



Red Hat OpenStack Platform 13

Overcloud Parameters

Parameters for customizing the core template collection for a Red Hat OpenStack Platform overcloud

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Abstract

This guide provides parameters for customizing the overcloud in Red Hat OpenStack Platform. Use this guide in conjunction with the Advanced Overcloud Customization guide.

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CHAPTER 1. CORE OVERCLOUD PARAMETERS

Parameter	Description
AddVipsToEtcHosts	Set to true to append per network VIPs to /etc/hosts on each node. The default value is True .
CloudDomain	The DNS domain used for the hosts. This must match the <code>overcloud_domain_name</code> configured on the undercloud. The default value is localdomain .
CloudName	The DNS name of this cloud. The default value is overcloud.localdomain .
CloudNameCtlplane	The DNS name of this cloud's control plane endpoint. The default value is overcloud.ctlplane.localdomain .
CloudNameInternal	The DNS name of this cloud's internal API endpoint. The default value is overcloud.internalapi.localdomain .
CloudNameStorage	The DNS name of this cloud's storage endpoint. E.g. <code>ci-overcloud.storage.tripleo.org</code> . The default value is overcloud.storage.localdomain .
CloudNameStorageManagement	The DNS name of this cloud's storage management endpoint. The default value is overcloud.storagemgmt.localdomain .
ControlFixedIPs	Defines a fixed VIP for the Control Plane. Value uses the following format: [[ip_address:'1.2.3.4']]
ControlPlaneSubnet	The name of the undercloud OpenStack Networking (neutron) control plane subnet. The default value is ctlplane-subnet .
DeployIdentifier	Setting this to a unique value will re-run any deployment tasks that perform configuration on a OpenStack Orchestration (heat) stack-update .
DeploymentServerBlacklist	List of server hostnames to blacklist from any triggered deployments.
EndpointMapOverride	Can be used to override the calculated EndpointMap.
ExtraConfig	Additional hiera configuration to inject into the cluster.

Parameter	Description
ExtraHostFileEntries	List of extra hosts entries to be appended to /etc/hosts.
HypervisorNeutronPhysicalBridge	An Open vSwitch bridge to create on each hypervisor. This defaults to br-ex , which is the same as the control plane nodes. This ensures uniform configuration of the Open vSwitch agent. Typically should not need to be changed. The default value is br-ex .
HypervisorNeutronPublicInterface	What interface to add to the HypervisorNeutronPhysicalBridge . The default value is nic1 .
InternalApiVirtualFixedIPs	Control the IP allocation for the InternalApiVirtualInterface port. Value uses the following format: [[ip_address:'1.2.3.4']]
NeutronControlPlaneID	ID or name for Control Plane ctlplane network. The default value is ctlplane .
NeutronPublicInterface	The interface to attach to the external bridge. The default value is nic1 .
NodeCreateBatchSize	Maximum batch size for creating nodes. It is recommended to not exceed a batch size of 32 nodes. The default value is 30 .
PublicVirtualFixedIPs	Control the IP allocation for the PublicVirtualInterface port. Value uses the following format: [[ip_address:'1.2.3.4']]
RabbitCookieSalt	Salt for the RabbitMQ cookie. Change to force the randomly generated RabbitMQ cookie to change. The default value is unset .
RedisVirtualFixedIPs	Control the IP allocation for the virtual IP used by Redis. Value uses the following format: [[ip_address:'1.2.3.4']]
ServerMetadata	Extra properties or metadata passed to OpenStack Compute (nova) for the created nodes in the overcloud. Accessible through the OpenStack Compute (nova) metadata API.

Parameter	Description
StorageMgmtVirtualFixedIPs	Control the IP allocation for the StorageMgmtVirtualInterface port. Value uses the following format: [{ip_address:'1.2.3.4'}]
StorageVirtualFixedIPs	Control the IP allocation for the StorageVirtualInterface port. Value uses the following format: [{ip_address:'1.2.3.4'}]
UpdateIdentifier	Set to a previously unused value during stack-update triggers package update on all nodes.

CHAPTER 2. ROLE-BASED PARAMETERS

Substitute `_ROLE_` with the name of the role. For example, for `_ROLE_Count` use `ControllerCount`.

Parameter	Description
<code>_ROLE_Count</code>	The number of nodes to deploy in a role. The default value is 1 .
<code>_ROLE_ExtraConfig</code>	Role specific additional hiera configuration to inject into the cluster.
<code>_ROLE_HostnameFormat</code>	Format for node hostnames. Note that %index% is translated into the index of the node (e.g 0/1/2) and %stackname% is replaced with the stack name (e.g overcloud). The default value is %stackname%_-_role_-_%index% .
<code>_ROLE_Parameters</code>	Optional Role Specific parameters to be provided to service.
<code>_ROLE_ReplacementPolicies</code>	List of resources to be removed from the role's ResourceGroup when doing an update that requires removal of specific resources.
<code>_ROLE_ReplacementPoliciesMode</code>	How to handle change to ReplacementPolicies for <i>ROLE</i> ResourceGroup when doing an update. Default mode <i>append</i> will append to the existing blacklist and <i>update</i> would replace the blacklist. The default value is append .
<code>_ROLE_SchedulerHints</code>	Optional scheduler hints to pass to OpenStack Compute (nova).
<code>_ROLE_Services</code>	A list of composable service resources (configured in the resource_registry). This represents a set of nested stacks for each service that get installed on the the role.

CHAPTER 3. DEBUG PARAMETERS

These parameters allow you to set debug mode on a per-service basis. The **Debug** parameter acts as a global parameter for all services and the per-service parameters can override the effects of global parameter on individual services.

Parameter	Description
AodhDebug	Set to True to enable debugging OpenStack Telemetry Alarming (aodh) services.
BarbicanDebug	Set to True to enable debugging OpenStack Key Manager (barbican) service.
CeilometerDebug	Set to True to enable debugging OpenStack Telemetry (ceilometer) services.
CinderDebug	Set to True to enable debugging on OpenStack Block Storage (cinder) services.
ConfigDebug	Whether to run configuration management (e.g. Puppet) in debug mode. The default value is False .
Debug	Set to True to enable debugging on all services. The default value is False .
GlanceDebug	Set to True to enable debugging OpenStack Image Storage (glance) service.
GnocchiDebug	Set to True to enable debugging OpenStack Telemetry Metrics (gnocchi) services.
HeatDebug	Set to True to enable debugging OpenStack Orchestration (heat) services.
HorizonDebug	Set to True to enable debugging OpenStack Dashboard (horizon) service. The default value is False .
IronicDebug	Set to True to enable debugging OpenStack Bare Metal (ironic) services.
KeystoneDebug	Set to True to enable debugging OpenStack Identity (keystone) service.
ManilaDebug	Set to True to enable debugging OpenStack Shared File Systems (manila) services.
NeutronDebug	Set to True to enable debugging OpenStack Networking (neutron) services.

Parameter	Description
NeutronDhcpAgentDebug	Set to True to enable debugging for OpenStack Networking (neutron) DHCP agent.
NeutronL3AgentDebug	Set to True to enable debugging for OpenStack Networking (neutron) L3 agent.
NeutronMetadataAgentDebug	Set to True to enable debugging for OpenStack Networking (neutron) Metadata agent.
NovaDebug	Set to True to enable debugging OpenStack Compute (nova) services.
SaharaDebug	Set to True to enable debugging OpenStack Clustering (sahara) services.

CHAPTER 4. KERNEL PARAMETERS

Parameter	Description
BridgeNfCallArpTables	Configures sysctl net.bridge.bridge-nf-call-arptables key. The default value is 1 .
BridgeNfCallIp6Tables	Configures sysctl net.bridge.bridge-nf-call-ip6tables key. The default value is 1 .
BridgeNfCallIpTables	Configures sysctl net.bridge.bridge-nf-call-iptables key. The default value is 1 .
ExtraKernelModules	Hash of extra kernel modules to load.
ExtraKernelPackages	List of extra kernel related packages to install.
ExtraSysctlSettings	Hash of extra sysctl settings to apply.
InotifyIntancesMax	Configures sysctl fs.inotify.max_user_instances key. The default value is 1024 .
KernelDisableIPv6	Configures sysctl net.ipv6.{default/all}.disable_ipv6 keys. The default value is 0 .
KernelIpForward	Configures net.ipv4.ip_forward key. The default value is 1 .
KernelIpNonLocalBind	Configures net.ipv{4,6}.ip_nonlocal_bind key. The default value is 0 .
KernelPidMax	Configures sysctl kernel.pid_max key. The default value is 1048576 .
NeighbourGcThreshold1	Configures sysctl net.ipv4.neigh.default.gc_thresh1 value. This is the minimum number of entries to keep in the ARP cache. The garbage collector will not run if there are fewer than this number of entries in the cache. The default value is 1024 .
NeighbourGcThreshold2	Configures sysctl net.ipv4.neigh.default.gc_thresh2 value. This is the soft maximum number of entries to keep in the ARP cache. The garbage collector will allow the number of entries to exceed this for 5 seconds before collection will be performed. The default value is 2048 .

