

01. Openstack 패키지 설치

Opensack 설치

1. 사전 사항

1. OS : Rocky Linux 8.4 (RHEL / Centos 8계열)
2. Openstack : Wallaby

2. Component 구성정보

1. Node list

hostname	public ip	private ip	Component rule
openstack-dev1	172.10.10..41	192.168.20.11	control, compute
openstack-dev2	172.10.10..42	192.168.20.12	compute
openstack-dev3	172.10.10..43	192.168.20.13	network, storage

2. Network Config

1. public : extnet - br-ex - ens3f0
2. private : physnet1 - br-vlan - ens3f1

3. Packstack 설치

1. 언어셋 설정

```
$ yum install glibc-langpack-en -y

$ vi /etc/environment
LANG=en_US.utf-8
LC_ALL=en_US.utf-8
```

2. NetworkManager / Firewall 중지

```
$ dnf install network-scripts -y
$ systemctl disable firewalld
$ systemctl stop firewalld
$ systemctl disable NetworkManager
$ systemctl stop NetworkManager
$ systemctl enable network --now
$ systemctl start network
```

3. 리포지터리 구성 후 패키지 설치

```
$ dnf config-manager --enable powertools
$ dnf install -y https://www.rdoproject.org/repos/rdo-release.el8.rpm
$ dnf update -y
$ dnf install -y openstack-packstack
```

4. packstack 설치를 위한 설정파일 생성

```
$ packstack --gen-answer-file=answer.txt
```

5. Sample 파일- PW키는 임의로 {{ SET_PASS }} 으로 변환했음

```
$ vi answer.txt
```

```
[general]
```

```
# Path to a public key to install on servers. If a usable key has not  
# been installed on the remote servers, the user is prompted for a  
# password and this key is installed so the password will not be  
# required again.
```

```
CONFIG_SSH_KEY=/root/.ssh/id_rsa.pub
```

```
# Default password to be used everywhere (overridden by passwords set  
# for individual services or users).
```

```
CONFIG_DEFAULT_PASSWORD=
```

```
# The amount of service workers/threads to use for each service.  
# Useful to tweak when you have memory constraints. Defaults to the  
# amount of cores on the system.
```

```
CONFIG_SERVICE_WORKERS=%{::processorcount}
```

```
# Specify 'y' to install MariaDB. ['y', 'n']
```

```
CONFIG_MARIADB_INSTALL=y
```

```
# Specify 'y' to install OpenStack Image Service (glance). ['y', 'n']
```

```
CONFIG_GLANCE_INSTALL=y
```

```
# Specify 'y' to install OpenStack Block Storage (cinder). ['y', 'n']
```

```
CONFIG_CINDER_INSTALL=y
```

```
# Specify 'y' to install OpenStack Shared File System (manila). ['y',  
# 'n']
```

```
CONFIG_MANILA_INSTALL=n
```

```
# Specify 'y' to install OpenStack Compute (nova). ['y', 'n']
```

```
CONFIG_NOVA_INSTALL=y
```

```
# Specify 'y' to install OpenStack Networking (neutron) ['y']
```

```
CONFIG_NEUTRON_INSTALL=y
```

```
# Specify 'y' to install OpenStack Dashboard (horizon). ['y', 'n']
```

```
CONFIG_HORIZON_INSTALL=y
```

```
# Specify 'y' to install OpenStack Object Storage (swift). ['y', 'n']
```

```
CONFIG_SWIFT_INSTALL=y
```

```
# Specify 'y' to install OpenStack Metering (ceilometer). Note this  
# will also automatically install gnocchi service and configures it as  
# the metrics backend. ['y', 'n']
```

```
CONFIG_CEILOMETER_INSTALL=n
```

```
# Specify 'y' to install OpenStack Telemetry Alarming (Aodh). Note  
# Aodh requires Ceilometer to be installed as well. ['y', 'n']
```

```
CONFIG_AODH_INSTALL=y
```

```
# Specify 'y' to install OpenStack Events Service (panko). ['y', 'n']
```

```
CONFIG_PANKO_INSTALL=n
```

```
# Specify 'y' to install OpenStack Data Processing (sahara). In case  
# of sahara installation packstack also installs heat. ['y', 'n']
```

```
CONFIG_SAHARA_INSTALL=n
```

```
# Specify 'y' to install OpenStack Orchestration (heat). ['y', 'n']
```

```
CONFIG_HEAT_INSTALL=y
```

```
# Specify 'y' to install OpenStack Container Infrastructure
```

```
# Management Service (magnum). ['y', 'n']
```

```
CONFIG_MAGNUM_INSTALL=n
```

```
# Specify 'y' to install OpenStack Database (trove) ['y', 'n']
```

```
CONFIG_TROVE_INSTALL=n
```

```
# Specify 'y' to install OpenStack Bare Metal Provisioning (ironic).
# [y, 'n']
CONFIG_IRONIC_INSTALL=n

# Specify 'y' to install the OpenStack Client packages (command-line
# tools). An admin "rc" file will also be installed. [y, 'n']
CONFIG_CLIENT_INSTALL=y

# Comma-separated list of NTP servers. Leave plain if Packstack
# should not install ntpd on instances.
CONFIG_NTP_SERVERS= time.bora.net

# Comma-separated list of servers to be excluded from the
# installation. This is helpful if you are running Packstack a second
# time with the same answer file and do not want Packstack to
# overwrite these server's configurations. Leave empty if you do not
# need to exclude any servers.
EXCLUDE_SERVERS=

# Specify 'y' if you want to run OpenStack services in debug mode;
# otherwise, specify 'n'. [y, 'n']
CONFIG_DEBUG_MODE=n

# Server on which to install OpenStack services specific to the
# controller role (for example, API servers or dashboard).
CONFIG_CONTROLLER_HOST=172.10.10..41

# List the servers on which to install the Compute service.
CONFIG_COMPUTE_HOSTS=172.10.10..41,172.10.10..42

# List of servers on which to install the network service such as
# Compute networking (nova network) or OpenStack Networking (neutron).
CONFIG_NETWORK_HOSTS=172.10.10..43

# Specify 'y' if you want to use VMware vCenter as hypervisor and
# storage; otherwise, specify 'n'. [y, 'n']
CONFIG_VMWARE_BACKEND=n

# Specify 'y' if you want to use unsupported parameters. This should
# be used only if you know what you are doing. Issues caused by using
# unsupported options will not be fixed before the next major release.
# [y, 'n']
CONFIG_UNSUPPORTED=n

# Specify 'y' if you want to use subnet addresses (in CIDR format)
# instead of interface names in following options:
# CONFIG_NEUTRON_OVS_BRIDGE_IFACES,
# CONFIG_NEUTRON_LB_INTERFACE_MAPPINGS, CONFIG_NEUTRON_OVS_TUNNEL_IF.
# This is useful for cases when interface names are not same on all
# installation hosts.
CONFIG_USE_SUBNETS=n

# IP address of the VMware vCenter server.
CONFIG_VCENTER_HOST=

# User name for VMware vCenter server authentication.
CONFIG_VCENTER_USER=

# Password for VMware vCenter server authentication.
CONFIG_VCENTER_PASSWORD=

# Comma separated list of names of the VMware vCenter clusters. Note:
# if multiple clusters are specified each one is mapped to one
# compute, otherwise all computes are mapped to same cluster.
CONFIG_VCENTER_CLUSTER_NAMES=

# (Unsupported!) Server on which to install OpenStack services
# specific to storage servers such as Image or Block Storage services.
```

CONFIG_STORAGE_HOST=172.10.10..41

(Unsupported!) Server on which to install OpenStack services

specific to OpenStack Data Processing (sahara).

CONFIG_SAHARA_HOST=172.10.10..41

Comma-separated list of URLs for any additional yum repositories,

to use for installation.

CONFIG_REPO=

Specify 'y' to enable the RDO testing repository. ['y', 'n']

CONFIG_ENABLE_RDO_TESTING=n

To subscribe each server with Red Hat Subscription Manager, include

this with CONFIG_RH_PW.

