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# **OpenStack-Ansible Documentation:**

## **os\_manila role**

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This Ansible role installs and configures OpenStack manila.

**The following manila services are managed by the role:**

- manila\_api
- manila\_scheduler
- manila\_share
- manila\_data (untested)



## CONFIGURING THE SHARED FILE SYSTEM (MANILA) SERVICE (OPTIONAL)

By default the Shared File System (manila) service does not deploy any backend. This role expects you to define the backend you intend on using. The following sections describe example configurations for various manila backends.

### 1.1 Default share type

It is required to define one of the `manila_backends` as the default share type.

```
manila_default_share_type: SHARE_TYPE_NAME
```

Replace `SHARE_TYPE_NAME` with the name of the default backend.

### 1.2 LVM backend

The LVM backend allows provisioning of logical volumes and configuring a local NFS server to serve those volumes as shares.

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**Note:** Using the LVM backend results in a Single Point of Failure

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1. For each storage node, add one `manila_backends` block underneath the `container_vars` section. `container_vars` are used to allow container/host individualized configuration. Each manila back end is defined with a unique key. For example, `nfs-share1`. This later represents a unique manila backend and share type.

```
container_vars:  
  manila_enabled_share_protocols: NFS  
  manila_backends:  
    nfs-share1:
```

2. Configure the appropriate share protocols. For the LVM backend you will need a minimum of NFS.

```
container_vars:  
  manila_enabled_share_protocols: NFS
```

3. Configure the appropriate manila share backend name:

```
share_backend_name: NFS_SHARE1
```

4. Configure the appropriate manila LVM driver:

```
share_driver: manila.share.drivers.lvm.LVMShareDriver  
lvm_share_volume_group: LVM_VOLUME_GROUP
```

Replace LVM\_VOLUME\_GROUP with the name of the LVM volume group manila should use to provision shares.

5. Configure whether this backend manages share servers. The only current supported option for this role is `False` as deploying a manila backend that manages share servers has not been tested yet.

```
driver_handles_share_servers: False
```

6. Configure the IP address/es or hostnames of the share server.

```
lvm_share_export_ips: "IP_ADDRESS"
```

Replace IP\_ADDRESS with a comma separated string of one or more IP addresses or hostnames where the nfs shares will be exported from.

The following is a full configuration example of a manila LVM backend named NFS\_SHARE1. The manila playbooks will automatically add a custom `share-type` and `nfs-share1` as in this example:

```
container_vars:  
  manila_default_share_type: nfs-share1  
  manila_enabled_share_protocols: NFS  
  manila_backends:  
    limit_container_types: manila_share  
    nfs-share1:  
      share_backend_name: NFS_SHARE1  
      share_driver: manila.share.drivers.lvm.LVMShareDriver  
      driver_handles_share_servers: False  
      lvm_share_volume_group: manila-shares  
      lvm_share_export_ips: 172.29.236.100
```

To clone or view the source code for this repository, visit the role repository for `os_manila`.



## DEFAULT VARIABLES

```
# Set the package install state for distribution packages
# Options are 'present' and 'latest'
manila_package_state: "{{ package_state | default('latest') }}"

# Set the host which will execute the shade modules
# for the service setup. The host must already have
# clouds.yaml properly configured.
manila_service_setup_host: "{{ openstack_service_setup_host | default(
    ↪'localhost') }}"
manila_service_setup_host_python_interpreter: "{{ openstack_service_setup_
    ↪host_python_interpreter | default((manila_service_setup_host == 'localhost
    ↪') | ternary(ansible_playbook_python, ansible_facts['python']['executable
    ↪'])) }}"

# Set installation method.
manila_install_method: "{{ service_install_method | default('source') }}"
manila_venv_python_executable: "{{ openstack_venv_python_executable | default(
    ↪'python3') }}"

manila_git_repo: https://opendev.org/openstack/manila
manila_git_install_branch: master
manila_upper_constraints_url: "{{ requirements_git_url | default('https://
    ↪releases.openstack.org/constraints/upper/' ~ requirements_git_install_
    ↪branch | default('master')) }}"
manila_git_constraints:
    - "--constraint {{ manila_upper_constraints_url }}"

manila_pip_install_args: "{{ pip_install_options | default('') }}"

# Name of the virtual env to deploy into
manila_venv_tag: "{{ venv_tag | default('untagged') }}"
manila_bin: "{{ _manila_bin }}"

# Enable/Disable Ceilometer
manila_ceilometer_enabled: False

manila_storage_availability_zone: nova
manila_default_availability_zone: "{{ manila_storage_availability_zone }}"
```

