



MANILA

an OpenStack Community Project

Project Onboarding Session

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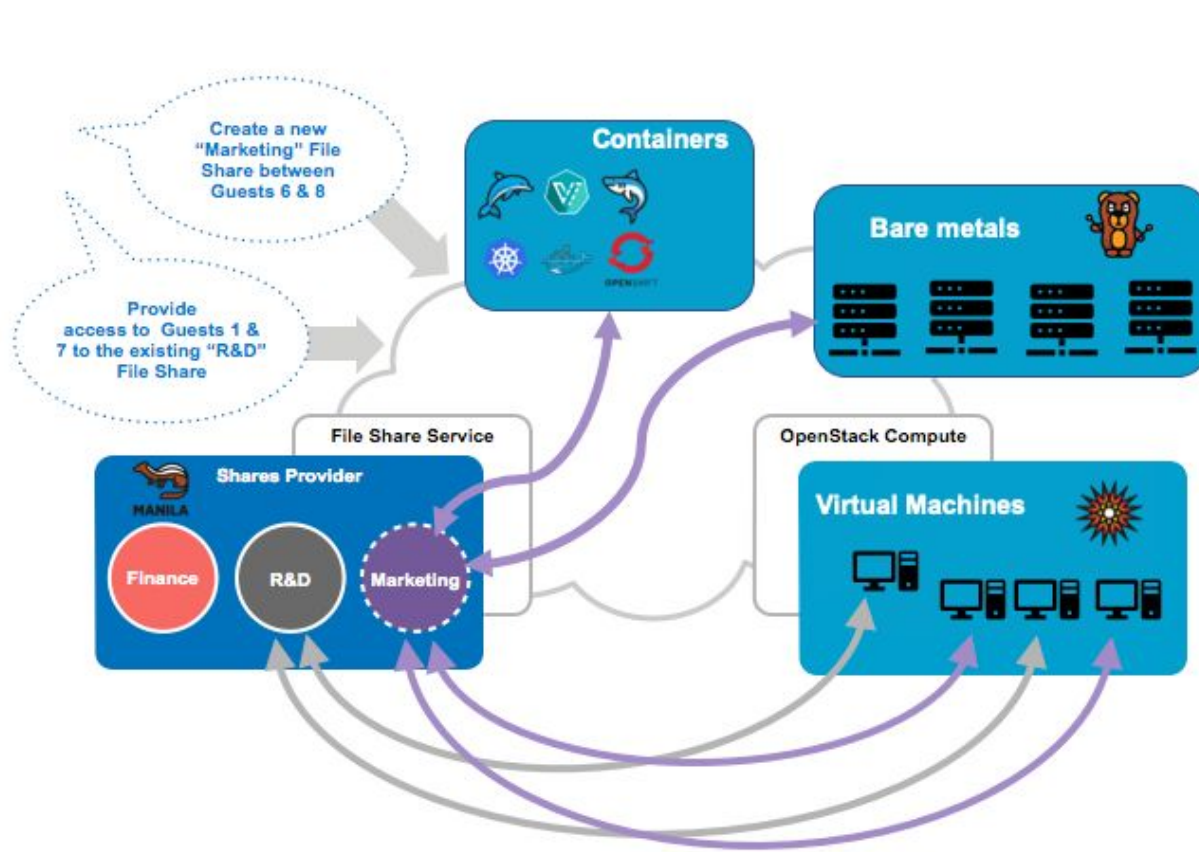
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Think: manila folders

Manila provides **self-service file shares** as a service

What is Manila?



Documentation

- OpenStack Contributor Portal: <https://www.openstack.org/community/>
 - OpenStack Contributor Guide: <https://docs.openstack.org/contributors/>
 - Manila Documentation: <https://docs.openstack.org/manila/>
 - Manila Project Wiki pages: <https://en.wikipedia.org/wiki/Manila>
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- Developer Docs:
<https://docs.openstack.org/manila/latest/contributor/index.html>

Get Into the Conversation

- Where we hang out:
 - IRC channel **#openstack-manila** on Freenode.
 - Don't know how to use IRC? <https://docs.openstack.org/contributors/common/irc.html>
 - Mailing list: <http://lists.openstack.org/cgi-bin/mailman/listinfo/openstack-discuss>

- Weekly meetings
 - Meeting agenda and details: <https://wiki.openstack.org/wiki/Manila/Meetings>
 - Want to discuss something? Add it to the agenda (and don't forget to add your name)
 - Thursdays at 3pm UTC on **#openstack-meeting-alt** on Freenode

Train Release Schedule

- Complete schedule: <https://releases.openstack.org/train/schedule.html>
- Blueprints: <https://blueprints.launchpad.net/manila>
- Specs: <http://specs.openstack.org/openstack/manila-specs/>
- Bugs: <https://bugs.launchpad.net/manila>

- Important dates
 - Milestones
 - Specification deadline: what needs a spec?
 - New in-tree driver submission deadline
 - Feature proposal freeze
 - Feature freeze
 - Release candidates and releases

Where is the code?