CONFIG_RH_USER=

To subscribe each server to receive updates from a Satellite

server, provide the URL of the Satellite server. You must also

provide a user name (CONFIG_SATELLITE_USERNAME) and password

(CONFIG_SATELLITE_PASSWORD) or an access key (CONFIG_SATELLITE_AKEY)

for authentication.

CONFIG_SATELLITE_URL=

Specify a Satellite 6 Server to register to. If not specified,

Packstack will register the system to the Red Hat server. When this

option is specified, you also need to set the Satellite 6

organization (CONFIG_RH_SAT6_ORG) and an activation key

(CONFIG_RH_SAT6_KEY).

CONFIG_RH_SAT6_SERVER=

To subscribe each server with Red Hat Subscription Manager, include

this with CONFIG_RH_USER.

CONFIG_RH_PW=

Specify 'y' to enable RHEL optional repositories. ['y', 'n']

CONFIG_RH_OPTIONAL=y

HTTP proxy to use with Red Hat Subscription Manager.

CONFIG_RH_PROXY=

Specify a Satellite 6 Server organization to use when registering

the system.

CONFIG_RH_SAT6_ORG=

Specify a Satellite 6 Server activation key to use when registering

the system.

CONFIG_RH_SAT6_KEY=

Port to use for Red Hat Subscription Manager's HTTP proxy.

CONFIG_RH_PROXY_PORT=

User name to use for Red Hat Subscription Manager's HTTP proxy.

CONFIG_RH_PROXY_USER=

Password to use for Red Hat Subscription Manager's HTTP proxy.

CONFIG_RH_PROXY_PW=

User name to authenticate with the RHN Satellite server; if you

intend to use an access key for Satellite authentication, leave this

blank.

CONFIG_SATELLITE_USER=

Password to authenticate with the RHN Satellite server; if you

intend to use an access key for Satellite authentication, leave this

blank.

