manila-ui Documentation

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OpenStack Foundation

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CHAPTER

ONE

INSTALLATION

1.1 Manual Installation

Begin by installing Horizon following the Horizon Manual Installation Guide and clone Manila UI repository:

```
git clone https://opendev.org/openstack/manila-ui
```

Install Manila UI with all dependencies. From within the horizon folder:

```
pip install -e ../manila-ui/
```

And enable it in Horizon.:

```
cp ../manila-ui/manila_ui/local/enabled/_*.py openstack_dashboard/local/
↪enabled
cp ../manila-ui/manila_ui/local/local_settings.d/_90_manila_*.py openstack_
↪dashboard/local/local_settings.d
```

1.2 Installing Manila UI in RDO

In order to install Manila UI in RDO, please follow the steps below (you may need to use *sudo* privileges if you are not root):

```
# yum install -y openstack-manila-ui
# systemctl restart httpd
# systemctl restart memcached
```

Manila UI will now be available through OpenStack Horizon; look for the Shares tab under Project > Share. You can access Horizon with Manila UI using the same URL and port as before.

CHAPTER

TWO

CONFIGURATION

It is possible to enable or disable some Manila UI features. To do so, look for files located in manila_ui/local/local_settings.d/ directory, where you can redefine the values of the OPENSTACK_MANILA_FEATURES dict:

- enable_share_groups
- enable_replication
- enable_migration
- enable_public_share_type_creation
- enable_public_share_group_type_creation
- enable_public_shares
- enabled_share_protocols

By default, enabled_share_protocols within the OPENSTACK_MANILA_FEATURES dict contains a list with all the supported protocols. The operator can change this to display to users only those protocols that has been deployed and are available to use. E.g. if only NFS is available, the operator is expected to redefine enabled_share_protocols as follows:

```
OPENSTACK_MANILA_FEATURES = {
    'enable_share_groups': True,
    'enable_replication': True,
    'enable_migration': True,
    'enable_public_share_type_creation': True,
    'enable_public_share_group_type_creation': True,
    'enable_public_shares': True,
    'enabled_share_protocols': ['NFS'],
}
```

CHAPTER

THREE

USER GUIDE

Shares are file storage that you provide access to instances. You can allow access to a share to a running instance or deny access to a share and allow access to it to another instance at any time. You can also delete a share. You can create snapshot from a share if the driver supports it. Only administrative users can create share types.

3.1 Create a share

1. Log in to the dashboard, choose a project, and click *Shares*.
2. Click *Create Share*.

   In the dialog box that opens, enter or select the following values.

   Share Name: Specify a name for the share.

   Description: Optionally, provide a brief description for the share.

   Share Type: Choose a share type.

   Size (GB): The size of the share in gibibytes (GiB).

   Share Protocol: Select NFS, CIFS, GlusterFS, or HDFS.

   Share Network: Choose a share network.

   Metadata: Enter metadata for the share creation if needed.
3. Click *Create Share*.

The dashboard shows the share on the *Shares* tab.

3.2 Delete a share

1. Log in to the dashboard, choose a project, and click *Shares*.
2. Select the check boxes for the shares that you want to delete.
3. Click *Delete Shares* and confirm your choice.

   A message indicates whether the action was successful.

3.3 Allow access

1. Log in to the dashboard, choose a project, and click *Shares*.
2. Go to the share that you want to allow access and choose *Manage Rules* from Actions.
3. Click *Add rule*.

   Access Type: Choose ip, user, or cert.

   Access Level: Choose read-write or read-only.

   Access To: Fill in Access To field.
4. Click *Add Rule*.

   A message indicates whether the action was successful.

3.4 Deny access

1. Log in to the dashboard, choose a project, and click *Shares*.
2. Go to the share that you want to deny access and choose *Manage Rules* from Actions.
3. Choose the rule you want to delete.
4. Click *Delete rule* and confirm your choice.

   A message indicates whether the action was successful.

3.5 Edit share access metadata

1. Log in to the dashboard, choose a project, and click *Shares*.
2. Go to the share that you want to deny access and choose *Manage Rules* from Actions.
3. Choose the rule you want to edit.

#. Click *Edit Rule Metadata*: To add share access metadata, use key=value. To unset metadata, use key.

   A message indicates whether the action was successful.

3.6 Edit share metadata

1. Log in to the dashboard, choose a project, and click *Shares*.
2. Go to the share that you want to edit and choose *Edit Share Metadata* from Actions.
3. *Metadata*: To add share metadata, use key=value. To unset metadata, use key.
4. Click *Edit Share Metadata*.

   A message indicates whether the action was successful.

3.7 Edit share

1. Log in to the dashboard, choose a project, and click *Shares*.
2. Go to the share that you want to edit and choose *Edit Share* from Actions.
3. *Share Name*: Enter a new share name.
4. *Description*: Enter a new description.
5. Click *Edit Share*.