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```

manila_management_address: 127.0.0.1
manila_uwsgi_bind_address: "{{ openstack_service_bind_address | default('0.0.
  ↳0.0') }}"

manila_fatal_deprecations: False

## Database info
manila_db_setup_host: "{{ openstack_db_setup_host | default('localhost') }}"
manila_db_setup_python_interpreter: "{{ openstack_db_setup_python_interpreter_
  ↳| default((manila_db_setup_host == 'localhost') | ternary(ansible_playbook_
  ↳python, ansible_facts['python']['executable'])) }}"
manila_galera_address: "{{ galera_address | default('127.0.0.1') }}"
manila_galera_user: manila
manila_galera_database: manila
manila_galera_use_ssl: "{{ galera_use_ssl | default(False) }}"
manila_galera_ssl_ca_cert: "{{ galera_ssl_ca_cert | default('') }}"
manila_galera_port: "{{ galera_port | default('3306') }}"
manila_db_max_overflow: "{{ openstack_db_max_overflow | default('50') }}"
manila_db_max_pool_size: "{{ openstack_db_max_pool_size | default('5') }}"
manila_db_pool_timeout: "{{ openstack_db_pool_timeout | default('30') }}"
manila_db_connection_recycle_time: "{{ openstack_db_connection_recycle_time |
  ↳default('600') }}"

## Oslo Messaging

# RPC
manila_oslomsg_rpc_host_group: "{{ oslomsg_rpc_host_group | default('rabbitmq_
  ↳all') }}"
manila_oslomsg_rpc_setup_host: "{{ (manila_oslomsg_rpc_host_group in groups)
  ↳| ternary(groups[manila_oslomsg_rpc_host_group][0], 'localhost') }}"
manila_oslomsg_rpc_transport: "{{ oslomsg_rpc_transport | default('rabbit') }}"
  ↳
manila_oslomsg_rpc_servers: "{{ oslomsg_rpc_servers | default('127.0.0.1') }}"
manila_oslomsg_rpc_port: "{{ oslomsg_rpc_port | default('5672') }}"
manila_oslomsg_rpc_use_ssl: "{{ oslomsg_rpc_use_ssl | default(False) }}"
manila_oslomsg_rpc_userid: manila
manila_oslomsg_rpc_vhost: /manila
manila_oslomsg_rpc_ssl_version: "{{ oslomsg_rpc_ssl_version | default('TLSv1_2
  ↳') }}"
manila_oslomsg_rpc_ssl_ca_file: "{{ oslomsg_rpc_ssl_ca_file | default('') }}"