Parameter	Description
NeighbourGcThreshold3	Configures sysctl net.ipv4.neigh.default.gc_thresh3 value. This is the hard maximum number of entries to keep in the ARP cache. The garbage collector will always run if there are more than this number of entries in the cache. The default value is 4096 .

CHAPTER 5. CEPH STORAGE PARAMETERS

Parameter	Description
AdminPassword	The password for the keystone admin account, used for monitoring, querying OpenStack Networking (neutron) etc.
CephAdminKey	The Ceph admin client key. Can be created with: ceph-authtool --gen-print-key .
CephAnsibleDisksConfig	Disks configuration settings for ceph-ansible . The default value is {'devices': ['/dev/vdb'], 'journal_size': 512, 'osd_scenario': 'collocated'} .
CephAnsibleEnvironmentVariables	Mapping of Ansible environment variables to override defaults.
CephAnsibleExtraConfig	Extra vars for the ceph-ansible playbook.
CephAnsiblePlaybook	List of paths to the ceph-ansible playbooks to execute. The default value is ['/usr/share/ceph-ansible/site-docker.yml.sample']` .
CephAnsiblePlaybookVerbosity	Number of -v , -vv , etc. passed to ansible-playbook command (max 5). The default value is 0 .
CephAnsibleSkipTags	List of ceph-ansible tags to skip. The default value is package-install,with_pkg .
CephAnsibleUpgradePlaybook	Path to the ceph-ansible playbook to execute on upgrade. The default value is /usr/share/ceph-ansible/infrastructure-playbooks/rolling_update.yml` .
CephAnsibleWorkflowName	Name of the OpenStack Workflow (mistral) workflow to execute. The default value is tripleo.storage.v1.ceph-install .
CephClientKey	The Ceph client key. Currently only used for external Ceph deployments to create the openstack user keyring. Can be created with: ceph-authtool --gen-print-key
CephClientUserName	The username the client uses to interact with Ceph. The default value is openstack .
CephClusterFSID	The Ceph cluster FSID. Must be a UUID.

Parameter	Description
CephClusterName	The Ceph cluster name. The default value is ceph .
CephConfigOverrides	Extra configuration settings to dump into ceph.conf.
CephExternalMonHost	List of externally managed Ceph Mon Host IPs. Only used for external Ceph deployments.
CephIPv6	Enables Ceph daemons to bind to IPv6 addresses. The default is: false The default value is False .
CephManilaClientKey	The Ceph client key. Can be created with: ceph-authtool --gen-print-key
CephMdsKey	The cephx key for the MDS service. Can be created with <code>ceph-authtool --gen-print-key</code> .
CephMonKey	The Ceph monitors key. Can be created with: ceph-authtool --gen-print-key .
CephPoolDefaultPgNum	Default placement group size to use for the RBD pools. The default value is 128 .
CephPoolDefaultSize	Default minimum replication for RBD copies. The default value is 3 .
CephPools	Override settings for one of the predefined pools or to create additional ones. Example: [{"name": "volumes", "pg_num": 64, "rule_name": "replicated_rule"}]
CephRbdMirrorConfigure	Perform mirror configuration between local and remote pool. The default value is True .
CephRbdMirrorCopyAdminKey	Copy the admin key to all nodes. The default value is False .
CephRbdMirrorPool	Name of the local pool to mirror to remote cluster.
CephRbdMirrorRemoteCluster	The name given to the remote Ceph cluster from the local cluster. Keys reside in the <code>/etc/ceph</code> directory. The default value is not-ceph .
CephRbdMirrorRemoteUser	The rbd-mirror daemon needs a user to authenticate with the remote cluster. By default, this key should be available under <code>/etc/ceph/<remote_cluster>.client.<remote_user>.keyring</code> .

Parameter	Description
CephRgwClientName	The client name for the RADOSGW service. The default value is radosgw .
CephRgwKey	The cephx key for the RADOSGW client. Can be created with <code>ceph-authtool --gen-print-key</code> .
CephValidationDelay	Interval (in seconds) in between validation checks. The default value is 30 .
CephValidationRetries	Number of retry attempts for Ceph validation. The default value is 40 .
CinderBackupRbdPoolName	Pool to use if Block Storage (cinder) Backup is enabled. The default is: backups The default value is backups .
CinderRbdExtraPools	List of extra Ceph pools for use with RBD backends for OpenStack Block Storage (cinder). An extra OpenStack Block Storage (cinder) RBD backend driver is created for each pool in the list. This is in addition to the standard RBD backend driver associated with the CinderRbdPoolName.
CinderRbdPoolName	Pool to use for Block Storage (cinder) service. The default is: volumes The default value is volumes .
GlanceRbdPoolName	Pool to use for Image Storage (glance) service. The default is: images The default value is images .
GnocchiRbdPoolName	Pool to use for Telemetry storage. The default is: metrics The default value is metrics .
ManilaCephFSCephFSAuthId	The CephFS user ID for Shared Filesystem Service (manila). The default is: manila The default value is manila .
ManilaCephFSDataPoolName	Pool to use for file share storage. The default is: manila_data The default value is manila_data .
ManilaCephFSDataPoolPGNum	Placement group count for the CephFS data pool for file share storage. The default value is 128 .
ManilaCephFSMetadataPoolName	Pool to use for file share metadata storage. The default is: manila_metadata The default value is manila_metadata .

Parameter	Description
ManilaCephFSMetadataPoolPGNum	Placement group count for the CephFS metadata pool for file share storage. The default value is 128 .
ManilaCephFSShareBackendName	Backend name of the CephFS share for file share storage. The default value is cephfs .
NovaRbdPoolName	Pool to use for Compute storage. The default is: vms The default value is vms .
StackUpdateType	Type of update, to differentiate between UPGRADE and UPDATE cases when StackAction is UPDATE (both are the same stack action).

CHAPTER 6. BLOCK STORAGE (CINDER) PARAMETERS

Parameter	Description
CephClusterName	The Ceph cluster name. The default value is ceph .
CinderCronDbPurgeAge	Cron to move deleted instances to another table - Age. The default value is 30 .
CinderCronDbPurgeDestination	Cron to move deleted instances to another table - Log destination. The default value is /var/log/cinder/cinder-rowsflush.log .
CinderCronDbPurgeHour	Cron to move deleted instances to another table - Hour. The default value is 0 .
CinderCronDbPurgeMaxDelay	Cron to move deleted instances to another table - Max Delay. The default value is 3600 .
CinderCronDbPurgeMinute	Cron to move deleted instances to another table - Minute. The default value is 1 .
CinderCronDbPurgeMonth	Cron to move deleted instances to another table - Month. The default value is * .
CinderCronDbPurgeMonthday	Cron to move deleted instances to another table - Month Day. The default value is * .
CinderCronDbPurgeUser	Cron to move deleted instances to another table - User. The default value is cinder .
CinderCronDbPurgeWeekday	Cron to move deleted instances to another table - Week Day. The default value is * .
CinderDefaultVolumeType	The name of Cinder's default volume type. The default value is tripleo .
CinderEnableDBPurge	Whether to create cron job for purging soft deleted rows in OpenStack Block Storage (cinder) database. The default value is True .
CinderEnableiscsiBackend	Whether to enable or not the iscsi backend for OpenStack Block Storage (cinder). The default value is True .
CinderEnableNfsBackend	Whether to enable or not the NFS backend for OpenStack Block Storage (cinder). The default value is False .