CONFIG_SATELLITE_PW=

```
# Access key for the Satellite server; if you intend to use a user
# name and password for Satellite authentication, leave this blank.
CONFIG_SATELLITE_AKEY=

# Certificate path or URL of the certificate authority to verify that
# the connection with the Satellite server is secure. If you are not
# using Satellite in your deployment, leave this blank.
CONFIG_SATELLITE_CACERT=

# Profile name that should be used as an identifier for the system in
# RHN Satellite (if required).
CONFIG_SATELLITE_PROFILE=

# Comma-separated list of flags passed to the rhnreg_ks command.
# Valid flags are: novirtinfo, norhnsd, nopackages ['novirtinfo',
# 'norhnsd', 'nopackages']
CONFIG_SATELLITE_FLAGS=

# HTTP proxy to use when connecting to the RHN Satellite server (if
# required).
CONFIG_SATELLITE_PROXY=

# User name to authenticate with the Satellite-server HTTP proxy.
CONFIG_SATELLITE_PROXY_USER=

# User password to authenticate with the Satellite-server HTTP proxy.
CONFIG_SATELLITE_PROXY_PW=

# Specify filepath for CA cert file. If CONFIG_SSL_CACERT_SELFSIGN is
# set to 'n' it has to be preexisting file.
CONFIG_SSL_CACERT_FILE=/etc/pki/tls/certs/selfcert.crt

# Specify filepath for CA cert key file. If
# CONFIG_SSL_CACERT_SELFSIGN is set to 'n' it has to be preexisting
# file.
CONFIG_SSL_CACERT_KEY_FILE=/etc/pki/tls/private/selfkey.key

# Enter the path to use to store generated SSL certificates in.
CONFIG_SSL_CERT_DIR=~/packstackca/

# Specify 'y' if you want Packstack to pregenerate the CA
# Certificate.
CONFIG_SSL_CACERT_SELFSIGN=y

# Enter the ssl certificates subject country.
CONFIG_SSL_CERT_SUBJECT_C=--

# Enter the ssl certificates subject state.
CONFIG_SSL_CERT_SUBJECT_ST=State

# Enter the ssl certificates subject location.
CONFIG_SSL_CERT_SUBJECT_L=City

# Enter the ssl certificates subject organization.
CONFIG_SSL_CERT_SUBJECT_O=openstack

# Enter the ssl certificates subject organizational unit.
CONFIG_SSL_CERT_SUBJECT_OU=packstack

# Enter the ssl certificates subject common name.
CONFIG_SSL_CERT_SUBJECT_CN=openstack-dev1

CONFIG_SSL_CERT_SUBJECT_MAIL=admin@openstack-dev1

# Service to be used as the AMQP broker. Allowed values are: rabbitmq
# ['rabbitmq']
CONFIG_AMQP_BACKEND=rabbitmq

# IP address of the server on which to install the AMQP service.
```

```
CONFIG_AMQP_HOST=172.10.10.41

# Specify 'y' to enable SSL for the AMQP service. ['y', 'n']
CONFIG_AMQP_ENABLE_SSL=n

# Specify 'y' to enable authentication for the AMQP service. ['y',
# 'n']
CONFIG_AMQP_ENABLE_AUTH=n

# Password for the NSS certificate database of the AMQP service.
CONFIG_AMQP_NSS_CERT

_PW=PW_PLACEHOLDER

# User for AMQP authentication.
CONFIG_AMQP_AUTH_USER=amqp_user

# Password for AMQP authentication.
CONFIG_AMQP_AUTH_PASSWORD=PW_PLACEHOLDER

# IP address of the server on which to install MariaDB. If a MariaDB
# installation was not specified in CONFIG_MARIADB_INSTALL, specify
# the IP address of an existing database server (a MariaDB cluster can
# also be specified).
CONFIG_MARIADB_HOST=172.10.10.41

# User name for the MariaDB administrative user.
CONFIG_MARIADB_USER=root

# Password for the MariaDB administrative user.
CONFIG_MARIADB_PW={{ SET_PASS }}

# Password to use for the Identity service (keystone) to access the
# database.
CONFIG_KEYSTONE_DB_PW={{ SET_PASS }}

# Enter y if cron job to rotate Fernet tokens should be created.
CONFIG_KEYSTONE_FERNET_TOKEN_ROTATE_ENABLE=True

# Default region name to use when creating tenants in the Identity
# service.
CONFIG_KEYSTONE_REGION=RegionOne

# Token to use for the Identity service API.
CONFIG_KEYSTONE_ADMIN_TOKEN={{ SET_PASS }}

# Email address for the Identity service 'admin' user. Defaults to
CONFIG_KEYSTONE_ADMIN_EMAIL=root@localhost

# User name for the Identity service 'admin' user. Defaults to
# 'admin'.
CONFIG_KEYSTONE_ADMIN_USERNAME=admin

# Password to use for the Identity service 'admin' user.
CONFIG_KEYSTONE_ADMIN_PW={{ SET_PASS }}

# Password to use for the Identity service 'demo' user.
CONFIG_KEYSTONE_DEMO_PW={{ SET_PASS }}

# Identity service API version string. ['v2.0', 'v3']
CONFIG_KEYSTONE_API_VERSION=v3

# Identity service token format (FERNET). Since Rocky, only FERNET is
# supported. ['FERNET']
CONFIG_KEYSTONE_TOKEN_FORMAT=FERNET
```

```
# Type of Identity service backend (sql or ldap). ['sql', 'ldap']
CONFIG_KEYSTONE_IDENTITY_BACKEND=sql

# URL for the Identity service LDAP backend.
CONFIG_KEYSTONE_LDAP_URL=ldap://172.10.10..41

# User DN for the Identity service LDAP backend. Used to bind to the
# LDAP server if the LDAP server does not allow anonymous
# authentication.
CONFIG_KEYSTONE_LDAP_USER_DN=

# User DN password for the Identity service LDAP backend.
CONFIG_KEYSTONE_LDAP_USER_PASSWORD=

# Base suffix for the Identity service LDAP backend.
CONFIG_KEYSTONE_LDAP_SUFFIX=

# Query scope for the Identity service LDAP backend. Use 'one' for
# onelevel/singleLevel or 'sub' for subtree/wholeSubtree ('base' is
# not actually used by the Identity service and is therefore
# deprecated). ['base', 'one', 'sub']
CONFIG_KEYSTONE_LDAP_QUERY_SCOPE=one

# Query page size for the Identity service LDAP backend.
CONFIG_KEYSTONE_LDAP_PAGE_SIZE=-1

# User subtree for the Identity service LDAP backend.
CONFIG_KEYSTONE_LDAP_USER_SUBTREE=

# User query filter for the Identity service LDAP backend.
CONFIG_KEYSTONE_LDAP_USER_FILTER=

# User object class for the Identity service LDAP backend.
CONFIG_KEYSTONE_LDAP_USER_OBJECTCLASS=

# User ID attribute for the Identity service LDAP backend.
CONFIG_KEYSTONE_LDAP_USER_ID_ATTRIBUTE=

# User name attribute for the Identity service LDAP backend.
CONFIG_KEYSTONE_LDAP_USER_NAME_ATTRIBUTE=

# User email address attribute for the Identity service LDAP backend.
CONFIG_KEYSTONE_LDAP_USER_MAIL_ATTRIBUTE=

# User-enabled attribute for the Identity service LDAP backend.
CONFIG_KEYSTONE_LDAP_USER_ENABLED_ATTRIBUTE=

# Bit mask integer applied to user-enabled attribute for the Identity
# service LDAP backend. Indicate the bit that the enabled value is
# stored in if the LDAP server represents "enabled" as a bit on an
# integer rather than a boolean. A value of "0" indicates the mask is
# not used (default). If this is not set to "0", the typical value is
# "2", typically used when
# "CONFIG_KEYSTONE_LDAP_USER_ENABLED_ATTRIBUTE = userAccountControl".
CONFIG_KEYSTONE_LDAP_USER_ENABLED_MASK=-1

# Value of enabled attribute which indicates user is enabled for the
# Identity service LDAP backend. This should match an appropriate
# integer value if the LDAP server uses non-boolean (bitmask) values
# to indicate whether a user is enabled or disabled. If this is not
# set as 'y', the typical value is "512". This is typically used when
# "CONFIG_KEYSTONE_LDAP_USER_ENABLED_ATTRIBUTE = userAccountControl".
CONFIG_KEYSTONE_LDAP_USER_ENABLED_DEFAULT=TRUE

# Specify 'y' if users are disabled (not enabled) in the Identity
# service LDAP backend (inverts boolean-enabled values). Some LDAP
# servers use a boolean lock attribute where "y" means an account is
# disabled. Setting this to 'y' allows these lock attributes to be
# used. This setting will have no effect if
```

```
# "CONFIG_KEYSTONE_LDAP_USER_ENABLED_MASK" is in use. ['n', 'y']
CONFIG_KEYSTONE_LDAP_USER_ENABLED_INVERT=n

# Comma-separated list of attributes stripped from LDAP user entry
# upon update.
CONFIG_KEYSTONE_LDAP_USER_ATTRIBUTE_IGNORE=

# Identity service LDAP attribute mapped to default_project_id for
# users.
CONFIG_KEYSTONE_LDAP_USER_DEFAULT_PROJECT_ID_ATTRIBUTE=

# Specify 'y' if you want to be able to create Identity service users
# through the Identity service interface; specify 'n' if you will
# create directly in the LDAP backend. ['n', 'y']
CONFIG_KEYSTONE_LDAP_USER_ALLOW_CREATE=n

# Specify 'y' if you want to be able to update Identity service users
# through the Identity service interface; specify 'n' if you will
# update directly in the LDAP backend. ['n', 'y']
CONFIG_KEYSTONE_LDAP_USER_ALLOW_UPDATE=n