# Notify
manila_oslomsg_notify_host_group: "{{ oslomsg_notify_host_group | default(
  ↳'rabbitmq_all') }}"
manila_oslomsg_notify_setup_host: "{{ (manila_oslomsg_notify_host_group in
  ↳groups) | ternary(groups[manila_oslomsg_notify_host_group][0], 'localhost')
  ↳| default('') }}"
manila_oslomsg_notify_transport: "{{ oslomsg_notify_transport | default(
  ↳'rabbit') }}"

```

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```

manila_oslmsg_notify_servers: "{{ oslmsg_notify_servers | default('127.0.0.1
↵') }}"
manila_oslmsg_notify_port: "{{ oslmsg_notify_port | default('5672') }}"
manila_oslmsg_notify_use_ssl: "{{ oslmsg_notify_use_ssl | default(False) }}"
manila_oslmsg_notify_userid: "{{ manila_oslmsg_rpc_userid }}"
manila_oslmsg_notify_password: "{{ manila_oslmsg_rpc_password }}"
manila_oslmsg_notify_vhost: "{{ manila_oslmsg_rpc_vhost }}"
manila_oslmsg_notify_ssl_version: "{{ oslmsg_notify_ssl_version | default(
↵'TLSv1_2') }}"
manila_oslmsg_notify_ssl_ca_file: "{{ oslmsg_notify_ssl_ca_file | default('
↵') }}"

## (Qdrouterd) integration
# TODO(evrardjp): Change structure when more backends will be supported
manila_oslmsg_amqp1_enabled: "{{ manila_oslmsg_rpc_transport == 'amqp' }}"

## Manila User / Group
manila_system_user_name: manila
manila_system_group_name: manila
manila_system_comment: manila system user
manila_system_shell: /bin/false
manila_system_home_folder: "/var/lib/{{ manila_system_user_name }}"
manila_system_slice_name: manila

## Manually specified manila UID/GID
# Deployers can specify a UID for the manila user as well as the GID for the
# manila group if needed. This is commonly used in environments where shared
# storage is used, such as NFS or GlusterFS, and manila UID/GID values must be
# in sync between multiple servers.
#
# WARNING: Changing these values on an existing deployment can lead to
#         failures, errors, and instability.
#
# manila_system_user_uid = <UID>
# manila_system_group_gid = <GID>

manila_lock_dir: "{{ openstack_lock_dir | default('/run/lock') }}"

## Manila Auth
manila_service_admin_tenant_name: "service"
manila_service_admin_username: "manila"

## Manila API's enabled
manila_enable_v2_api: true

## Manila API check cert validation
manila_service_internaluri_insecure: false

## Manila api service type and data

```

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```

manila_service_name: manila
manila_service_project_domain_id: default
manila_service_user_domain_id: default
manila_service_user_name: manila
manila_service_project_name: service
manila_service_role_names:
  - admin
  - service
manila_service_token_roles:
  - service
manila_service_token_roles_required: "{{ openstack_service_token_roles_
↳required | default(True) }}"
manila_service_region: "{{ service_region | default('RegionOne') }}"
manila_service_description: "Openstack Shared File Systems"
manila_service_port: 8786
manila_service_proto: http
manila_service_publicuri_proto: "{{ openstack_service_publicuri_proto |
↳default(manila_service_proto) }}"
manila_service_adminuri_proto: "{{ openstack_service_adminuri_proto |
↳default(manila_service_proto) }}"
manila_service_internaluri_proto: "{{ openstack_service_internaluri_proto |
↳default(manila_service_proto) }}"
manila_service_type: share
manila_service_publicuri: "{{ manila_service_publicuri_proto }}://{{ external_
↳lb_vip_address }}:{{ manila_service_port }}"
manila_service_publicurl: "{{ manila_service_publicuri }}/v1/%(tenant_id)s"
manila_service_adminuri: "{{ manila_service_adminuri_proto }}://{{ internal_
↳lb_vip_address }}:{{ manila_service_port }}"
manila_service_adminurl: "{{ manila_service_adminuri }}/v1/%(tenant_id)s"
manila_service_internaluri: "{{ manila_service_internaluri_proto }}://{{
↳internal_lb_vip_address }}:{{ manila_service_port }}"
manila_service_internalurl: "{{ manila_service_internaluri }}/v1/%(tenant_id)s
↳"