Parameter	Description
CinderEnableRbdBackend	Whether to enable or not the Rbd backend for OpenStack Block Storage (cinder). The default value is False .
CinderISCSHelper	The iSCSI helper to use with cinder. The default value is lioadm .
CinderISCSIProtocol	Whether to use TCP (<i>iscsi</i>) or iSER RDMA (<i>iser</i>) for iSCSI. The default value is iscsi .
CinderLVMLoopDeviceSize	The size of the loopback file used by the cinder LVM driver. The default value is 10280 .
CinderNasSecureFileOperations	Controls whether security enhanced NFS file operations are enabled. Valid values are <i>auto</i> , <i>true</i> or <i>false</i> . Effective when CinderEnableNfsBackend is true. The default value is False .
CinderNasSecureFilePermissions	Controls whether security enhanced NFS file permissions are enabled. Valid values are <i>auto</i> , <i>true</i> or <i>false</i> . Effective when CinderEnableNfsBackend is true. The default value is False .
CinderNfsMountOptions	Mount options for NFS mounts used by OpenStack Block Storage (cinder) NFS backend. Effective when CinderEnableNfsBackend is true.
CinderNfsServers	NFS servers used by OpenStack Block Storage (cinder) NFS backend. Effective when CinderEnableNfsBackend is true.
CinderNfsSnapshotSupport	Whether to enable support for snapshots in the NFS driver. Effective when CinderEnableNfsBackend is true. The default value is True .
CinderPassword	The password for the cinder service and database account.
CinderRbdExtraPools	List of extra Ceph pools for use with RBD backends for OpenStack Block Storage (cinder). An extra OpenStack Block Storage (cinder) RBD backend driver is created for each pool in the list. This is in addition to the standard RBD backend driver associated with the CinderRbdPoolName .
CinderRbdPoolName	NO DESCRIPTION The default value is volumes .

Parameter	Description
CinderVolumeOptEnvVars	List of optional environment variables.
CinderVolumeOptVolumes	List of optional volumes to be mounted.
CinderWorkers	Set the number of workers for the block storage service. Note that more workers creates a larger number of processes on systems, which results in excess memory consumption. The default value is equal to the number of vCPU cores on the physical node.
DockerCinderVolumeUlimit	Ulimit for OpenStack Block Storage (cinder) Volume Container. The default value is ['nofile=131072'] .
NotificationDriver	Driver or drivers to handle sending notifications. The default value is messagingv2 .

CHAPTER 7. IMAGE STORAGE (GLANCE) PARAMETERS

Parameter	Description
CephClusterName	The Ceph cluster name. The default value is ceph .
GlanceApiOptVolumes	List of optional volumes to be mounted.
GlanceBackend	The short name of the backend to use. Should be one of swift , rbd , or file . The default value is swift .
GlanceEnabledImportMethods	List of enabled Image Import Methods. Valid values in the list are <i>glance-direct</i> and <i>web-download</i> . The default value is web-download .
GlanceImageConversionOutputFormat	Desired output format for image conversion plugin. The default value is raw .
GlanceImageImportPlugins	List of enabled Image Import Plugins. Valid values in the list are <i>image_conversion</i> , <i>inject_metadata</i> , <i>no_op</i> . The default value is ['no_op'] .
GlanceImageMemberQuota	Maximum number of image members per image. Negative values evaluate to unlimited. The default value is 128 .
GlanceLogFile	The filepath of the file to use for logging messages from OpenStack Image Storage (glance).
GlanceNetappNfsEnabled	When using GlanceBackend: file , Netapp mounts NFS share for image storage. The default value is False .
GlanceNfsEnabled	When using GlanceBackend: file , mount NFS share for image storage. The default value is False .
GlanceNfsOptions	NFS mount options for image storage when GlanceNfsEnabled is true. The default value is _netdev,bg,intr,context=system_u:object_r:glance_var_lib_t:s0 .
GlanceNfsShare	NFS share to mount for image storage when GlanceNfsEnabled is true.
GlanceNodeStagingUri	URI that specifies the staging location to use when importing images. The default value is file:///var/lib/glance/staging .

Parameter	Description
GlanceNotifierStrategy	Strategy to use for OpenStack Image Storage (glance) notification queue. The default value is noop .
GlancePassword	The password for the image storage service and database account.
GlanceShowMultipleLocations	Whether to show multiple image locations e.g for copy-on-write support on RBD or Netapp backends. Potential security risk, see glance.conf for more information. The default value is False .
GlanceStagingNfsOptions	NFS mount options for NFS image import staging. The default value is _netdev,bg,intr,context=system_u:object_r:glance_var_lib_t:s0 .
GlanceStagingNfsShare	NFS share to mount for image import staging.
GlanceWorkers	Set the number of workers for the image storage service. Note that more workers creates a larger number of processes on systems, which results in excess memory consumption.
NetappShareLocation	Netapp share to mount for image storage (when GlanceNetappNfsEnabled is true).
NotificationDriver	Driver or drivers to handle sending notifications. The default value is messagingv2 .

CHAPTER 8. ORCHESTRATION (HEAT) PARAMETERS

Parameter	Description
HeatApiOptEnvVars	List of optional environment variables.
HeatApiOptVolumes	List of optional volumes to be mounted.
HeatAuthEncryptionKey	Auth encryption key for heat-engine.
HeatConvergenceEngine	Enables the heat engine with the convergence architecture. The default value is True .
HeatCronPurgeDeletedAge	Cron to purge database entries marked as deleted and older than \$age - Age. The default value is 30 .
HeatCronPurgeDeletedAgeType	Cron to purge database entries marked as deleted and older than \$age - Age type. The default value is days .
HeatCronPurgeDeletedDestination	Cron to purge database entries marked as deleted and older than \$age - Log destination. The default value is /dev/null .
HeatCronPurgeDeletedEnsure	Cron to purge database entries marked as deleted and older than \$age - Ensure. The default value is present .
HeatCronPurgeDeletedHour	Cron to purge database entries marked as deleted and older than \$age - Hour. The default value is 0 .
HeatCronPurgeDeletedMaxDelay	Cron to purge database entries marked as deleted and older than \$age - Max Delay. The default value is 3600 .
HeatCronPurgeDeletedMinute	Cron to purge database entries marked as deleted and older than \$age - Minute. The default value is 1 .
HeatCronPurgeDeletedMonth	Cron to purge database entries marked as deleted and older than \$age - Month. The default value is * .
HeatCronPurgeDeletedMonthday	Cron to purge database entries marked as deleted and older than \$age - Month Day. The default value is * .
HeatCronPurgeDeletedUser	Cron to purge database entries marked as deleted and older than \$age - User. The default value is heat .

Parameter	Description
HeatCronPurgeDeletedWeekday	Cron to purge database entries marked as deleted and older than \$age - Week Day. The default value is * .
HeatEnableDBPurge	Whether to create cron job for purging soft deleted rows in the OpenStack Orchestration (heat) database. The default value is True .
HeatEngineOptEnvVars	List of optional environment variables.
HeatEngineOptVolumes	List of optional volumes to be mounted.
HeatEnginePluginDirs	An array of directories to search for plug-ins.
HeatMaxJsonBodySize	Maximum raw byte size of the OpenStack Orchestration (heat) API JSON request body. The default value is 4194304 .
HeatMaxResourcesPerStack	Maximum resources allowed per top-level stack. -1 stands for unlimited. The default value is 1000 .
HeatPassword	The password for the Orchestration service and database account.
HeatStackDomainAdminPassword	The admin password for the OpenStack Orchestration (heat) domain in OpenStack Identity (keystone).
HeatWorkers	Number of workers for OpenStack Orchestration (heat) service. Note that more workers creates a larger number of processes on systems, which results in excess memory consumption. The default value is 0 .
NotificationDriver	Driver or drivers to handle sending notifications. The default value is messagingv2 .

CHAPTER 9. DASHBOARD (HORIZON) PARAMETERS

Parameter	Description
HorizonAllowedHosts	A list of IP/Hostname for the server OpenStack Dashboard (horizon) is running on. Used for header checks. The default value is <code>*</code> .
HorizonCustomizationModule	OpenStack Dashboard (horizon) has a global overrides mechanism available to perform customizations.
HorizonPasswordValidator	Regex for password validation.
HorizonPasswordValidatorHelp	Help text for password validation.
HorizonSecret	Secret key for the webserver.
HorizonSecureCookies	Set <code>CSRF_COOKIE_SECURE</code> / <code>SESSION_COOKIE_SECURE</code> in OpenStack Dashboard (horizon). The default value is False .
HorizonVhostExtraParams	Extra parameters for OpenStack Dashboard (horizon) vhost configuration. The default value is <code>{'add_listen': True, 'priority': 10, 'access_log_format': '%a %l %u %t \\\"%r\\\" %>s %b \\\"%%{{Referer}}i\\\" \\\"%%{{User-Agent}}i\\\"', 'options': ['FollowSymLinks', 'MultiViews']}</code> .
MemcachedIPv6	Enable IPv6 features in Memcached. The default value is False .