- manila: <https://opendev.org/openstack/manila>
 - manila itself
- python-manilaclient: <https://opendev.org/openstack/python-manilaclient>
 - bash CLI utility and python SDK for interacting with Manila.
- manila-ui: <https://opendev.org/openstack/manila-ui>
 - manila's OpenStack Dashboard (Horizon) Plugin.
- manila-tempest-plugin: <https://opendev.org/openstack/manila-tempest-plugin>
 - plugin to the standard [tempest](#) integration test framework
- manila-image-elements: <https://opendev.org/openstack/manila-image-elements>
 - bootable Linux image for use with the “Generic Share Driver”.
- manila-specs: <https://opendev.org/openstack/manila-specs>
 - design specifications for upcoming work. Published here: <http://specs.openstack.org/openstack/manila-specs/>

Development Environment: Accounts

- Contributor accounts:

<https://docs.openstack.org/infra/manual/developers.html>

- Here you will set up your:
 - Launchpad ID
 - OpenStack Foundation Profile/Gerrit ID

Things to Remember

- Code Review
 - All code/documentation contributions are submitted into Gerrit: review.opendev.org
 - Zuul (OpenInfra CI) must approve the code/doc patch with a +1
 - Anyone can provide a +/- 1 to any patch
 - One or more core reviewers must +2 the patch, and one of them will +W (workflow) the patch when it is ready to merge
- Conventions:
 - Best practices for Git commit messages: <https://wiki.openstack.org/wiki/GitCommitMessages>
 - Commit message tags: https://docs.openstack.org/manila/latest/contributor/commit_message_tags.html
 - Release notes (aka renos): https://docs.openstack.org/manila/latest/contributor/adding_release_notes.html

How Manila is Consumed

- All major distributions include Manila
 - <https://www.openstack.org/marketplace/distros/>
- Backports
 - When a fix can also be applied to previous releases of Manila, we can backport the fix to them
 - All bug fixes are eligible to be backported to stable releases, so long as they do not affect the database (DB migrations) or the Manila API
 - Manila adheres to the OpenStack stable branch policy:
<https://docs.openstack.org/project-team-guide/stable-branches.html>
 - We maintain “EM” branches with best-effort policy

Development Environment: DevStack

- General DevStack Documentation:
 - <https://docs.openstack.org/devstack/latest/>
- Configuration of Manila with DevStack
 - <https://docs.openstack.org/manila/latest/contributor/development-environment-devstack.html>
- Default configuration is Manila configured with the “Generic Share Driver”
- Recommended setup:
 - VM (8GB RAM, 50GB virtual disk, 4 CPU cores) with Ubuntu Xenial/Centos 7/OpenSUSE

DevStack Configuration - Generic Share Driver (DHSS=True)

```
[[local|localrc]]  
ADMIN_PASSWORD=secret  
DATABASE_PASSWORD=$ADMIN_PASSWORD  
RABBIT_PASSWORD=$ADMIN_PASSWORD  
SERVICE_PASSWORD=$ADMIN_PASSWORD
```

```
LIBS_FROM_GIT=python-manilaclient
```

```
enable_plugin manila https://opendev.org/openstack/manila  
enable_plugin manila-ui https://opendev.org/openstack/manila-ui
```

DevStack Configuration - CephFS-NFS Driver

```
[[local|localrc]]
ADMIN_PASSWORD=secret
DATABASE_PASSWORD=$ADMIN_PASSWORD
RABBIT_PASSWORD=$ADMIN_PASSWORD
SERVICE_PASSWORD=$ADMIN_PASSWORD

LIBS_FROM_GIT=python-manilaclient

enable_plugin manila https://opendev.org/openstack/manila
enable_plugin manila-ui https://opendev.org/openstack/manila-ui
enable_plugin devstack-plugin-ceph ghttps://opendev.org/openstack/devstack-plugin-ceph

ENABLE_CEPH_CINDER=True           # ceph backend for cinder
ENABLE_CEPH_GLANCE=True          # store images in ceph
ENABLE_CEPH_C_BAK=True           # backup volumes to ceph
ENABLE_CEPH_NOVA=True            # allow nova to use ceph resources
ENABLE_CEPH_MANILA=True          # configure manila to use ceph native

# NFS Ganesha GW
MANILA_CEPH_DRIVER=cephfsnfs
```

Database and The Message Queue

- Manila maintains its state and objects within a database
 - Similar to other OpenStack projects
- You will occasionally need to update your database schemas due to changes
 - `$ manila-manage db sync`
 - <https://docs.openstack.org/manila/latest/cli/manila-manage.html>
- Manila uses a Message Queue service for inter-process communication and RPC
 - Typically RabbitMQ provides this service but there are others
 - <https://www.rabbitmq.com/>

The Manila API

- All APIs are core APIs
- The API is micro-versioned
 - Backwards Compatibility
 - https://docs.openstack.org/manila/latest/contributor/api_microversion_dev.html
- SDK Support:
 - Supported by the Manila community:
 - python-manilaclient
 - Supported by other communities
 - Gophercloud - <https://github.com/gophercloud/gophercloud>
 - Openstack4j - <http://www.openstack4j.com>
 - Misty - <https://github.com/flystack/misty>
 - ...