   A message indicates whether the action was successful.

3.8 Resize share

1. Log in to the dashboard, choose a project, and click *Shares*.
2. Go to the share that you want to edit and choose *Resize Share* from Actions.
3. *New Size (GB)*: Enter new size. It can be increased or decreased from the original size. The size of the share cannot be lower than the size of the data stored in the share.

   If increased, the size of the share will be extended. If decreased, the size of the share will be shrinked.
4. Click *Resize Share*.

   A message indicates whether the action was successful.

3.9 Create share network

1. Log in to the dashboard, choose a project, click *Shares*, and click *Share Networks*.
2. Click *Create Share Network*.

   In the dialog box that opens, enter or select the following values.

   Name: Specify a name for the share network.

   Description: Optionally, provide a brief description for the share network.

   Neutron Net: Choose a neutron network.

   Neutron Subnet: Choose a neutron subnet.
3. Click *Create Share Network*.

The dashboard shows the share network on the *Share Networks* tab.

3.10 Delete a share network

1. Log in to the dashboard, choose a project, click *Shares*, and click *Share Networks*.
2. Select the check boxes for the share networks that you want to delete.
3. Click *Delete Share Networks* and confirm your choice.

   A message indicates whether the action was successful.

3.11 Edit share network

1. Log in to the dashboard, choose a project, click *Shares*, and click *Share Networks*.
2. Go to the share network that you want to edit and choose *Edit Share Network* from Actions.
3. *Name*: Enter a new share network name.
4. *Description*: Enter a new description.
5. Click *Edit Share Network*.

   A message indicates whether the action was successful.

3.12 Create security service

1. Log in to the dashboard, choose a project, click *Shares*, and click *Security Services*.
2. Click *Create Security Service*.

   In the dialog box that opens, enter or select the following values.

   Name: Specify a name for the security service.

   DNS IP: Enter the DNS IP address.

   Server: Enter the server name.

   Domain: Enter the domain name.

   User: Enter the user name.

   Password: Enter the password.

   Confirm Password: Enter the password again to confirm.

   Type: Choose the type from Active Directory, LDAP, or Kerberos.

   Description: Optionally, provide a brief description for the security service.
3. Click *Create Security Service*.

The dashboard shows the security service on the *Security Services* tab.

3.13 Delete a security service

1. Log in to the dashboard, choose a project, click *Shares*, and click *Security Services*.
2. Select the check boxes for the security services that you want to delete.
3. Click *Delete Security Services* and confirm your choice.

   A message indicates whether the action was successful.

3.14 Edit security service

1. Log in to the dashboard, choose a project, click *Shares*, and click *Security Services*.
2. Go to the security service that you want to edit and choose *Edit Security Service* from Actions.
3. *Name*: Enter a new security service name.
4. *Description*: Enter a new description.
5. Click *Edit Security Service*.

   A message indicates whether the action was successful.

CHAPTER

FOUR

ADMINISTRATOR GUIDE

Shares are file storage that instances can access. Users can allow or deny a running instance to have access to a share at any time. For information about using the Dashboard to create and manage shares as an end user, see the *User Guide*.

As an administrative user, you can manage shares and share types for users in various projects. You can create and delete share types, and view or delete shares.

4.1 Create a share type

1. Log in to the Dashboard and choose the *admin* project from the drop-down list.
2. On the *Admin* tab, open the *System* tab and click the *Shares* category.
3. Click the *Share Types* tab, and click *Create Share Type* button. In the *Create Share Type* window, enter or select the following values.

   Name: Enter a name for the share type.

   Driver handles share servers: Choose True or False

   Extra specs: To add extra specs, use key=value.
4. Click *Create Share Type* button to confirm your changes.

Note: A message indicates whether the action succeeded.

4.2 Update share type

1. Log in to the Dashboard and choose the *admin* project from the drop-down list.
2. On the *Admin* tab, open the *System* tab and click the *Shares* category.
3. Click the *Share Types* tab, select the share type that you want to update.
4. Select *Update Share Type* from Actions.
5. In the *Update Share Type* window, update extra specs.

   Extra specs: To add extra specs, use key=value. To unset extra specs, use key.
6. Click *Update Share Type* button to confirm your changes.

Note: A message indicates whether the action succeeded.

4.3 Delete share types

When you delete a share type, shares of that type are not deleted.

1. Log in to the Dashboard and choose the *admin* project from the drop-down list.
2. On the *Admin* tab, open the *System* tab and click the *Shares* category.
3. Click the *Share Types* tab, select the share type or types that you want to delete.
4. Click *Delete Share Types* button.
5. In the *Confirm Delete Share Types* window, click the *Delete Share Types* button to confirm the action.