CHAPTER 10. BARE METAL (IRONIC) PARAMETERS

Parameter	Description
IronicCleaningDiskErase	Type of disk cleaning before and between deployments. full for full cleaning. metadata to clean only disk metadata (partition table). The default value is full .
IronicCleaningNetwork	Name or UUID of the overcloud network used for cleaning bare metal nodes. The default value of provisioning can be left during the initial deployment (when no networks are created yet) and should be changed to an actual UUID in a post-deployment stack update. The default value is provisioning .
IronicDefaultBootOption	How to boot the bare metal instances. Set to local to use local bootloader (requires grub2 for partition images). Set to netboot to make the instances boot from controllers using PXE/iPXE. The default value is local .
IronicDefaultNetworkInterface	Network interface implementation to use by default. Set to flat to use one flat provider network. Set to neutron to make OpenStack Bare Metal (ironic) interact with the OpenStack Networking (neutron) ML2 driver to enable other network types and certain advanced networking features. Requires IronicProvisioningNetwork to be correctly set. The default value is flat .
IronicDefaultResourceClass	Default resource class to use for new nodes.
IronicDeployLogsStorageBackend	Backend to use to store ramdisk logs, either "local" or "swift". The default value is local .
IronicEnableStagingDrivers	Whether to enable use of staging drivers. The default value is False .
IronicEnabledBootInterfaces	Enabled boot interface implementations. Each hardware type must have at least one valid implementation enabled. The default value is ['pxe'] .
IronicEnabledConsoleInterfaces	Enabled console interface implementations. Each hardware type must have at least one valid implementation enabled. The default value is ['ipmitool-socat', 'no-console'] .

Parameter	Description
IronicEnabledDeployInterfaces	Enabled deploy interface implementations. Each hardware type must have at least one valid implementation enabled. The default value is ['iscsi', 'direct'] .
IronicEnabledDrivers	Enabled OpenStack Bare Metal (ironic) drivers. The default value is ['pxe_ipmitool', 'pxe_drac', 'pxe_ilo'] .
IronicEnabledHardwareTypes	Enabled OpenStack Bare Metal (ironic) hardware types. The default value is ['ipmi', 'redfish'] .
IronicEnabledInspectInterfaces	Enabled inspect interface implementations. Each hardware type must have at least one valid implementation enabled. The default value is ['no-inspect'] .
IronicEnabledManagementInterfaces	Enabled management interface implementations. Each hardware type must have at least one valid implementation enabled. The default value is ['ipmitool', 'redfish'] .
IronicEnabledNetworkInterfaces	Enabled network interface implementations. Each hardware type must have at least one valid implementation enabled. The default value is ['flat', 'neutron'] .
IronicEnabledPowerInterfaces	Enabled power interface implementations. Each hardware type must have at least one valid implementation enabled. The default value is ['ipmitool', 'redfish'] .
IronicEnabledRaidInterfaces	Enabled RAID interface implementations. Each hardware type must have at least one valid implementation enabled. The default value is ['no-raid', 'agent'] .
IronicEnabledStorageInterfaces	Enabled storage interface implementations. Each hardware type must have at least one valid implementation enabled. The default value is ['cinder', 'noop'] .
IronicEnabledVendorInterfaces	Enabled vendor interface implementations. Each hardware type must have at least one valid implementation enabled. The default value is ['ipmitool', 'no-vendor'] .

Parameter	Description
IronicIPXEEnabled	Whether to use iPXE instead of PXE for deployment. The default value is True .
IronicIPXEPort	Port to use for serving images when iPXE is used. The default value is 8088 .
IronicInspectorCollectors	Comma-separated list of IPA inspection collectors. The default value is default,logs .
IronicInspectorDiscoveryDefaultDriver	The default driver to use for newly discovered nodes (requires IronicInspectorEnableNodeDiscovery set to True). This driver is automatically added to <code>enabled_drivers</code> . The default value is ipmi .
IronicInspectorEnableNodeDiscovery	Makes ironic-inspector enroll any unknown node that PXE-boots introspection ramdisk in OpenStack Bare Metal (ironic). The default driver to use for new nodes is specified by the <code>IronicInspectorDiscoveryDefaultDriver</code> parameter. Introspection rules can also be used to specify it. The default value is False .
IronicInspectorExtraProcessingHooks	Comma-separated list of processing hooks to append to the default list. The default value is extra_hardware,lldp_basic,local_link_connection .
IronicInspectorIPXEEnabled	Whether to use iPXE for inspection. The default value is True .
IronicInspectorInterface	Network interface on which inspection dnsmasq will listen. The default value is br-ex .
IronicInspectorIpRange	Temporary IP range that will be given to nodes during the inspection process. This should not overlap with any range that OpenStack Networking (neutron) DHCP allocates, but it has to be routeable back to ironic-inspector . This option has no meaningful defaults, and thus is required.
IronicInspectorKernelArgs	Kernel args for the OpenStack Bare Metal (ironic) inspector. The default value is ipa-inspection-dhcp-all-interfaces=1 ipa-collect-lldp=1 ipa-debug=1 .
IronicInspectorUseSwift	Whether to use Swift for storing introspection data. The default value is True .

Parameter	Description
IronicPassword	The password for the Bare Metal service and database account.
IronicProvisioningNetwork	Name or UUID of the overcloud network used for provisioning of bare metal nodes if IronicDefaultNetworkInterface is set to neutron . The default value of provisioning can be left during the initial deployment (when no networks are created yet) and should be changed to an actual UUID in a post-deployment stack update. The default value is provisioning .

CHAPTER 11. IDENTITY (KEYSTONE) PARAMETERS

Parameter	Description
AdminEmail	The email for the OpenStack Identity (keystone) admin account. The default value is admin@example.com .
AdminPassword	The password for the OpenStack Identity (keystone) admin account.
AdminToken	The OpenStack Identity (keystone) secret and database password.
KeystoneChangePasswordUponFirstUse	Enabling this option requires users to change their password when the user is created, or upon administrative reset.
KeystoneCredential0	The first OpenStack Identity (keystone) credential key. Must be a valid key.
KeystoneCredential1	The second OpenStack Identity (keystone) credential key. Must be a valid key.
KeystoneCronTokenFlushDestination	Cron to purge expired tokens - Log destination. The default value is /var/log/keystone/keystone-tokenflush.log .
KeystoneCronTokenFlushEnsure	Cron to purge expired tokens - Ensure. The default value is present .
KeystoneCronTokenFlushHour	Cron to purge expired tokens - Hour. The default value is * .
KeystoneCronTokenFlushMaxDelay	Cron to purge expired tokens - Max Delay. The default value is 0 .
KeystoneCronTokenFlushMinute	Cron to purge expired tokens - Minute. The default value is 1 .
KeystoneCronTokenFlushMonth	Cron to purge expired tokens - Month. The default value is * .
KeystoneCronTokenFlushMonthday	Cron to purge expired tokens - Month Day. The default value is * .
KeystoneCronTokenFlushUser	Cron to purge expired tokens - User. The default value is keystone .

Parameter	Description
KeystoneCronTokenFlushWeekday	Cron to purge expired tokens - Week Day. The default value is <code>*</code> .
KeystoneDisableUserAccountDaysInactive	The maximum number of days a user can go without authenticating before being considered "inactive" and automatically disabled (locked).
KeystoneEnableDBPurge	Whether to create cron job for purging soft deleted rows in OpenStack Identity (keystone) database. The default value is True .
KeystoneFernetKey0	The first OpenStack Identity (keystone) fernet key. Must be a valid key.
KeystoneFernetKey1	The second OpenStack Identity (keystone) fernet key. Must be a valid key.
KeystoneFernetKeys	Mapping containing OpenStack Identity (keystone) fernet keys and their paths.
KeystoneFernetMaxActiveKeys	The maximum active keys in the OpenStack Identity (keystone) fernet key repository. The default value is 5 .
KeystoneLDAPBackendConfigs	Hash containing the configurations for the LDAP backends configured in keystone.
KeystoneLDAPDomainEnable	Trigger to call <code>Idap_backend puppet keystone define</code> . The default value is False .
KeystoneLockoutDuration	The number of seconds a user account will be locked when the maximum number of failed authentication attempts (as specified by <code>KeystoneLockoutFailureAttempts</code>) is exceeded.
KeystoneLockoutFailureAttempts	The maximum number of times that a user can fail to authenticate before the user account is locked for the number of seconds specified by <code>KeystoneLockoutDuration</code> .
KeystoneMinimumPasswordAge	The number of days that a password must be used before the user can change it. This prevents users from changing their passwords immediately in order to wipe out their password history and reuse an old password.