Unit tests

- Simple and fast checks of the smallest units of code to ensure they work properly
- Always run them before submitting any change!
- How do I run the Manila Unit Tests?

```
$ tox -e pep8           # Pep8/Doc8
$ tox -e py27          # Python 2.7
$ tox -e py3           # Python 3.x
$ tox -e cover         # Code coverage
```


Tempest Tests

- Suite of Integration and Functional Tests
- Manila has its own Tempest plugin
 - <https://opendev.org/openstack/manila-tempest-plugin>
- Run as part “check” and “gate” CI pipelines before a patch is merged

```
$ tempest run <test_regex>
```

Continuous Integration (CI)

- Every in-tree driver needs a CI System
- If the CI System does not exist, a new driver will not be merged
- If the CI is not maintained (e.g. it fails on all runs) the driver will be marked as “unsupported”

Zuul check	12:02 PM
build-openstack-sphinx-docs	SUCCESS in 6m 23s
openstack-tox-pep8	SUCCESS in 6m 04s
openstack-tox-py27	SUCCESS in 5m 52s
openstack-tox-py35	SUCCESS in 6m 10s
openstack-tox-cover	FAILURE in 11m 42s (non-voting)
openstack-tox-pylint	SUCCESS in 7m 52s (non-voting)
legacy-manila-ui-dsvm	SUCCESS in 31m 05s (non-voting)
manila-tox-genconfig	SUCCESS in 4m 04s
manila-tempest-dsvm-mysql-generic	SUCCESS in 1h 07m 22s (non-voting)
manila-tempest-dsvm-postgres-container	SUCCESS in 41m 22s (non-voting)
manila-tempest-dsvm-postgres-zfsonlinux	SUCCESS in 57m 14s (non-voting)
manila-tempest-dsvm-postgres-generic-singlebackend	SUCCESS in 49m 19s (non-voting)
manila-tempest-dsvm-generic-no-share-servers	SUCCESS in 59m 16s (non-voting)
manila-tempest-dsvm-scenario	SUCCESS in 1h 04m 36s (non-voting)
manila-tempest-minimal-dsvm-cephfs-native-centos-7	SUCCESS in 1h 04m 06s (non-voting)
manila-tempest-minimal-dsvm-cephfs-nfs-centos-7	FAILURE in 10m 45s (non-voting)
manila-tempest-dsvm-glusterfs-nfs	SUCCESS in 1h 03m 20s (non-voting)
manila-tempest-dsvm-glusterfs-native	FAILURE in 1h 03m 25s (non-voting)
manila-tempest-dsvm-hdfs	FAILURE in 1h 01m 40s (non-voting)
manila-tempest-minimal-dsvm-dummy	SUCCESS in 39m 55s
manila-tempest-minimal-dsvm-lvm-centos-7	SUCCESS in 57m 13s
grenade-dsvm-manila	SUCCESS in 17m 10s (non-voting)
rally-dsvm-manila-multibackend	SUCCESS in 25m 31s (non-voting)
rally-dsvm-manila-multibackend-no-ss	SUCCESS in 22m 06s (non-voting)
Dell EMC Isilon CI	1:04 PM
EMC_ISILON	SUCCESS in 1h 01m 43s
Dell EMC VNX CI	2:12 PM
EMC_VNX_Manila	SUCCESS in 2h 09m 16s
HPE Storage CI	1:49 PM
manila-master-client-pip-ssa03-dsvm-neutron	SUCCESS in 1h 44m 02s
IBM Storage CI check	2:05 PM
gpfs-manila-ces-tempest-dsvm-full-nfs	SUCCESS in 2h 07m 02s
Infortrend CI	6:58 PM
infortrend-manila-share	ABORTED in 3h 00m 09s
NetApp CI	2:18 PM
manila-cDOT-ss	SUCCESS in 53m 09s
manila-cDOT-no-ss	SUCCESS in 1h 22m 24s
Veritas Access CI	12:37 PM
dsvm-veritas-access-manila-driver	SUCCESS in 1h 45m 52s

Where we Need Help

- New features/bug fixes always welcome
 - New Contributors: look for “[low-hanging-fruit](#)”
- SDKs, openstack-client and openstack-sdk integration
- Code Reviewers
- Driver Maintainers
 - HDFS
 - GlusterFS
 - Container driver
- Documentation

Need Help?

- Join us in **#openstack-manila** on Freenode
- Weekly meeting: Thursdays 3pm UTC in **#openstack-meeting-alt** on Freenode
- Contact:
 - Tom Barron, Project Team Lead (PTL) (tbarron)
 - Core Reviewers: <https://review.opendev.org/#/admin/groups/213.members>

Other manila events here

- Rook and Ceph
 - <https://www.openstack.org/summit/denver-2019/summit-schedule/events/23515/storage-101-rook-and-ceph>
- Shared storage for container orchestrators with manila
 - <https://www.openstack.org/summit/denver-2019/summit-schedule/events/23513/shared-storage-for-container-orchestrators-with-manila>
- Project Technical Gathering
 - Hyatt Regency, Denver Convention Center, Room 206
 - Thursday (May 2nd) - Friday (May 3rd), 2019



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Q&A