Note: A message indicates whether the action succeeded.

4.4 Delete shares

1. Log in to the Dashboard and choose the *admin* project from the drop-down list.
2. On the *Admin* tab, open the *System* tab and click the *Shares* category.
3. Select the share or shares that you want to delete.
4. Click *Delete Shares* button.
5. In the *Confirm Delete Shares* window, click the *Delete Shares* button to confirm the action.

Note: A message indicates whether the action succeeded.

4.5 Delete share server

1. Log in to the Dashboard and choose the *admin* project from the drop-down list.
2. On the *Admin* tab, open the *System* tab and click the *Share Servers* category.
3. Select the share that you want to delete.
4. Click *Delete Share Server* button.
5. In the *Confirm Delete Share Server* window, click the *Delete Share Server* button to confirm the action.

Note: A message indicates whether the action succeeded.

4.6 Delete share networks

1. Log in to the Dashboard and choose the *admin* project from the drop-down list.
2. On the *Admin* tab, open the *System* tab and click the *Share Networks* category.
3. Select the share network or share networks that you want to delete.
4. Click *Delete Share Networks* button.
5. In the *Confirm Delete Share Networks* window, click the *Delete Share Networks* button to confirm the action.

Note: A message indicates whether the action succeeded.

CHAPTER

FIVE

CONTRIBUTOR DOCUMENTATION

5.1 So You Want to Contribute

For general information on contributing to OpenStack, please check out the contributor guide to get started. It covers all the basics that are common to all OpenStack projects: the accounts you need, the basics of interacting with our Gerrit review system, how we communicate as a community, etc.

This project contains a plug-in to the OpenStack Dashboard (Horizon). It adds functionality to the OpenStack Dashboard to interact with Manila, the OpenStack Shared File Systems service. Refer to the Contributor guide for Manila for information regarding the teams task trackers, communicating with other project developers and contacting the core team.

See *Developing manila-ui* for details about how to bootstrap a development environment and test manila-ui.

5.1.1 Bugs

You found an issue and want to make sure we are aware of it? You can do so on Launchpad.

If youre looking to contribute, search for the low-hanging-fruit tag to see issues that are easier to get started with.

5.1.2 Project Structure

This project includes two dashboard components:

- administrator dashboard
- user dashboard

The administrator dashboard extends the OpenStack Dashboards administrator interface by adding `Share` (short for `Shared File Systems`) functionality to manage Share and Share Group Types, Share servers and other *administrator-only* components of the Shared File System service. It also extends the functionality of the Identity service to allow controlling Shared File System service quotas.

The User dashboard provides all user facing functionality.

5.2 Developing manila-ui

For simple documentation and code fixes, you dont need a comprehensive test environment with this projects main dependencies such as manila, python-manilaclient and horizon. Before submitting any code fixes for review, you can run *Running unit tests* locally. To try your changes with manila-ui and Horizon and all other dependencies, we recommend the use of DevStack.

5.2.1 DevStack

DevStack can help you setup a simple development environment for developing and testing manila-ui. Read the section about DevStack in the manila contributor guide.

Note: We absolutely recommend using a `fake shared file system back end` as opposed to a real storage system to experience the full capabilities of manila UI. Manila UI is built with the assumption that all APIs manila exposes are usable. In reality, different real world storage back ends have different capabilities and this project doesnt need to worry about them to provide a general purpose graphical user interface to Manila. A fake driver provides fake storage, so dont expect to be able to mount or use the shared file systems that you create with it.

You can use the following local.conf file to configure DevStack including Manila and manila-ui using a few fake back ends:

```
[[local|localrc]]

# auth
ADMIN_PASSWORD=nomoresecret
DATABASE_PASSWORD=$ADMIN_PASSWORD
RABBIT_PASSWORD=$ADMIN_PASSWORD
SERVICE_PASSWORD=$ADMIN_PASSWORD

# enable logging for DevStack
LOGFILE=/opt/stack/logs/stack.sh.log

# Logging mode for DevStack services
VERBOSE=True

# manila
enable_plugin manila https://opendev.org/openstack/manila

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

# python-manilaclient
LIBS_FROM_GIT=python-manilaclient

# share driver
SHARE_DRIVER=manila.tests.share.drivers.dummy.DummyDriver

# share types
```

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```
MANILA_DEFAULT_SHARE_TYPE_EXTRA_SPECS='snapshot_support=True create_share_
↪from_snapshot_support=True revert_to_snapshot_support=True mount_snapshot_
↪support=True'
MANILA_CONFIGURE_DEFAULT_TYPES=True

# backends and groups
MANILA_ENABLED_BACKENDS=alpha,beta,gamma,delta
MANILA_CONFIGURE_GROUPS=alpha,beta,gamma,delta,membernet,adminnet