Parameter	Description
KeystoneNotificationDriver	Comma-separated list of Oslo notification drivers used by OpenStack Identity (keystone). The default value is ['messaging'] .
KeystoneNotificationFormat	The OpenStack Identity (keystone) notification format. The default value is basic .
KeystoneNotificationTopics	OpenStack Identity (keystone) notification topics to enable.
KeystonePasswordExpiresDays	The number of days for which a password will be considered valid before requiring it to be changed.
KeystonePasswordRegex	The regular expression used to validate password strength requirements.
KeystonePasswordRegexDescription	Describe your password regular expression here in language for humans.
KeystoneSSLCertificate	OpenStack Identity (keystone) certificate for verifying token validity.
KeystoneSSLCertificateKey	OpenStack Identity (keystone) key for signing tokens.
KeystoneTokenProvider	The OpenStack Identity (keystone) token format. The default value is fernet .
KeystoneUniqueLastPasswordCount	This controls the number of previous user password iterations to keep in history, in order to enforce that newly created passwords are unique.
KeystoneWorkers	Set the number of workers for the OpenStack Identity (keystone) service. Note that more workers creates a larger number of processes on systems, which results in excess memory consumption. The default value is equal to the number of vCPU cores on the physical node.
ManageKeystoneFernetKeys	Whether director should manage the OpenStack Identity (keystone) fernet keys or not. If set to True, the fernet keys will get the values from the saved keys repository in OpenStack Workflow (mistral) from the KeystoneFernetKeys variable. If set to false, only the stack creation initializes the keys, but subsequent updates will not touch them. The default value is True .

Parameter	Description
NotificationDriver	Driver or drivers to handle sending notifications. The default value is messagingv2 .

CHAPTER 12. KEY MANAGER (BARBICAN) PARAMETERS

Parameter	Description
BarbicanDogtagStoreGlobalDefault	Whether this plugin is the global default plugin. The default value is False .
BarbicanDogtagStoreHost	Hostname of the Dogtag server.
BarbicanDogtagStoreNSSPassword	Password for the NSS DB.
BarbicanDogtagStorePEMPath	Path for the PEM file used to authenticate requests. The default value is /etc/barbican/kra_admin_cert.pem .
BarbicanDogtagStorePort	Port for the Dogtag server. The default value is 8443 .
BarbicanKmipStoreGlobalDefault	Whether this plugin is the global default plugin. The default value is False .
BarbicanKmipStoreHost	Host for KMIP device.
BarbicanKmipStorePassword	Password to connect to KMIP device.
BarbicanKmipStorePort	Port for KMIP device.
BarbicanKmipStoreUsername	Username to connect to KMIP device.
BarbicanPassword	The password for the OpenStack Key Manager (barbican) service account.
BarbicanPkcs11CryptoGlobalDefault	Whether this plugin is the global default plugin. The default value is False .
BarbicanPkcs11CryptoHMACLabel	Label for the HMAC key.
BarbicanPkcs11CryptoLibraryPath	Path to vendor PKCS11 library.
BarbicanPkcs11CryptoLogin	Password to login to PKCS11 session.
BarbicanPkcs11CryptoMKEKLabel	Label for Master KEK.
BarbicanPkcs11CryptoMKEKLength	Length of Master KEK in bytes.
BarbicanPkcs11CryptoSlotId	Slot Id for the HSM.
BarbicanSimpleCryptoGlobalDefault	Whether this plugin is the global default plugin. The default value is False .

Parameter	Description
BarbicanSimpleCryptoKek	KEK used to encrypt secrets.
BarbicanWorkers	Set the number of workers for barbican::wsgi::apache. The default value is % {::processorcount} .
NotificationDriver	Driver or drivers to handle sending notifications. The default value is messagingv2 .

CHAPTER 13. SHARED FILE SERVICE (MANILA) PARAMETERS

Parameter	Description
CephClusterName	The Ceph cluster name. The default value is ceph .
ManilaCephClientUserName	NO DESCRIPTION The default value is manila .
ManilaCephFSCephFSProtocolHelperType	Protocol type (<i>CEPHFS</i> or <i>NFS</i>) when cephfs back end is enabled. Set via manila cephfs environment files. The default value is CEPHFS .
ManilaIPv6	Set to True to enable IPv6 access in manila. The default value is False .
ManilaPassword	The password for the shared file service account.
ManilaWorkers	Set the number of workers for the manila API. The default value is equal to the number of vCPU cores on the physical node.
NotificationDriver	Driver or drivers to handle sending notifications. The default value is messagingv2 .

CHAPTER 14. MESSAGING PARAMETERS

Parameter	Description
RabbitAdditionalErlArgs	Additional parameters passed to the Erlang subsystem. The string needs to be enclosed in quotes twice. We default to <code>+sbwt none</code> in order to have the erlang vm be less busy on spinlocks, but we allow a simple way of overriding it. The default value is '+sbwt none' .
RabbitCookie	Shared secret used for authentication between RabbitMQ nodes.
RabbitFDLimit	Configures RabbitMQ FD limit. The default value is 65536 .
RabbitHAQueues	The number of HA queues to be configured in rabbit. The default is -1 which translates to "ha-mode all". The special value 0 will be automatically overridden to $\text{CEIL}(N/2)$ where N is the number of nodes running rabbitmq. The default value is -1 .
RabbitIPv6	Enable IPv6 in RabbitMQ. The default value is False .
RabbitNetTickTime	The number of seconds to configure the value of the erlang <code>net_ticktime</code> kernel variable. The default value is 15 .
RabbitPassword	The password for RabbitMQ.
RabbitUserName	The username for RabbitMQ. The default value is guest .

CHAPTER 15. NETWORKING (NEUTRON) PARAMETERS

Parameter	Description
DhcpAgentNotification	Enables DHCP agent notifications. The default value is True .
DockerNeutronDHCPAgentUlimit	Ulimit for OpenStack Networking (neutron) DHCP Agent Container. The default value is ['nofile=16384'] .
DockerNeutronL3AgentUlimit	Ulimit for OpenStack Networking (neutron) L3 Agent Container. The default value is ['nofile=16384'] .
EnableVLANTransparency	If True, then allow plugins that support it to create VLAN transparent networks. The default value is False .
L2gwAgentEnableManager	Connection can be initiated by the ovsdb server. The default value is False .
L2gwAgentManagerTableListeningPort	Port number for L2 gateway agent, so that it can listen. The default value is 6632 .
L2gwAgentMaxConnectionRetries	The L2 gateway agent retries to connect to the OVSDB server. The default value is 10 .
L2gwAgentOvsdbHosts	L2 gateway agent OVSDB server list.
L2gwAgentPeriodicInterval	The L2 gateway agent checks connection state with the OVSDB servers. The interval is number of seconds between attempts. The default value is 20 .
L2gwAgentSocketTimeout	Socket timeout. The default value is 30 .
L2gwServiceDefaultDeviceName	Default device name of the L2 gateway. The default value is Switch1 .
L2gwServiceDefaultInterfaceName	Default interface name of the L2 gateway. The default value is FortyGigE1/0/1 .
L2gwServicePeriodicMonitoringInterval	The periodic interval at which the plugin. The default value is 5 .
L2gwServiceProvider	Backend to use as a service provider for L2 Gateway. The default value is ['L2GW:l2gw:networking_l2gw.services.l2gateway.service_drivers.L2gwDriver:default'] .