manila_service_v2_name: manilav2
manila_service_v2_port: 8786
manila_service_v2_proto: http
manila_service_v2_type: sharev2
manila_service_v2_description: "Openstack Shared File Systems V2"
manila_service_v2_publicuri: "{{ manila_service_publicuri_proto }}://{{
↳external_lb_vip_address }}:{{ manila_service_port }}"
manila_service_v2_publicurl: "{{ manila_service_publicuri }}/v2/%(tenant_id)s"
manila_service_v2_adminuri: "{{ manila_service_adminuri_proto }}://{{
↳internal_lb_vip_address }}:{{ manila_service_port }}"
manila_service_v2_adminurl: "{{ manila_service_adminuri }}/v2/%(tenant_id)s"
manila_service_v2_internaluri: "{{ manila_service_internaluri_proto }}://{{
↳internal_lb_vip_address }}:{{ manila_service_port }}"
manila_service_v2_internalurl: "{{ manila_service_internaluri }}/v2/%(tenant_
↳id)s"

```

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```
## Keystone authentication middleware
manila_keystone_auth_plugin: "{{ manila_keystone_auth_type }}"
manila_keystone_auth_type: password

## In order to enable the manila data you MUST set `manila_service_data_
↳program_enabled` to "true"
manila_service_data_program_enabled: false

## Cap the maximum number of threads / workers when a user value is_
↳unspecified.
manila_osapi_share_workers_max: 16
manila_osapi_share_workers: "{{ [(ansible_facts['processor_vcpus']//ansible_
↳facts['processor_threads_per_core']|default(1), 1] | max * 2, manila_osapi_
↳share_workers_max] | min }}"

## Manila RPC
manila_rpc_executor_thread_pool_size: 64
manila_rpc_response_timeout: 60

# osprofiler
manila_profiler_enabled: false
# manila_profiler_hmac_key is set in user_secrets.yml
manila_profiler_trace_sqlalchemy: false

## Manila quota
manila_quota_shares: 50
manila_quota_snapshots: 50
manila_quota_gigabytes: 1000
manila_quota_snapshot_gigabytes: 1000
manila_quota_share_networks: 10

## General configuration
# manila_backends:
#   lvm:
#     share_backend_name: LVM
#     share_driver: manila.share.drivers.lvm.LVMShareDriver
#     driver_handles_share_servers: False
#     lvm_share_volume_group: manila_shares
#     lvm_share_export_ips: <server-ip>
manila_backends: {}

manila_enabled_share_protocols:
  - NFS
  - CEPHFS

manila_default_share_type: "{{ _manila_default_share_type | default('') }}"

manila_share_name_template: share-%s
```

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```

# manila_backend_lvm_inuse: True if current host has an lvm backend
manila_backend_lvm_inuse: "{{ (manila_backends | to_json).find('lvm') != -1 }}"
↪"
# manila_backend_rbd_inuse: True if the current host has an rbd backend
manila_backend_rbd_inuse: "{{ (manila_backends | to_json).find('manila.share.
↪drivers.cephfs') != -1 }}"

## Policy vars
# Provide a list of access controls to update the default policy.json with.
↪These changes will be merged
# with the access controls in the default policy.json. E.g.
#manila_policy_overrides:
# "share:create": ""
# "share:delete": ""

manila_service_in_ldap: "{{ service_ldap_backend_enabled | default(False) }}"

# Common pip packages
manila_pip_packages:
- "git+{{ manila_git_repo }}@{{ manila_git_install_branch }}#egg=manila"
- cryptography
- ecdsa
- httplib2
- keystonemiddleware
- osprofiler
- PyMySQL
- pymemcache
- python-memcached
- systemd-python

# Memcached override
manila_memcached_servers: "{{ memcached_servers }}"

manila_user_pip_packages: []

manila_optional_oslomsg_amqp1_pip_packages:
- oslo.messaging[amqp1]

manila_api_init_overrides: {}
manila_scheduler_init_overrides: {}
manila_share_init_overrides: {}
manila_data_init_overrides: {}

## Service Name-Group Mapping
manila_services:
  manila-scheduler:
    group: manila_scheduler
    service_name: manila-scheduler

```

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```

    init_config_overrides: "{{ manila_scheduler_init_overrides }}"
    start_order: 1
    execstarts: "{{ manila_bin }}/manila-scheduler"
    execreloads: "/bin/kill -HUP $MAINPID"
manila-share:
    group: manila_share
    service_name: manila-share
    init_config_overrides: "{{ manila_share_init_overrides }}"
    start_order: 2
    execstarts: "{{ manila_bin }}/manila-share"
    execreloads: "/bin/kill -HUP $MAINPID"
manila-data:
    group: manila_share
    service_name: manila-data
    init_config_overrides: "{{ manila_data_init_overrides }}"
    start_order: 3
    execstarts: "{{ manila_bin }}/manila-data"
    execreloads: "/bin/kill -HUP $MAINPID"
manila-api:
    group: manila_api
    service_name: manila-api
    init_config_overrides: "{{ manila_api_init_overrides }}"
    start_order: 4
    wsgi_app: True
    wsgi_name: manila-wsgi
    uwsgi_overrides: "{{ manila_api_uwsgi_ini_overrides }}"
    uwsgi_port: "{{ manila_service_port }}"
    uwsgi_bind_address: "{{ manila_uwsgi_bind_address }}"
    uwsgi_tls: "{{ manila_backend_ssl | ternary(manila_uwsgi_tls, {}) }}"

    #condition: "{{ manila_service_data_program_enabled | bool }}"
# Manila uWSGI settings
manila_wsgi_processes_max: 16
manila_wsgi_processes: "{{ [(ansible_facts['processor_vcpus']|default(1), 1],
↪| max * 2, manila_wsgi_processes_max] | min }}"
manila_wsgi_threads: 1
manila_wsgi_buffer_size: 65535
manila_uwsgi_tls:
    crt: "{{ manila_ssl_cert }}"
    key: "{{ manila_ssl_key }}"

## Tunable overrides
manila_policy_overrides: {}
manila_rootwrap_conf_overrides: {}
manila_api_paste_ini_overrides: {}
manila_manila_conf_overrides: {}
manila_api_uwsgi_ini_overrides: {}

# Manila keypair