# Specify 'y' if you want to be able to delete Identity service users
# through the Identity service interface; specify 'n' if you will
# delete directly in the LDAP backend. ['n', 'y']
CONFIG_KEYSTONE_LDAP_USER_ALLOW_DELETE=n

# Identity service LDAP attribute mapped to password.
CONFIG_KEYSTONE_LDAP_USER_PASS_ATTRIBUTE=

# DN of the group entry to hold enabled LDAP users when using enabled
# emulation.
CONFIG_KEYSTONE_LDAP_USER_ENABLED_EMULATION_DN=

# List of additional LDAP attributes for mapping additional attribute
# mappings for users. The attribute-mapping format is
# <ldap_attr>:<user_attr>, where ldap_attr is the attribute in the
# LDAP entry and user_attr is the Identity API attribute.
CONFIG_KEYSTONE_LDAP_USER_ADDITIONAL_ATTRIBUTE_MAPPING=

# Group subtree for the Identity service LDAP backend.
CONFIG_KEYSTONE_LDAP_GROUP_SUBTREE=

# Group query filter for the Identity service LDAP backend.
CONFIG_KEYSTONE_LDAP_GROUP_FILTER=

# Group object class for the Identity service LDAP backend.
CONFIG_KEYSTONE_LDAP_GROUP_OBJECTCLASS=

# Group ID attribute for the Identity service LDAP backend.
CONFIG_KEYSTONE_LDAP_GROUP_ID_ATTRIBUTE=

# Group name attribute for the Identity service LDAP backend.
CONFIG_KEYSTONE_LDAP_GROUP_NAME_ATTRIBUTE=

# Group member attribute for the Identity service LDAP backend.
CONFIG_KEYSTONE_LDAP_GROUP_MEMBER_ATTRIBUTE=

# Group description attribute for the Identity service LDAP backend.
CONFIG_KEYSTONE_LDAP_GROUP_DESC_ATTRIBUTE=

# Comma-separated list of attributes stripped from LDAP group entry
# upon update.
CONFIG_KEYSTONE_LDAP_GROUP_ATTRIBUTE_IGNORE=

# Specify 'y' if you want to be able to create Identity service
# groups through the Identity service interface; specify 'n' if you
# will create directly in the LDAP backend. ['n', 'y']
CONFIG_KEYSTONE_LDAP_GROUP_ALLOW_CREATE=n
```



```
# Specify 'y' if you want to be able to update Identity service
# groups through the Identity service interface; specify 'n' if you
# will update directly in the LDAP backend. ['n', 'y']
CONFIG_KEYSTONE_LDAP_GROUP_ALLOW_UPDATE=n

# Specify 'y' if you want to be able to delete Identity service
# groups through the Identity service interface; specify 'n' if you
# will delete directly in the LDAP backend. ['n', 'y']
CONFIG_KEYSTONE_LDAP_GROUP_ALLOW_DELETE=n

# List of additional LDAP attributes used for mapping additional
# attribute mappings for groups. The attribute=mapping format is
# <ldap_attr>:<group_attr>, where ldap_attr is the attribute in the
# LDAP entry and group_attr is the Identity API attribute.
CONFIG_KEYSTONE_LDAP_GROUP_ADDITIONAL_ATTRIBUTE_MAPPING=

# Specify 'y' if the Identity service LDAP backend should use TLS.
# ['n', 'y']
CONFIG_KEYSTONE_LDAP_USE_TLS=n

# CA certificate directory for Identity service LDAP backend (if TLS
# is used).
CONFIG_KEYSTONE_LDAP_TLS_CACERTDIR=

# CA certificate file for Identity service LDAP backend (if TLS is
# used).
CONFIG_KEYSTONE_LDAP_TLS_CACERTFILE=

# Certificate-checking strictness level for Identity service LDAP
# backend; valid options are: never, allow, demand. ['never', 'allow',
# 'demand']
CONFIG_KEYSTONE_LDAP_TLS_REQ_CERT=demand

# Password to use for the Image service (glance) to access the
# database.
CONFIG_GLANCE_DB_PW={{ SET_PASS }}

# Password to use for the Image service to authenticate with the
# Identity service.
CONFIG_GLANCE_KS_PW={{ SET_PASS }}

# Storage backend for the Image service (controls how the Image
# service stores disk images). Valid options are: file or swift
# (Object Storage). The Object Storage service must be enabled to use
# it as a working backend; otherwise, Packstack falls back to 'file'.
# ['file', 'swift']
CONFIG_GLANCE_BACKEND=file

# Password to use for the Block Storage service (cinder) to access
# the database.
CONFIG_CINDER_DB_PW={{ SET_PASS }}

# Enter y if cron job for removing soft deleted DB rows should be
# created.
CONFIG_CINDER_DB_PURGE_ENABLE=True

# Password to use for the Block Storage service to authenticate with
# the Identity service.
CONFIG_CINDER_KS_PW={{ SET_PASS }}

# Storage backend to use for the Block Storage service; valid options
# are: lvm, gluster, nfs, vmdk, netapp, solidfire. ['lvm', 'gluster',
# 'nfs', 'vmdk', 'netapp', 'solidfire']
CONFIG_CINDER_BACKEND=nfs

# Specify 'y' to create the Block Storage volumes group. That is,
# Packstack creates a raw disk image in /var/lib/cinder, and mounts it
# using a loopback device. This should only be used for testing on a
```

```
# proof-of-concept installation of the Block Storage service (a file-
# backed volume group is not suitable for production usage). ['y',
# 'n']
CONFIG_CINDER_VOLUMES_CREATE=y

# Specify a custom name for the lvm cinder volume group
CONFIG_CINDER_VOLUME_NAME=cinder-volumes

# Size of Block Storage volumes group. Actual volume size will be
# extended with 3% more space for VG metadata. Remember that the size
# of the volume group will restrict the amount of disk space that you
# can expose to Compute instances, and that the specified amount must
# be available on the device used for /var/lib/cinder.
CONFIG_CINDER_VOLUMES_SIZE=20G

# A single or comma-separated list of Red Hat Storage (gluster)
# volume shares to mount. Example: 'ip-address:/vol-name', 'domain
# :/vol-name'
CONFIG_CINDER_GLUSTER_MOUNTS=

# A single or comma-separated list of NFS exports to mount. Example:
# 'ip-address:/export-name'
CONFIG_CINDER_NFS_MOUNTS=192.168.20.13:/data

# Administrative user account name used to access the NetApp storage
# system or proxy server.
CONFIG_CINDER_NETAPP_LOGIN=

# Password for the NetApp administrative user account specified in
# the CONFIG_CINDER_NETAPP_LOGIN parameter.
CONFIG_CINDER_NETAPP_PASSWORD=

# Hostname (or IP address) for the NetApp storage system or proxy
# server.
CONFIG_CINDER_NETAPP_HOSTNAME=

# The TCP port to use for communication with the storage system or
# proxy. If not specified, Data ONTAP drivers will use 80 for HTTP and
# 443 for HTTPS; E-Series will use 8080 for HTTP and 8443 for HTTPS.
# Defaults to 80.
CONFIG_CINDER_NETAPP_SERVER_PORT=80

# Storage family type used on the NetApp storage system; valid
# options are ontap_7mode for using Data ONTAP operating in 7-Mode,
# ontap_cluster for using clustered Data ONTAP, or E-Series for NetApp
# E-Series. Defaults to ontap_cluster. ['ontap_7mode',
# 'ontap_cluster', 'eseries']
CONFIG_CINDER_NETAPP_STORAGE_FAMILY=ontap_cluster

# The transport protocol used when communicating with the NetApp
# storage system or proxy server. Valid values are http or https.
# Defaults to 'http'. ['http', 'https']
CONFIG_CINDER_NETAPP_TRANSPORT_TYPE=http

# Storage protocol to be used on the data path with the NetApp
# storage system; valid options are iscsi, fc, nfs. Defaults to nfs.
# ['iscsi', 'fc', 'nfs']
CONFIG_CINDER_NETAPP_STORAGE_PROTOCOL=nfs

# Quantity to be multiplied by the requested volume size to ensure
# enough space is available on the virtual storage server (Vserver) to
# fulfill the volume creation request. Defaults to 1.0.
CONFIG_CINDER_NETAPP_SIZE_MULTIPLIER=1.0

# Time period (in minutes) that is allowed to elapse after the image
# is last accessed, before it is deleted from the NFS image cache.
# When a cache-cleaning cycle begins, images in the cache that have
# not been accessed in the last M minutes, where M is the value of
```

```
# this parameter, are deleted from the cache to create free space on
# the NFS share. Defaults to 720.
CONFIG_CINDER_NETAPP_EXPIRY_THRES_MINUTES=720

# If the percentage of available space for an NFS share has dropped
# below the value specified by this parameter, the NFS image cache is
# cleaned. Defaults to 20.
CONFIG_CINDER_NETAPP_THRES_AVL_SIZE_PERC_START=20