Parameter	Description
L2gwServiceQuotaL2Gateway	Quota of the L2 gateway. The default value is 5 .
NeutronAllowL3AgentFailover	Allow automatic l3-agent failover. The default value is True .
NeutronApiOptEnvVars	List of optional environment variables.
NeutronApiOptVolumes	List of optional volumes to be mounted.
NeutronCorePlugin	The core plugin for networking. The value should be the entrypoint to be loaded from neutron.core_plugins namespace. The default value is ml2 .
NeutronDBSyncExtraParams	String of extra command line parameters to append to the neutron-db-manage upgrade head command.
NeutronDhcpAgentDnsmasqDnsServers	List of servers to use as dnsmasq forwarders.
NeutronDhcpAgentsPerNetwork	The number of DHCP agents to schedule per network. The default value is 0 .
NeutronDhcpOvsIntegrationBridge	Name of Open vSwitch bridge to use.
NeutronDnsDomain	Domain to use for building the hostnames. The default value is openstacklocal .
NeutronEnableDVR	Enable Distributed Virtual Router. The default value is False .
NeutronEnableDibblerDockerWrapper	Generate a wrapper script so OpenStack Networking (neutron) launches the dibbler client in a separate container. The default value is True .
NeutronEnableDnsmasqDockerWrapper	Generate a dnsmasq wrapper script so that OpenStack Networking (neutron) launches dnsmasq in a separate container. The default value is True .
NeutronEnableForceMetadata	If True, DHCP always provides metadata route to VM. The default value is False .
NeutronEnableHaproxyDockerWrapper	Generate a wrapper script so OpenStack Networking (neutron) launches haproxy in a separate container. The default value is True .

Parameter	Description
NeutronEnableIsolatedMetadata	If True, DHCP allows metadata support on isolated networks. The default value is False .
NeutronEnableKeepalivedWrapper	Generate a wrapper script so OpenStack Networking (neutron) launches keepalived processes in a separate container. The default value is True .
NeutronEnableL2Pop	Enable/disable the L2 population feature in the OpenStack Networking (neutron) agents. The default value is False .
NeutronEnableMetadataNetwork	If True, DHCP provides metadata network. Requires either NeutronEnableIsolatedMetadata or NeutronEnableForceMetadata parameters to also be True. The default value is False .
NeutronEnableRadvdDockerWrapper	Generate a wrapper script so OpenStack Networking (neutron) launches radvd in a separate container. Note that is currently disabled by default pending availability of a fix to radvd (see https://bugzilla.redhat.com/show_bug.cgi?id=1564391). It will be enabled by default once the fix to radvd is generally available across target distributions. The default value is False .
NeutronExternalNetworkBridge	Name of bridge used for external network traffic. Usually L2 agent handles port wiring into external bridge, and hence the parameter should be unset.
NeutronFirewallDriver	Firewall driver for realizing OpenStack Networking (neutron) security group function. The default value is iptables_hybrid .
NeutronFlatNetworks	Sets the flat network name to configure in plugins. The default value is datacentre .
NeutronGlobalPhysnetMtu	MTU of the underlying physical network. OpenStack Networking (neutron) uses this value to calculate MTU for all virtual network components. For flat and VLAN networks, OpenStack Networking uses this value without modification. For overlay networks such as VXLAN, OpenStack Networking automatically subtracts the overlay protocol overhead from this value. The default value is 1500 .

Parameter	Description
NeutronInterfaceDriver	OpenStack Networking (neutron) DHCP Agent interface driver. The default value is neutron.agent.linux.interface.OVSInterfaceDriver .
NeutronL3AgentMode	Agent mode for L3 agent. Must be legacy or dvr_snat . The default value is legacy .
NeutronLinuxbridgeFirewallDriver	Configure the classname of the firewall driver to use for implementing security groups. Possible values depend on system configuration. The default value of an empty string will result in a default supported configuration.
NeutronML2PhysicalNetworkMtus	A list of mappings of physical networks to MTU values. The format of the mapping is <physnet>: <mtu val> . This mapping allows you to specify a physical network MTU value that differs from the default segment_mtu value in ML2 plugin and overwrites values from global_physnet_mtu for the selected network.
NeutronMechanismDrivers	The mechanism drivers for the tenant network. The default value is openvswitch .
NeutronMetadataProxySharedSecret	Shared secret to prevent spoofing.
NeutronNetworkType	The tenant network type. The default value is vxlan .
NeutronNetworkVLANRanges	The OpenStack Networking (neutron) ML2 and Open vSwitch VLAN mapping range to support. Defaults to permitting any VLAN on the datacentre physical network (See NeutronBridgeMappings). The default value is datacentre:1:1000 .
NeutronOverlayIPVersion	IP version used for all overlay network endpoints. The default value is 4 .
NeutronOvsIntegrationBridge	Name of Open vSwitch bridge to use.
NeutronPassword	The password for the OpenStack Networking (neutron) service and database account.
NeutronPluginExtensions	Comma-separated list of enabled extension plugins. The default value is qos,port_security .

Parameter	Description
NeutronPluginMl2PuppetTags	Puppet resource tag names that are used to generate configuration files with puppet. The default value is neutron_plugin_ml2 .
NeutronRpcWorkers	Sets the number of RPC workers for the OpenStack Networking (neutron) service. If not specified, the value is set to the same as NeutronWorkers .
NeutronServicePlugins	Comma-separated list of service plugin endpoints. The default value is router,qos,segments,trunk .
NeutronTunnelIdRanges	Comma-separated list of <tun_min>:<tun_max> tuples enumerating ranges of GRE tunnel IDs that are available for tenant network allocation. The default value is ['1:4094'] .
NeutronTunnelTypes	The tunnel types for the tenant network. The default value is vxlan .
NeutronTypeDrivers	Comma-separated list of network type driver endpoints to be loaded. The default value is vxlan,vlan,flat,gre .
NeutronVniRanges	Comma-separated list of <vni_min>:<vni_max> tuples enumerating ranges of VXLAN VNI IDs that are available for tenant network allocation. The default value is ['1:4094'] .
NeutronWorkers	Sets the number of API and RPC workers for the OpenStack Networking service. Note that more workers creates a larger number of processes on systems, which results in excess memory consumption.
NotificationDriver	Driver or drivers to handle sending notifications. The default value is messagingv2 .
PhysicalInterfaceMapping	List of <physical_network>:<physical_interface> tuples mapping physical network names to agent's node-specific physical network interfaces. Defaults to empty list.

CHAPTER 16. COMPUTE (NOVA) PARAMETERS

Parameter	Description
ConfigDownload	Whether config-download method is used or not. The default value is False .
ContainerCpusetCpus	Limit the specific CPUs or cores a container can use. The default value is all .
ContainerNovaLibvirtUlimit	Ulimit for OpenStack Compute (nova) Libvirt Container. The default value is ['nofile=131072', 'nproc=126960'] .
DockerNovaComputeUlimit	Ulimit for OpenStack Compute (nova) Compute Container. The default value is ['nofile=131072', 'memlock=67108864'] .
DockerNovaMigrationSshdPort	Port that dockerized nova migration target sshd service binds to. The default value is 2022 .
EnableConfigPurge	Remove configuration that is not generated by the director. Used to avoid configuration remnants after upgrades. The default value is False .
EnableInstanceHA	Whether to enable an Instance Ha configurarion or not. This setup requires the Compute role to have the PacemakerRemote service added to it. The default value is False .
InstanceNameTemplate	Template string to be used to generate instance names. The default value is instance-%08x .
InternalTLSNbdCAFile	Specifies the CA cert to use for NBD TLS. The default value is /etc/pki/qemu/ca-cert.pem .
InternalTLSQemuCAFile	Specifies the CA cert to use for qemu. The default value is /etc/pki/CA/certs/qemu.pem .
InternalTLSVncCAFile	Specifies the CA cert to use for VNC TLS. The default value is /etc/pki/CA/certs/vnc.crt .
KernelArgs	Kernel Args to apply to the host.

Parameter	Description
LibvirtCACert	This specifies the CA certificate to use for TLS in libvirt. This file will be symlinked to the default CA path in libvirt, which is <code>/etc/pki/CA/cacert.pem</code> . Note that due to limitations GNU TLS, which is the TLS backend for libvirt, the file must be less than 65K (so we can't use the system's CA bundle). This parameter should be used if the default (which comes from the <code>InternalTLSCAFile</code> parameter) is not desired. The current default reflects TripleO's default CA, which is FreeIPA. It will only be used if internal TLS is enabled.
LibvirtEnabledPerfEvents	This is a performance event list which could be used as monitor. For example: cmt,mbml,mbmt . Make sure you are using Red Hat Enterprise Linux 7.4 as the base and libvirt version is 1.3.3 or above. Also ensure you have enabled the notifications and are using hardware with a CPU that supports the cmt flag.
LibvirtLogFilters	Defines a filter to select a different logging level for a given category log outputs, as specified in https://libvirt.org/logging.html . The default value is 1:libvirt 1:qemu 1:conf 1:security 3:event 3:json 3:file 3:object 1:util .
LibvirtNbdCACert	This specifies the CA certificate to use for NBD TLS. This file will be symlinked to the default CA path, which is <code>/etc/pki/libvirt-nbd/ca-cert.pem</code> . This parameter should be used if the default (which comes from the <code>InternalTLSNbdCAFile</code> parameter) is not desired. The current default reflects TripleO's default CA, which is FreeIPA. It will only be used if internal TLS is enabled.
LibvirtTLSPassword	The password for the libvirt service when TLS is enabled.
LibvirtTLSPriority	Override the compile time default TLS priority string. The default value is NORMAL:-VERS-SSL3.0:-VERS-TLS-ALL:+VERS-TLS1.2 .