```

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```

#
# The following path contains the keypair which will be used for SSH. It
↳requires that
# the same file with a trailing .pub exists as well if using an existing key.
↳ If this
# is set and a key cannot be found it will generate one.
#
# manila_keypair_path: /etc/openstack_deploy/id_rsa

###
### Backend TLS
###

# Define if communication between haproxy and service backends should be
# encrypted with TLS.
manila_backend_ssl: "{{ openstack_service_backend_ssl | default(False) }}"

# Storage location for SSL certificate authority
manila_pki_dir: "{{ openstack_pki_dir | default('/etc/openstack_deploy/pki') }
↳}"

# Delegated host for operating the certificate authority
manila_pki_setup_host: "{{ openstack_pki_setup_host | default('localhost') }}"

# manila server certificate
manila_pki_keys_path: "{{ manila_pki_dir ~ '/certs/private/' }}"
manila_pki_certs_path: "{{ manila_pki_dir ~ '/certs/certs/' }}"
manila_pki_intermediate_cert_name: "{{ openstack_pki_service_intermediate_
↳cert_name | default('ExampleCorpIntermediate') }}"
manila_pki_regen_cert: ''
manila_pki_san: "{{ openstack_pki_san | default('DNS:' ~ ansible_facts[
↳'hostname'] ~ ',IP:' ~ management_address) }}"
manila_pki_certificates:
  - name: "manila-{{ ansible_facts['hostname'] }}"
    provider: ownca
    cn: "{{ ansible_facts['hostname'] }}"
    san: "{{ manila_pki_san }}"
    signed_by: "{{ manila_pki_intermediate_cert_name }}"

# manila destination files for SSL certificates
manila_ssl_cert: /etc/manila/manila.pem
manila_ssl_key: /etc/manila/manila.key

# Installation details for SSL certificates
manila_pki_install_certificates:
  - src: "{{ manila_user_ssl_cert | default(manila_pki_certs_path ~ 'manila_'
↳~ ansible_facts['hostname'] ~ '-chain.crt') }}"
    dest: "{{ manila_ssl_cert }}"
    owner: "{{ manila_system_user_name }}"

```

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```
group: "{{ manila_system_user_name }}"
mode: "0644"
- src: "{{ manila_user_ssl_key | default(manila_pki_keys_path ~ 'manila_' ~
↳ansible_facts['hostname'] ~ '.key.pem') }}"
dest: "{{ manila_ssl_key }}"
owner: "{{ manila_system_user_name }}"
group: "{{ manila_system_user_name }}"
mode: "0600"

# Define user-provided SSL certificates
#manila_user_ssl_cert: <path to cert on ansible deployment host>
#manila_user_ssl_key: <path to cert on ansible deployment host>
```



## DEPENDENCIES

This role needs pip  $\geq 7.1$  installed on the target host.



## EXAMPLE PLAYBOOK

```
---  
- name: Install Manila Share service  
  hosts: localhost  
  user: root  
  roles:  
    - role: "os_manila"
```



**TAGS**

This role supports two tags: `manila-install` and `manila-config`

The `manila-install` tag can be used to install and upgrade.

The `manila-config` tag can be used to maintain configuration of the service.