# When the percentage of available space on an NFS share has reached
# the percentage specified by this parameter, the driver stops
# clearing files from the NFS image cache that have not been accessed
# in the last M minutes, where M is the value of the
# CONFIG_CINDER_NETAPP_EXPIRY_THRES_MINUTES parameter. Defaults to 60.
CONFIG_CINDER_NETAPP_THRES_AVL_SIZE_PERC_STOP=60

# Single or comma-separated list of NetApp NFS shares for Block
# Storage to use. Format: ip-address:/export-name. Defaults to ".
CONFIG_CINDER_NETAPP_NFS_SHARES=

# File with the list of available NFS shares. Defaults to
# '/etc/cinder/shares.conf'.
CONFIG_CINDER_NETAPP_NFS_SHARES_CONFIG=/etc/cinder/shares.conf

# This parameter is only utilized when the storage protocol is
# configured to use iSCSI or FC. This parameter is used to restrict
# provisioning to the specified controller volumes. Specify the value
# of this parameter to be a comma separated list of NetApp controller
# volume names to be used for provisioning. Defaults to ".
CONFIG_CINDER_NETAPP_VOLUME_LIST=

# The vFiler unit on which provisioning of block storage volumes will
# be done. This parameter is only used by the driver when connecting
# to an instance with a storage family of Data ONTAP operating in
# 7-Mode Only use this parameter when utilizing the MultiStore feature
# on the NetApp storage system. Defaults to ".
CONFIG_CINDER_NETAPP_VFILER=

# The name of the config.conf stanza for a Data ONTAP (7-mode) HA
# partner. This option is only used by the driver when connecting to
# an instance with a storage family of Data ONTAP operating in 7-Mode,
# and it is required if the storage protocol selected is FC. Defaults
# to ".
CONFIG_CINDER_NETAPP_PARTNER_BACKEND_NAME=

# This option specifies the virtual storage server (Vserver) name on
# the storage cluster on which provisioning of block storage volumes
# should occur. Defaults to ".
CONFIG_CINDER_NETAPP_VSERVER=

# Restricts provisioning to the specified controllers. Value must be
# a comma-separated list of controller hostnames or IP addresses to be
# used for provisioning. This option is only utilized when the storage
# family is configured to use E-Series. Defaults to ".
CONFIG_CINDER_NETAPP_CONTROLLER_IPS=

# Password for the NetApp E-Series storage array. Defaults to ".
CONFIG_CINDER_NETAPP_SA_PASSWORD=

# This option is used to define how the controllers in the E-Series
# storage array will work with the particular operating system on the
# hosts that are connected to it. Defaults to 'linux_dm_mp'
CONFIG_CINDER_NETAPP_ESERIES_HOST_TYPE=linux_dm_mp

# Path to the NetApp E-Series proxy application on a proxy server.
# The value is combined with the value of the
# CONFIG_CINDER_NETAPP_TRANSPORT_TYPE, CONFIG_CINDER_NETAPP_HOSTNAME,
# and CONFIG_CINDER_NETAPP_HOSTNAME options to create the URL used by
# the driver to connect to the proxy application. Defaults to
```

```
# '/devmgr/v2'.
CONFIG_CINDER_NETAPP_WEBSERVICE_PATH=/devmgr/v2

# Restricts provisioning to the specified storage pools. Only dynamic
# disk pools are currently supported. The value must be a comma-
# separated list of disk pool names to be used for provisioning.
# Defaults to ".
CONFIG_CINDER_NETAPP_STORAGE_POOLS=

# Cluster admin account name used to access the SolidFire storage
# system.
CONFIG_CINDER_SOLIDFIRE_LOGIN=

# Password for the SolidFire cluster admin user account specified in
# the CONFIG_CINDER_SOLIDFIRE_LOGIN parameter.
CONFIG_CINDER_SOLIDFIRE_PASSWORD=

# Hostname (or IP address) for the SolidFire storage system's MVIP.
CONFIG_CINDER_SOLIDFIRE_HOSTNAME=

# Password to use for OpenStack Bare Metal Provisioning (ironic) to
# access the database.
CONFIG_IRONIC_DB_PW=PW_PLACEHOLDER

# Password to use for OpenStack Bare Metal Provisioning to
# authenticate with the Identity service.
CONFIG_IRONIC_KS_PW=PW_PLACEHOLDER

# Enter y if cron job for removing soft deleted DB rows should be
# created.
CONFIG_NOVA_DB_PURGE_ENABLE=True

# Password to use for the Compute service (nova) to access the
# database.
CONFIG_NOVA_DB_PW=c09650d78c1b45db

# Password to use for the Compute service to authenticate with the
# Identity service.
CONFIG_NOVA_KS_PW=96fa26e1400749c6

# Whether or not Packstack should manage a default initial set of
# Nova flavors. Defaults to 'y'.
CONFIG_NOVA_MANAGE_FLAVORS=y

# Overcommitment ratio for virtual to physical CPUs. Specify 1.0 to
# disable CPU overcommitment.
CONFIG_NOVA_SCHED_CPU_ALLOC_RATIO=16.0

# Overcommitment ratio for virtual to physical RAM. Specify 1.0 to
# disable RAM overcommitment.
CONFIG_NOVA_SCHED_RAM_ALLOC_RATIO=1.5

# Protocol used for instance migration. Valid options are: ssh and
# tcp. Note that the tcp protocol is not encrypted, so it is insecure.
# ['ssh', 'tcp']
CONFIG_NOVA_COMPUTE_MIGRATE_PROTOCOL=ssh

# PEM encoded certificate to be used for ssl on the https server,
# leave blank if one should be generated, this certificate should not
# require a passphrase. If CONFIG_HORIZON_SSL is set to 'n' this
# parameter is ignored.
CONFIG_VNC_SSL_CERT=

# SSL keyfile corresponding to the certificate if one was entered. If
# CONFIG_HORIZON_SSL is set to 'n' this parameter is ignored.
CONFIG_VNC_SSL_KEY=

# Enter the PCI passthrough array of hash in JSON style for
```

```

# controller eg. [{"vendor_id":"1234", "product_id":"5678",
# "name":"default"}, {...}]
CONFIG_NOVA_PCI_ALIAS=

# Enter the PCI passthrough whitelist array of hash in JSON style for
# controller eg. [{"vendor_id":"1234", "product_id":"5678",
# "name":"default"}, {...}]
CONFIG_NOVA_PCI_PASSTHROUGH_WHITELIST=

# The hypervisor driver to use with Nova. Can be either 'qemu' or
# 'kvm'. Defaults to 'qemu' on virtual machines and 'kvm' on bare
# metal hardware. For nested KVM set it explicitly to 'kvm'.
CONFIG_NOVA_LIBVIRT_VIRT_TYPE=%{::default_hypervisor}

# Password to use for OpenStack Networking (neutron) to authenticate
# with the Identity service.
CONFIG_NEUTRON_KS_PW={{ SET_PASS }}

# The password to use for OpenStack Networking to access the
# database.
CONFIG_NEUTRON_DB_PW={{ SET_PASS }}

# The name of the Open vSwitch bridge (or empty for linuxbridge) for
# the OpenStack Networking L3 agent to use for external traffic.
# Specify 'provider' if you intend to use a provider network to handle
# external traffic.
CONFIG_NEUTRON_L3_EXT_BRIDGE=br-ex

# Password for the OpenStack Networking metadata agent.
CONFIG_NEUTRON_METADATA_PW={{ SET_PASS }}

# Specify 'y' to install OpenStack Networking's L3 Metering agent
# ['y', 'n']
CONFIG_NEUTRON_METERING_AGENT_INSTALL=y

# Specify 'y' to configure OpenStack Networking's Firewall-
# as-a-Service (FWaaS). ['y', 'n']
CONFIG_NEUTRON_FWAAS=n

# Specify 'y' to configure OpenStack Networking's VPN-as-a-Service
# (VPNaaS). ['y', 'n']
CONFIG_NEUTRON_VPNAAS=n

# Comma-separated list of network-type driver entry points to be
# loaded from the neutron.ml2.type_drivers namespace. ['local',
# 'flat', 'vlan', 'gre', 'vxlan', 'geneve']
CONFIG_NEUTRON_ML2_TYPE_DRIVERS=geneve,flat,vxlan,vlan

# Comma-separated, ordered list of network types to allocate as
# tenant networks. The 'local' value is only useful for single-box
# testing and provides no connectivity between hosts. ['local',
# 'vlan', 'gre', 'vxlan', 'geneve']
CONFIG_NEUTRON_ML2_TENANT_NETWORK_TYPES=geneve,vxlan

# Comma-separated ordered list of networking mechanism driver entry
# points to be loaded from the neutron.ml2.mechanism_drivers
# namespace. ['logger', 'test', 'linuxbridge', 'openvswitch',
# 'hyperv', 'ncs', 'arista', 'cisco_nexus', 'mlnx', 'l2population',
# 'sriovnicswitch', 'ovn']
CONFIG_NEUTRON_ML2_MECHANISM_DRIVERS=openvswitch

# Comma-separated list of physical_network names with which flat
# networks can be created. Use * to allow flat networks with arbitrary
# physical_network names.
CONFIG_NEUTRON_ML2_FLAT_NETWORKS=

# Comma-separated list of <physical_network>:<vlan_min>:<vlan_max> or
# <physical_network> specifying physical_network names usable for VLAN
# provider and tenant networks, as well as ranges of VLAN tags on each