Parameter	Description
LibvirtVncCACert	This specifies the CA certificate to use for VNC TLS. This file will be symlinked to the default CA path, which is <code>/etc/pki/libvirt-vnc/ca-cert.pem</code> . This parameter should be used if the default (which comes from the <code>InternalTLSVncCAFile</code> parameter) is not desired. The current default reflects TripleO's default CA, which is FreeIPA. It will only be used if internal TLS is enabled.
MigrationSshKey	SSH key for migration. Expects a dictionary with keys <code>public_key</code> and <code>private_key</code> . Values should be identical to SSH public/private key files. The default value is <code>{'public_key': '', 'private_key': ''}</code> .
MigrationSshPort	Target port for migration over ssh. The default value is 2022 .
NeutronMetadataProxySharedSecret	Shared secret to prevent spoofing.
NeutronPhysnetNUMANodesMapping	Map of physnet name as key and NUMA nodes as value. For example: NeutronPhysnetNUMANodesMapping: {'foo': [0, 1], 'bar': [1]} where foo and bar are physnet names and corresponding values are list of associated numa_nodes .
NeutronTunnelNUMANodes	Used to configure NUMA affinity for all tunneled networks.
NotificationDriver	Driver or drivers to handle sending notifications. The default value is messagingv2 .
NovaComputeCpuSharedSet	A list or range of physical CPU cores will be used for best-effort guest vCPU resources (e.g. emulator threads in libvirt/QEMU). For example: NovaComputeCpuSharedSet: [4-12,^8,15] will reserve cores from 4-12 and 15, excluding 8.
NovaComputeLibvirtType	Libvirt domain type. Defaults to <code>kvm</code> . The default value is kvm .
NovaComputeLibvirtVifDriver	Libvirt VIF driver configuration for the network.
NovaComputeOptEnvVars	List of optional environment variables.
NovaComputeOptVolumes	List of optional volumes to be mounted..

Parameter	Description
NovaCronArchiveDeleteAllCells	Archive deleted instances from all cells. The default value is True .
NovaCronArchiveDeleteRowsAge	Cron to archive deleted instances - Age This will define the retention policy when archiving the deleted instances entries in days. 0 means, purge data older than today in shadow tables. The default value is 90 .
NovaCronArchiveDeleteRowsDestination	Cron to move deleted instances to another table - Log destination. The default value is /var/log/nova/nova-rowsflush.log .
NovaCronArchiveDeleteRowsHour	Cron to move deleted instances to another table - Hour. The default value is 0 .
NovaCronArchiveDeleteRowsMaxRows	Cron to move deleted instances to another table - Max Rows. The default value is 1000 .
NovaCronArchiveDeleteRowsMinute	Cron to move deleted instances to another table - Minute. The default value is 1 .
NovaCronArchiveDeleteRowsMonth	Cron to move deleted instances to another table - Month. The default value is * .
NovaCronArchiveDeleteRowsMonthday	Cron to move deleted instances to another table - Month Day. The default value is * .
NovaCronArchiveDeleteRowsUntilComplete	Cron to move deleted instances to another table - Until complete. The default value is False .
NovaCronArchiveDeleteRowsUser	Cron to move deleted instances to another table - User. The default value is nova .
NovaCronArchiveDeleteRowsWeekday	Cron to move deleted instances to another table - Week Day. The default value is * .
NovaCronDBArchivedHour	Cron to move deleted instances to another table that doesn't need backup - Hour. The default value is 0 .
NovaCronDBArchivedMaxDelay	Cron to move deleted instances to another table - Max Delay. The default value is 3600 .
NovaCronDBArchivedMinute	Cron to move deleted instances to another table that doesn't need backup - Minute. The default value is 1 .

Parameter	Description
NovaCronDBArchivedMonth	Cron to move deleted instances to another table that doesn't need backup - Month. The default value is * .
NovaCronDBArchivedMonthday	Cron to move deleted instances to another table that doesn't need backup - Month Day. The default value is * .
NovaCronDBArchivedWeekday	Cron to move deleted instances to another table that doesn't need backup - Week Day. The default value is * .
NovaDbSyncTimeout	Timeout for OpenStack Compute (nova) database synchronization in seconds. The default value is 300 .
NovaDefaultFloatingPool	Default pool for floating IP addresses. The default value is public .
NovaEnableDBPurge	Whether to create cron job for purging soft deleted rows in OpenStack Compute (nova) database. The default value is True .
NovaEnableNUMALiveMigration	Whether to enable or not the live migration for NUMA topology instances. The default value is False .
NovalPv6	Enable IPv6 features for OpenStack Compute (nova). The default is: false The default value is False .
NovaLibvirtMemStatsPeriodSeconds	A number of seconds to memory usage statistics period, zero or negative value mean to disable memory usage statistics. The default value is 10 .
NovaLibvirtRxQueueSize	Virtio-net RX queue size. Valid values are 256, 512, 1024. The default value is 512 .
NovaLibvirtTxQueueSize	Virtio-net TX queue size. Valid values are 256, 512, 1024. The default value is 512 .
NovaLibvirtVolumeUseMultipath	Whether to enable or not the multipath connection of the volumes. The default value is False .
NovaNfsEnabled	Whether to enable or not the NFS backend for OpenStack Compute (nova). The default value is False .
NovaNfsOptions	NFS mount options for nova storage (when NovaNfsEnabled is true). The default value is context=system_u:object_r:nfs_t:s0 .

Parameter	Description
NovaNfsShare	NFS share to mount for nova storage (when NovaNfsEnabled is true).
NovaNfsVersion	NFS version used for nova storage (when NovaNfsEnabled is true). Since NFSv3 does not support full locking a NFSv4 version need to be used. To not break current installations the default is the previous hard coded version 4. The default value is 4 .
NovaOVSBridge	Name of integration bridge used by Open vSwitch. The default value is br-int .
NovaPCIPassthrough	YAML list of PCI passthrough whitelist parameters.
NovaPassword	The password for the OpenStack Compute (nova) service and database account.
NovaPlacementAPIInterface	Endpoint interface to be used for the placement API. The default value is internal .
NovaReservedHostMemory	Reserved RAM for host processes. The default value is 4096 .
NovaReservedHugePages	A list of valid key=value which reflect NUMA node ID, page size (Default unit is KiB) and number of pages to be reserved. Example - NovaReservedHugePages: ["node:0,size:2048,count:64","node:1,size:1GB,count:1"] will reserve on NUMA node 0 64 pages of 2MiB and on NUMA node 1 1 page of 1GiB.
NovaResumeGuestsShutdownTimeout	Number of seconds we're willing to wait for a guest to shut down. If this is 0, then there is no time out (use with caution, as guests might not respond to a shutdown request). The default value is 300 seconds (5 minutes). The default value is 300 .
NovaResumeGuestsStateOnHostBoot	Whether to start running instance on compute host reboot. The default value is False .
NovaSchedulerAvailableFilters	List of available filters for OpenStack Compute (nova) to use to filter nodes.
NovaSchedulerDefaultFilters	An array of filters OpenStack Compute (nova) uses to filter a node. OpenStack Compute applies these filters in the order they are listed. Place your most restrictive filters first to make the filtering process more efficient.

