/pillar/

```
base:
  '*':
    - us
```

Users Pillar

/srv/pillar/

```
users:
  spider:
    uid:
    full:
    shel:
    ssh-l
    - :
```

```
black.l
uid:
full:
shel:
ssh-l
- :
```

```
supergr:
uid:
fulli
sheli
ssh-|
- |
- :
```

Salt Users s

```
/srv/salt/u

{% for u:

{{ user

group.|
- gi

user.p|
- fu.
- ui
- gi
- sh
- ho

{% endfo
```

Refresh pilla
salt \\* sa

Look at pilla
salt \\* pi

get a Pillar \
{{ salt['p

get Pillar
{% for rt

get nestec
salt nycwe

PORT

Master - Ag

Get IP of a I
salt target

Ping from M
salt target

get all active
salt target

get ARP tab
salt target

test port cor
salt target

get hardwar



```
salt target
```

```
get inet add
salt target
```

```
get all interf
salt target
```

## JINJA

### For Loop

```
{% for usr
{{ usr }}:
  group:
    - pres
  user:
    - pres
    - gid_
    - requ
    - gr
{% endfor
```

### If Condi

```
{% if var
  Var is
{% elif va
  var is
{% else %}
  var is
{% endif %
```

```
get shell cor
```

```
{% set pr
```

```
disable tab :
```

```
{% for s
{{ server
{% endfor

results :
  server
  server

to disab

#jinja2:
to top o
```

```
Run a state
```

```
{% if no
deploy_k
  file

extract_|
```

```
arch:
```

```
{% endif
Test for
{% if no
```

```
render para
{{ var_name
```

```
set a param
{% set fru:
```

```
Iterate dictio
{% for name
    {{ name
    {{ app[
{% endfor ;
```

```
sort a list
{% for vm :
    {{ vm :
{% endfor ;
```

```
or by attribu
{% for vm
```

```
get total # o
{{ myList|.
```

```
If statement
{% if var :
```

```
convert vari:
{{ somevar
```

```
set a default
{{ somevar
```

```
match by re
{% if grai
```

```
will match a
```

## Jinja Tric

```
difference
{{ [1, 2,
') }}
>> 1
```

```
avg, min, m
{{ [1, 2, 3]
```

```
generate ra
{{ 'random
```

```
date format
{{ 1457456
{{ 1457456
```

```
2017-03-08
08.03.2017
```

```
string to
{{ '5' | t
```

```
run Salt (
{{ salt.cr
{{ salt.gr
```

## ETC

```
generate rai
python -c
crypt.mks
```

[Subpages \(1\):](#) Saltstack minicheat

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