```

```

# available for allocation to tenant networks.
CONFIG_NEUTRON_ML2_VLAN_RANGES=

# Comma-separated list of <tun_min>:<tun_max> tuples enumerating
# ranges of GRE tunnel IDs that are available for tenant-network
# allocation. A tuple must be an array with tun_max +1 - tun_min >
# 1000000.
CONFIG_NEUTRON_ML2_TUNNEL_ID_RANGES=

# Comma-separated list of addresses for VXLAN multicast group. If
# left empty, disables VXLAN from sending allocate broadcast traffic
# (disables multicast VXLAN mode). Should be a Multicast IP (v4 or v6)
# address.
CONFIG_NEUTRON_ML2_VXLAN_GROUP=

# Comma-separated list of <vni_min>:<vni_max> tuples enumerating
# ranges of VXLAN VNI IDs that are available for tenant network
# allocation. Minimum value is 0 and maximum value is 16777215.
CONFIG_NEUTRON_ML2_VNI_RANGES=10:100

# Name of the L2 agent to be used with OpenStack Networking.
# ['linuxbridge', 'openvswitch', 'ovn']
CONFIG_NEUTRON_L2_AGENT=openvswitch

# Comma-separated list of interface mappings for the OpenStack
# Networking ML2 SRIOV agent. Each tuple in the list must be in the
# format <physical_network>:<net_interface>. Example:
# physnet1:eth1,physnet2:eth2,physnet3:eth3.
CONFIG_NEUTRON_ML2_SRIOV_INTERFACE_MAPPINGS=

# Comma-separated list of interface mappings for the OpenStack
# Networking linuxbridge plugin. Each tuple in the list must be in the
# format <physical_network>:<net_interface>. Example:
# physnet1:eth1,physnet2:eth2,physnet3:eth3.
CONFIG_NEUTRON_LB_INTERFACE_MAPPINGS=

# Comma-separated list of bridge mappings for the OpenStack
# Networking Open vSwitch plugin. Each tuple in the list must be in
# the format <physical_network>:<ovs_bridge>. Example: physnet1:br-
# eth1,physnet2:br-eth2,physnet3:br-eth3
CONFIG_NEUTRON_OVS_BRIDGE_MAPPINGS=extnet:br-ex,physnet1:br-vlan

# Comma-separated list of colon-separated Open vSwitch
# <bridge>:<interface> pairs. The interface will be added to the
# associated bridge. If you desire the bridge to be persistent a value
# must be added to this directive, also
# CONFIG_NEUTRON_OVS_BRIDGE_MAPPINGS must be set in order to create
# the proper port. This can be achieved from the command line by
# issuing the following command: packstack --allinone --os-neutron-
# ovs-bridge-mappings=ext-net:br-ex --os-neutron-ovs-bridge-interfaces
# =br-ex:eth0
CONFIG_NEUTRON_OVS_BRIDGE_IFACES=br-ex:ens3f0,br-vlan:ens3f1

# Comma-separated list of Open vSwitch bridges that must be created
# and connected to interfaces in compute nodes when flat or vlan type
# drivers are enabled. These bridges must exist in
# CONFIG_NEUTRON_OVS_BRIDGE_MAPPINGS and
# CONFIG_NEUTRON_OVS_BRIDGE_IFACES. Example: --os-neutron-ovs-bridges-
# compute=br-vlan --os-neutron-ovs-bridge-mappings="extnet:br-
# ex,physnet1:br-vlan" --os-neutron-ovs-bridge-interfaces="br-ex:eth1
# ,br-vlan:eth2"
CONFIG_NEUTRON_OVS_BRIDGES_COMPUTE=br-vlan

# Name of physical network used for external network when enabling
# CONFIG_PROVISION_DEMO. Name must be one of the included in
# CONFIG_NEUTRON_OVS_BRIDGE_MAPPINGS. Example: --os-neutron-ovs-
# bridge-mappings="extnet:br-ex,physnet1:br-vlan" --os-neutron-ovs-
# bridge-interfaces="br-ex:eth1,br-vlan:eth2" --os-neutron-ovs-