# alpha
MANILA_OPTGROUP_alpha_share_driver=manila.tests.share.drivers.dummy.
↪DummyDriver
MANILA_OPTGROUP_alpha_driver_handles_share_servers=True
MANILA_OPTGROUP_alpha_share_backend_name=ALPHA
MANILA_OPTGROUP_alpha_network_config_group=membernet
MANILA_OPTGROUP_alpha_admin_network_config_group=adminnet

# beta
MANILA_OPTGROUP_beta_share_driver=manila.tests.share.drivers.dummy.DummyDriver
MANILA_OPTGROUP_beta_driver_handles_share_servers=True
MANILA_OPTGROUP_beta_share_backend_name=BETA
MANILA_OPTGROUP_beta_network_config_group=membernet
MANILA_OPTGROUP_beta_admin_network_config_group=adminnet

# gamma
MANILA_OPTGROUP_gamma_share_driver=manila.tests.share.drivers.dummy.
↪DummyDriver
MANILA_OPTGROUP_gamma_driver_handles_share_servers=False
MANILA_OPTGROUP_gamma_share_backend_name=GAMMA
MANILA_OPTGROUP_gamma_replication_domain=DUMMY_DOMAIN

# delta
MANILA_OPTGROUP_delta_share_driver=manila.tests.share.drivers.dummy.
↪DummyDriver
MANILA_OPTGROUP_delta_driver_handles_share_servers=False
MANILA_OPTGROUP_delta_share_backend_name=DELTA
MANILA_OPTGROUP_delta_replication_domain=DUMMY_DOMAIN

# membernet
MANILA_OPTGROUP_membernet_network_api_class=manila.network.standalone_network_
↪plugin.StandaloneNetworkPlugin
MANILA_OPTGROUP_membernet_standalone_network_plugin_gateway=10.0.0.1
MANILA_OPTGROUP_membernet_standalone_network_plugin_mask=24
MANILA_OPTGROUP_membernet_standalone_network_plugin_network_type=vlan
MANILA_OPTGROUP_membernet_standalone_network_plugin_segmentation_id=1010
MANILA_OPTGROUP_membernet_standalone_network_plugin_allowed_ip_ranges=10.0.0.
↪10-10.0.0.209
MANILA_OPTGROUP_membernet_network_plugin_ipv4_enabled=True
```

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```
# adminnet
MANILA_OPTGROUP_adminnet_network_api_class=manila.network.standalone_network_
↪plugin.StandaloneNetworkPlugin
MANILA_OPTGROUP_adminnet_standalone_network_plugin_gateway=11.0.0.1
MANILA_OPTGROUP_adminnet_standalone_network_plugin_mask=24
MANILA_OPTGROUP_adminnet_standalone_network_plugin_network_type=vlan
MANILA_OPTGROUP_adminnet_standalone_network_plugin_segmentation_id=1011
MANILA_OPTGROUP_adminnet_standalone_network_plugin_allowed_ip_ranges=11.0.0.
↪10-11.0.0.19,11.0.0.30-11.0.0.39,11.0.0.50-11.0.0.199
MANILA_OPTGROUP_adminnet_network_plugin_ipv4_enabled=True
```

Once your DevStack is ready, you can log into the OpenStack Dashboard and explore the `Share` dashboards under *Project* and *Admin* sections that are included due to manila-ui.

See the Horizon user guide for instructions regarding logging into the OpenStack Dashboard.

5.2.2 Running unit tests

The unit tests can be executed directly from within this Manila UI plugin project directory by using:

```
$ cd ../manila-ui
$ tox
```

This is made possible by the dependency in test-requirements.txt upon the horizon source, which pulls down all of the horizon and openstack_dashboard modules that the plugin uses.

To run only py3 unit tests, use following command:

```
$ tox -e py3
```

To run unit tests using specific Django version use the following:

```
$ tox -e py3-dj22
$ tox -e py3-dj110
```

5.3 Adding New Features

When implementing a new feature, you may think about making it optional, so it could be enabled or disabled in different deployments.

How to use it:

```
from django.conf import settings
manila_config = getattr(settings, 'OPENSTACK_MANILA_FEATURES', {})
manila_config.get('your_new_config_option', 'value_of_config_option')
```

See *Configuration* section for more configuration details.

It is also expected that each addition of new logic to Manila UI is covered by unit tests.

Test modules should be located under manila_ui/tests, satisfying the following template when tests are written for a specific module:

```
manila_ui[/tests]/path/to/[test_]modulename.py
```

However, when testing the flow between different modules (using test app), the tests can be added to a test module that can satisfy the following template:

```
manila_ui/tests/path/to/directory/tests.py
```

Manila UI tests use the `mock` module from the `unittest` package for unit testing.