```

```

# external-physnet="extnet"
CONFIG_NEUTRON_OVS_EXTERNAL_PHYSNET=extnet

# Interface for the Open vSwitch tunnel. Packstack overrides the IP
# address used for tunnels on this hypervisor to the IP found on the
# specified interface (for example, eth1).
CONFIG_NEUTRON_OVS_TUNNEL_IF=

# Comma-separated list of subnets (for example,
# 192.168.10.0/24,192.168.11.0/24) used for sending tunneling packets.
# This is used to configure IP filtering to accept tunneling packets
# from these subnets instead of specific IP addresses of peer nodes.
# This is useful when you add existing nodes to EXCLUDE_SERVERS
# because, in this case, packstack cannot modify the IP filtering of
# the existing nodes.
CONFIG_NEUTRON_OVS_TUNNEL_SUBNETS=

# VXLAN UDP port.
CONFIG_NEUTRON_OVS_VXLAN_UDP_PORT=4789

# Comma-separated list of bridge mappings for the OpenStack
# Networking Open Virtual Network plugin. Each tuple in the list must
# be in the format <physical_network>:<ovs_bridge>. Example: physnet1
# :br-eth1,physnet2:br-eth2,physnet3:br-eth3
CONFIG_NEUTRON_OVN_BRIDGE_MAPPINGS=extnet:br-ex

# Comma-separated list of colon-separated Open vSwitch
# <bridge>:<interface> pairs. The interface will be added to the
# associated bridge. If you desire the bridge to be persistent a value
# must be added to this directive, also
# CONFIG_NEUTRON_OVN_BRIDGE_MAPPINGS must be set in order to create
# the proper port. This can be achieved from the command line by
# issuing the following command: packstack --allinone --os-neutron-
# ovn-bridge-mappings=ext-net:br-ex --os-neutron-ovn-bridge-interfaces
# =br-ex:eth0
CONFIG_NEUTRON_OVN_BRIDGE_IFACES=

# Comma-separated list of Open vSwitch bridges that must be created
# and connected to interfaces in compute nodes when flat or vlan type
# drivers are enabled. These bridges must exist in
# CONFIG_NEUTRON_OVN_BRIDGE_MAPPINGS and
# CONFIG_NEUTRON_OVN_BRIDGE_IFACES. Example: --os-neutron-ovn-bridges-
# compute=br-vlan --os-neutron-ovn-bridge-mappings="extnet:br-
# ex,physnet1:br-vlan" --os-neutron-ovn-bridge-interfaces="br-ex:eth1
# ,br-vlan:eth2"
CONFIG_NEUTRON_OVN_BRIDGES_COMPUTE=

# Name of physical network used for external network when enabling
# CONFIG_PROVISION_DEMO. Name must be one of the included in
# CONFIG_NEUTRON_OVN_BRIDGE_MAPPINGS. Example: --os-neutron-ovn-
# bridge-mappings="extnet:br-ex,physnet1:br-vlan" --os-neutron-ovn-
# bridge-interfaces="br-ex:eth1,br-vlan:eth2" --os-neutron-ovn-
# external-physnet="extnet"
CONFIG_NEUTRON_OVN_EXTERNAL_PHYSNET=extnet

# Interface for the Open vSwitch tunnel. Packstack overrides the IP
# address used for tunnels on this hypervisor to the IP found on the
# specified interface (for example, eth1).
CONFIG_NEUTRON_OVN_TUNNEL_IF=

# Comma-separated list of subnets (for example,
# 192.168.10.0/24,192.168.11.0/24) used for sending tunneling packets.
# This is used to configure IP filtering to accept tunneling packets
# from these subnets instead of specific IP addresses of peer nodes.
# This is useful when you add existing nodes to EXCLUDE_SERVERS
# because, in this case, packstack cannot modify the IP filtering of
# the existing nodes.
CONFIG_NEUTRON_OVN_TUNNEL_SUBNETS=

```

```
# Password to use for the OpenStack File Share service (manila) to
# access the database.
CONFIG_MANILA_DB_PW=PW_PLACEHOLDER

# Password to use for the OpenStack File Share service (manila) to
# authenticate with the Identity service.
CONFIG_MANILA_KS_PW=PW_PLACEHOLDER

# Backend for the OpenStack File Share service (manila); valid
# options are: generic, netapp, glusternative, or glusterfs.
# ['generic', 'netapp', 'glusternative', 'glusterfs']
CONFIG_MANILA_BACKEND=generic

# Denotes whether the driver should handle the responsibility of
# managing share servers. This must be set to false if the driver is
# to operate without managing share servers. Defaults to 'false'
# ['true', 'false']
CONFIG_MANILA_NETAPP_DRV_HANDLES_SHARE_SERVERS=false

# The transport protocol used when communicating with the storage
# system or proxy server. Valid values are 'http' and 'https'.
# Defaults to 'https'. ['https', 'http']
CONFIG_MANILA_NETAPP_TRANSPORT_TYPE=https

# Administrative user account name used to access the NetApp storage
# system. Defaults to ".
CONFIG_MANILA_NETAPP_LOGIN=admin

# Password for the NetApp administrative user account specified in
# the CONFIG_MANILA_NETAPP_LOGIN parameter. Defaults to ".
CONFIG_MANILA_NETAPP_PASSWORD=

# Hostname (or IP address) for the NetApp storage system or proxy
# server. Defaults to ".
CONFIG_MANILA_NETAPP_SERVER_HOSTNAME=

# The storage family type used on the storage system; valid values
# are ontap_cluster for clustered Data ONTAP. Defaults to
# 'ontap_cluster'. ['ontap_cluster']
CONFIG_MANILA_NETAPP_STORAGE_FAMILY=ontap_cluster

# The TCP port to use for communication with the storage system or
# proxy server. If not specified, Data ONTAP drivers will use 80 for
# HTTP and 443 for HTTPS. Defaults to '443'.
CONFIG_MANILA_NETAPP_SERVER_PORT=443

# Pattern for searching available aggregates for NetApp provisioning.
# Defaults to '(.*)'.
CONFIG_MANILA_NETAPP_AGGREGATE_NAME_SEARCH_PATTERN=(.*)

# Name of aggregate on which to create the NetApp root volume. This
# option only applies when the option
# CONFIG_MANILA_NETAPP_DRV_HANDLES_SHARE_SERVERS is set to True.
CONFIG_MANILA_NETAPP_ROOT_VOLUME_AGGREGATE=

# NetApp root volume name. Defaults to 'root'.
CONFIG_MANILA_NETAPP_ROOT_VOLUME_NAME=root

# This option specifies the storage virtual machine (previously
# called a Vserver) name on the storage cluster on which provisioning
# of shared file systems should occur. This option only applies when
# the option driver_handles_share_servers is set to False. Defaults to
# ".
CONFIG_MANILA_NETAPP_VSERVER=

# Denotes whether the driver should handle the responsibility of
# managing share servers. This must be set to false if the driver is
# to operate without managing share servers. Defaults to 'true'.
```



```
# ['true', 'false']
CONFIG_MANILA_GENERIC_DRV_HANDLES_SHARE_SERVERS=true

# Volume name template for Manila service. Defaults to 'manila-
# share-%s'.
CONFIG_MANILA_GENERIC_VOLUME_NAME_TEMPLATE=manila-share-%s

# Share mount path for Manila service. Defaults to '/shares'.
CONFIG_MANILA_GENERIC_SHARE_MOUNT_PATH=/shares

# Location of disk image for Manila service instance. Defaults to '
CONFIG_MANILA_SERVICE_IMAGE_LOCATION=https://www.dropbox.com/s/vi5oeh10q1qkckh/ubuntu_1204_nfs_cifs.qcow2

# User in Manila service instance.
CONFIG_MANILA_SERVICE_INSTANCE_USER=ubuntu

# Password to service instance user.
CONFIG_MANILA_SERVICE_INSTANCE_PASSWORD=ubuntu

# Type of networking that the backend will use. A more detailed
# description of each option is available in the Manila docs. Defaults
# to 'neutron'. ['neutron', 'nova-network', 'standalone']
CONFIG_MANILA_NETWORK_TYPE=neutron

# Gateway IPv4 address that should be used. Required. Defaults to ".
CONFIG_MANILA_NETWORK_STANDALONE_GATEWAY=

# Network mask that will be used. Can be either decimal like '24' or
# binary like '255.255.255.0'. Required. Defaults to ".
CONFIG_MANILA_NETWORK_STANDALONE_NETMASK=

# Set it if network has segmentation (VLAN, VXLAN, etc). It will be
# assigned to share-network and share drivers will be able to use this
# for network interfaces within provisioned share servers. Optional.
# Example: 1001. Defaults to ".
CONFIG_MANILA_NETWORK_STANDALONE_SEG_ID=

# Can be IP address, range of IP addresses or list of addresses or
# ranges. Contains addresses from IP network that are allowed to be
# used. If empty, then will be assumed that all host addresses from
# network can be used. Optional. Examples: 10.0.0.10 or
# 10.0.0.10-10.0.0.20 or
# 10.0.0.10-10.0.0.20,10.0.0.30-10.0.0.40,10.0.0.50. Defaults to ".
CONFIG_MANILA_NETWORK_STANDALONE_IP_RANGE=

# IP version of network. Optional. Defaults to '4'. ['4', '6']
CONFIG_MANILA_NETWORK_STANDALONE_IP_VERSION=4

# List of GlusterFS servers that can be used to create shares. Each
# GlusterFS server should be of the form [remoteuser@]<volserver>, and
# they are assumed to belong to distinct Gluster clusters.
CONFIG_MANILA_GLUSTERFS_SERVERS=

# Path of Manila host's private SSH key file.
CONFIG_MANILA_GLUSTERFS_NATIVE_PATH_TO_PRIVATE_KEY=

# Regular expression template used to filter GlusterFS volumes for
# share creation. The regex template can optionally (ie. with support
# of the GlusterFS backend) contain the #{size} parameter which
# matches an integer (sequence of digits) in which case the value
# shall be interpreted as size of the volume in GB. Examples: "manila-
# share-volume-d+$", "manila-share-volume-#{size}G-d+$"; with matching
# volume names, respectively: "manila-share-volume-12", "manila-share-
# volume-3G-13". In latter example, the number that matches "#{size}",
# that is, 3, is an indication that the size of volume is 3G.
CONFIG_MANILA_GLUSTERFS_VOLUME_PATTERN=

# Specifies the GlusterFS volume to be mounted on the Manila host.
# For e.g: [remoteuser@]<volserver>:/<valid>
```

```
CONFIG_MANILA_GLUSTERFS_TARGET=

# Base directory containing mount points for Gluster volumes.
CONFIG_MANILA_GLUSTERFS_MOUNT_POINT_BASE=

# Type of NFS server that mediate access to the Gluster volumes
# (Gluster or Ganesha).
CONFIG_MANILA_GLUSTERFS_NFS_SERVER_TYPE=gluster

# Path of Manila host's private SSH key file.
CONFIG_MANILA_GLUSTERFS_PATH_TO_PRIVATE_KEY=

# Remote Ganesha server node's IP address.
CONFIG_MANILA_GLUSTERFS_GANESHA_SERVER_IP=

# Specify 'y' to set up Horizon communication over https. ['y', 'n']
CONFIG_HORIZON_SSL=n

# Secret key to use for Horizon Secret Encryption Key.
CONFIG_HORIZON_SECRET_KEY=0275c625ea7d401fa655bbc49c4ef0fb

# PEM-encoded certificate to be used for SSL connections on the https
# server. To generate a certificate, leave blank.
CONFIG_HORIZON_SSL_CERT=

# SSL keyfile corresponding to the certificate if one was specified.
# The certificate should not require a passphrase.
CONFIG_HORIZON_SSL_KEY=

CONFIG_HORIZON_SSL_CACERT=

# Password to use for the Object Storage service to authenticate with
# the Identity service.
CONFIG_SWIFT_KS_PW={{ SET_PASS }}

# Comma-separated list of devices to use as storage device for Object
# Storage. Each entry must take the format /path/to/dev (for example,
# specifying /dev/vdb installs /dev/vdb as the Object Storage storage
# device; Packstack does not create the filesystem, you must do this
# first). If left empty, Packstack creates a loopback device for test
# setup.
CONFIG_SWIFT_STORAGES=

# Number of Object Storage storage zones; this number MUST be no
# larger than the number of configured storage devices.
CONFIG_SWIFT_STORAGE_ZONES=1

# Number of Object Storage storage replicas; this number MUST be no
# larger than the number of configured storage zones.
CONFIG_SWIFT_STORAGE_REPLICAS=1

# File system type for storage nodes. ['xfs', 'ext4']
CONFIG_SWIFT_STORAGE_FSTYPE=ext4

# Custom seed number to use for swift_hash_path_suffix in
# /etc/swift/swift.conf. If you do not provide a value, a seed number
# is automatically generated.
CONFIG_SWIFT_HASH=b0bd07663dff4aa6

# Size of the Object Storage loopback file storage device.
CONFIG_SWIFT_STORAGE_SIZE=2G

# Password used by Orchestration service user to authenticate against
# the database.
CONFIG_HEAT_DB_PW={{ SET_PASS }}

# Encryption key to use for authentication in the Orchestration
# database (16, 24, or 32 chars).
```

```
CONFIG_HEAT_AUTH_ENC_KEY={{ SET_PASS }}

# Password to use for the Orchestration service to authenticate with
# the Identity service.
CONFIG_HEAT_KS_PW={{ SET_PASS }}

# Specify 'y' to install the Orchestration CloudFormation API. ['y',
# 'n']
CONFIG_HEAT_CFN_INSTALL=y

# Name of the Identity domain for Orchestration.
CONFIG_HEAT_DOMAIN=heat

# Name of the Identity domain administrative user for Orchestration.
CONFIG_HEAT_DOMAIN_ADMIN=heat_admin

# Password for the Identity domain administrative user for
# Orchestration.
CONFIG_HEAT_DOMAIN_PASSWORD=3da8995d89de4321

# Specify 'y' to provision for demo usage and testing. ['y', 'n']
CONFIG_PROVISION_DEMO=n

# Specify 'y' to configure the OpenStack Integration Test Suite
# (tempest) for testing. The test suite requires OpenStack Networking
# to be installed. ['y', 'n']
CONFIG_PROVISION_TEMPEST=n

# CIDR network address for the floating IP subnet.
CONFIG_PROVISION_DEMO_FLOATRANGE=172.24.4.0/24

# Allocation pools in the floating IP subnet.
CONFIG_PROVISION_DEMO_ALLOCATION_POOLS=[]

# The name to be assigned to the demo image in Glance (default
# "cirros").
CONFIG_PROVISION_IMAGE_NAME=cirros

# A URL or local file location for an image to download and provision
# in Glance (defaults to a URL for a recent "cirros" image).
CONFIG_PROVISION_IMAGE_URL=https://download.cirros-cloud.net/0.3.5/cirros-0.3.5-x86_64-disk.img

# Format for the demo image (default "qcow2").
CONFIG_PROVISION_IMAGE_FORMAT=qcow2

# Properties of the demo image (none by default).
CONFIG_PROVISION_IMAGE_PROPERTIES=

# User to use when connecting to instances booted from the demo
# image.
CONFIG_PROVISION_IMAGE_SSH_USER=cirros

# Name of the uec image created in Glance used in tempest tests
# (default "cirros-uec").
CONFIG_PROVISION_UEC_IMAGE_NAME=cirros-uec

# URL of the kernel image copied to Glance image for uec image
# (defaults to a URL for a recent "cirros" uec image).
CONFIG_PROVISION_UEC_IMAGE_KERNEL_URL=https://download.cirros-cloud.net/0.3.5/cirros-0.3.5-x86_64-kernel

# URL of the ramdisk image copied to Glance image for uec image
# (defaults to a URL for a recent "cirros" uec image).
CONFIG_PROVISION_UEC_IMAGE_RAMDISK_URL=https://download.cirros-cloud.net/0.3.5/cirros-0.3.5-x86_64-initramfs

# URL of the disk image copied to Glance image for uec image
# (defaults to a URL for a recent "cirros" uec image).
CONFIG_PROVISION_UEC_IMAGE_DISK_URL=https://download.cirros-cloud.net/0.3.5/cirros-0.3.5-x86_64-disk.img

CONFIG_TEMPEST_HOST=
```

```
# Name of the Integration Test Suite provisioning user. If you do not
# provide a user name, Tempest is configured in a standalone mode.
CONFIG_PROVISION_TEMPEST_USER=

# Password to use for the Integration Test Suite provisioning user.
CONFIG_PROVISION_TEMPEST_USER_PW=PW_PLACEHOLDER

# CIDR network address for the floating IP subnet.
CONFIG_PROVISION_TEMPEST_FLOATRANGE=172.24.4.0/24

# Primary flavor name to use in Tempest.
CONFIG_PROVISION_TEMPEST_FLAVOR_NAME=m1.nano

# Primary flavor's disk quota in Gb.
CONFIG_PROVISION_TEMPEST_FLAVOR_DISK=1

# Primary flavor's ram in Mb.
CONFIG_PROVISION_TEMPEST_FLAVOR_RAM=128

# Primary flavor's vcpus number.
CONFIG_PROVISION_TEMPEST_FLAVOR_VCPUS=1

# Alternative flavor name to use in Tempest.
CONFIG_PROVISION_TEMPEST_FLAVOR_ALT_NAME=m1.micro

# Alternative flavor's disk quota in Gb.
CONFIG_PROVISION_TEMPEST_FLAVOR_ALT_DISK=1

# Alternative flavor's ram in Mb.
CONFIG_PROVISION_TEMPEST_FLAVOR_ALT_RAM=128

# Alternative flavor's vcpus number.
CONFIG_PROVISION_TEMPEST_FLAVOR_ALT_VCPUS=1

# Specify 'y' to run Tempest smoke test as last step of installation.
CONFIG_RUN_TEMPEST=n

# Test suites to run, example: "smoke dashboard TelemetryAlarming".
# Optional, defaults to "smoke".
CONFIG_RUN_TEMPEST_TESTS=smoke

# Tests to skip, example: "test_basic_scenario test_volume".
# Optional, defaults to "".
CONFIG_SKIP_TEMPEST_TESTS=

# Specify 'y' to configure the Open vSwitch external bridge for an
# all-in-one deployment (the L3 external bridge acts as the gateway
# for virtual machines). ['y', 'n']
CONFIG_PROVISION_OVS_BRIDGE=y

# Password to use for Gnocchi to access the database.
CONFIG_GNOCCHI_DB_PW=PW_PLACEHOLDER

# Password to use for Gnocchi to authenticate with the Identity
# service.
CONFIG_GNOCCHI_KS_PW=PW_PLACEHOLDER

# Secret key for signing Telemetry service (ceilometer) messages.
CONFIG_CEILOMETER_SECRET={{ SET_PASS }}

# Password to use for Telemetry to authenticate with the Identity
# service.
CONFIG_CEILOMETER_KS_PW=PW_PLACEHOLDER

# Ceilometer service name. ['httpd', 'ceilometer']
CONFIG_CEILOMETER_SERVICE_NAME=httpd
```

```

# Backend driver for Telemetry's group membership coordination.
# ['redis', 'none']
CONFIG_CEILOMETER_COORDINATION_BACKEND=redis

# Whether to enable ceilometer middleware in swift proxy. By default
# this should be false to avoid unnecessary load.
CONFIG_ENABLE_CEILOMETER_MIDDLEWARE=n

# IP address of the server on which to install the Redis server.
CONFIG_REDIS_HOST=172.10.10.41

# Port on which the Redis server listens.
CONFIG_REDIS_PORT=6379

# Password to use for Telemetry Alarming to authenticate with the
# Identity service.
CONFIG_AODH_KS_PW=PW_PLACEHOLDER

# Password to use for Telemetry Alarming (AODH) to access the
# database.
CONFIG_AODH_DB_PW=PW_PLACEHOLDER

# Password to use for Panko to access the database.
CONFIG_PANKO_DB_PW=PW_PLACEHOLDER

# Password to use for Panko to authenticate with the Identity
# service.
CONFIG_PANKO_KS_PW=PW_PLACEHOLDER

# Password to use for OpenStack Database-as-a-Service (trove) to
# access the database.
CONFIG_TROVE_DB_PW=PW_PLACEHOLDER

# Password to use for OpenStack Database-as-a-Service to authenticate
# with the Identity service.
CONFIG_TROVE_KS_PW=PW_PLACEHOLDER

# User name to use when OpenStack Database-as-a-Service connects to
# the Compute service.
CONFIG_TROVE_NOVA_USER=trove

# Tenant to use when OpenStack Database-as-a-Service connects to the
# Compute service.
CONFIG_TROVE_NOVA_TENANT=services

# Password to use when OpenStack Database-as-a-Service connects to
# the Compute service.
CONFIG_TROVE_NOVA_PW=PW_PLACEHOLDER

# Password to use for OpenStack Data Processing (sahara) to access
# the database.
CONFIG_SAHARA_DB_PW=PW_PLACEHOLDER

# Password to use for OpenStack Data Processing to authenticate with
# the Identity service.
CONFIG_SAHARA_KS_PW=PW_PLACEHOLDER

# Password to use for the Magnum to access the database.
CONFIG_MAGNUM_DB_PW=PW_PLACEHOLDER

# Password to use for the Magnum to authenticate with the Identity
# service.
CONFIG_MAGNUM_KS_PW=PW_PLACEHOLDER

```

6. Packstack 설치

```
$ packstack --answer-file=answer.txt
```

reference

- <https://www.rdoproject.org/install/packstack/>

🕒Revision #5

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