Parameter	Description
NovaSchedulerDiscoverHostsInCellsInterval	This value controls how often (in seconds) the scheduler should attempt to discover new hosts that have been added to cells. The default value of <code>-1</code> disables the periodic task completely. It is recommended to set this parameter for deployments using OpenStack Bare Metal (ironic). The default value is -1 .
NovaSchedulerMaxAttempts	Maximum number of attempts the scheduler will make when deploying the instance. You should keep it greater or equal to the number of bare metal nodes you expect to deploy at once to work around potential race conditions when scheduling. The default value is 3 .
NovaSchedulerWorkers	Number of workers for OpenStack Compute (nova) Scheduler services. The default value is 1 .
NovaVcpuPinSet	A list or range of physical CPU cores to reserve for virtual machine processes. For example, NovaVcpuPinSet: [4-12,^8] reserves cores from 4-12 excluding 8.
NovaWorkers	Number of workers for the Compute's Conductor service. Note that more workers creates a larger number of processes on systems, which results in excess memory consumption. The default value is 0 .
OvsDpdkSocketMemory	Sets the amount of hugepage memory to assign per NUMA node. It is recommended to use the socket closest to the PCIe slot used for the desired DPDK NIC. The format should be in " <code><socket 0 mem></code> , <code><socket 1 mem></code> , <code><socket n mem></code> ", where the value is specified in MB. For example: <code>"1024,0"</code> .
QemuCACert	This specifies the CA certificate to use for qemu. This file will be symlinked to the default CA path, which is <code>/etc/pki/qemu/ca-cert.pem</code> . This parameter should be used if the default (which comes from the <code>InternalTLSQemuCAFile</code> parameter) is not desired. The current default reflects TripleO's default CA, which is FreeIPA. It will only be used if internal TLS is enabled.
StackUpdateType	Type of update, to differentiate between <code>UPGRADE</code> and <code>UPDATE</code> cases when <code>StackAction</code> is <code>UPDATE</code> (both are the same stack action).
UpgradeLevelNovaCompute	OpenStack Compute upgrade level.

Parameter	Description
UseTLSTransportForNbd	If set to true and if EnableInternalTLS is enabled, it will enable TLS transport for libvirt NBD and configure the relevant keys for libvirt. The default value is True .
UseTLSTransportForVnc	If set to true and if EnableInternalTLS is enabled, it will enable TLS transport for libvirt VNC and configure the relevant keys for libvirt. The default value is True .
VerifyGlanceSignatures	Whether to verify image signatures. The default value is False .
VhostuserSocketGroup	The vhost-user socket directory group name. Defaults to <i>qemu</i> . When vhostuser mode is <i>dpdkvhostuserclient</i> (which is the default mode), the vhost socket is created by qemu. The default value is qemu .

CHAPTER 17. CLUSTERING (SAHARA) PARAMETERS

Parameter	Description
NotificationDriver	Driver or drivers to handle sending notifications. The default value is messagingv2 .
SaharaPassword	The password for the clustering service and database account.
SaharaPlugins	Clustering enabled plugin list. The default value is ['ambari', 'cdh', 'mapr'] .
SaharaWorkers	Set the number of workers for the clustering service. Note that more workers creates a larger number of processes on systems, which results in excess memory consumption. The default value is 0 .

CHAPTER 18. OBJECT STORAGE (SWIFT) PARAMETERS

Parameter	Description
SwiftAccountWorkers	Number of workers for Swift account service. The default value is auto .
SwiftCeilometerIgnoreProjects	Comma-separated list of project names to ignore. The default value is ['service'] .
SwiftCeilometerPipelineEnabled	Set to False to disable the object storage proxy ceilometer pipeline. The default value is False .
SwiftContainerWorkers	Number of workers for Swift account service. The default value is auto .
SwiftEncryptionEnabled	Set to True to enable data-at-rest encryption in Swift. The default value is False .
SwiftHashSuffix	A random string to be used as a salt when hashing to determine mappings in the ring.
SwiftMinPartHours	The minimum time (in hours) before a partition in a ring can be moved following a rebalance. The default value is 1 .
SwiftMountCheck	Check if the devices are mounted to prevent accidentally writing to the root device. The default value is False .
SwiftObjectWorkers	Number of workers for Swift account service. The default value is auto .
SwiftPartPower	Partition power to use when building object storage rings. The default value is 10 .
SwiftPassword	The password for the object storage service account.
SwiftProxyNodeTimeout	Timeout for requests going from swift-proxy to account, container, and object services. The default value is 60 .
SwiftRawDisks	Additional raw devices to use for the object storage backend. For example: {sdb: {}}
SwiftReplicas	Number of replicas to use in the object storage rings. The default value is 3 .

Parameter	Description
SwiftRingBuild	Whether to manage object storage rings or not. The default value is True .
SwiftRingGetTempurl	A temporary Swift URL to download rings from.
SwiftRingPutTempurl	A temporary Swift URL to upload rings to.
SwiftUseLocalDir	Use a local directory for object storage services when building rings. The default value is True .
SwiftWorkers	Number of workers for object storage service. Note that more workers creates a larger number of processes on systems, which results in excess memory consumption. The default value is auto .

CHAPTER 19. TELEMETRY PARAMETERS

Parameter	Description
AmqpNotifyAddressPrefix	Address prefix for Notification addresses.
AmqpRpcAddressPrefix	Address prefix for RPC addresses.
AodhPassword	The password for the OpenStack Telemetry Alarming (aodh) services.
CeilometerEnablePanko	Check if panko need to be enabled or not. The default value is True .
CeilometerMeteringSecret	Secret shared by the Telemetry services.
CeilometerPassword	The password for the Telemetry service account.
CeilometerQdrEventsConfig	Configuration for notifier publisher for events. The default value is {'driver': 'amqp', 'topic': 'event'} .
CeilometerQdrMetricsConfig	Configuration for notifier publisher for metrics. The default value is {'driver': 'amqp', 'topic': 'metering'} .
CeilometerQdrPublishEvents	Whether to send events to MetricsQdr service. The default value is False .
CeilometerQdrPublishMetrics	Whether to send telemetry data to MetricsQdr service. The default value is False .
CeilometerWorkers	Number of workers for the Telemetry service. Note that more workers creates a larger number of processes on systems, which results in excess memory consumption. The default value is 0 .
CephClusterName	The Ceph cluster name. The default value is ceph .
EnablePankoExpirer	Enable panko expirer to periodically delete events from db. The default value is True .
GnocchiArchivePolicy	Archive policy to use with OpenStack Telemetry Metrics (gnocchi) backend. The default value is low .
GnocchiBackend	The short name of the OpenStack Telemetry Metrics (gnocchi) backend to use. Should be one of swift , rbd , or file . The default value is swift .

Parameter	Description
GnocchiCorsAllowedOrigin	Indicate whether this resource may be shared with the domain received in the request "origin" header.
GnocchiExternalProject	Project name of resources creator in OpenStack Telemetry Metrics (gnocchi). The default value is service .
GnocchiFileBasePath	Path to use when file driver is used. This could be NFS or a flat file. The default value is /var/lib/gnocchi .
GnocchiIncomingStorageDriver	Storage driver to use for incoming metric data. The default value is redis .
GnocchiIndexerBackend	The short name of the OpenStack Telemetry Metrics (gnocchi) indexer backend to use. The default value is mysql .
GnocchiMetricdWorkers	Number of workers for OpenStack Telemetry Metrics (gnocchi). Note that more workers creates a larger number of processes on systems, which results in excess memory consumption. The default value is equal to the number of vCPU cores on the physical node.
GnocchiPassword	The password for the OpenStack Telemetry Metrics (gnocchi) service and database account.
GnocchiStorageS3AccessKeyId	S3 storage access key Id.
GnocchiStorageS3AccessSecret	S3 storage access key secret.
GnocchiStorageS3BucketPrefix	S3 storage bucket prefix.
GnocchiStorageS3Endpoint	The endpoint url for S3 storage.
GnocchiStorageS3RegionName	S3 Region name.
GnocchiStorageSwiftEndpointType	Set to modify which endpoint type is OpenStack Telemetry Metrics (gnocchi) accessing swift from. The default value is internalURL .
ManageEventPipeline	Whether to manage event_pipeline.yaml. The default value is True .

Parameter	Description
ManagePipeline	Whether to manage pipeline.yaml. The default value is False .
ManagePolling	Whether to manage polling.yaml. The default value is False .
MetricProcessingDelay	Delay between processing metrics. The default value is 30 .
MetricsQdrPort	Service name or port number on which the qdrouterd will accept connections. This argument must be string, even if the numeric form is used. The default value is 5666 .
NotificationDriver	Driver or drivers to handle sending notifications. The default value is messagingv2 .
NumberOfStorageSacks	Number of storage sacks to create. The default value is 128 .
PankoEventTTL	Number of seconds that events are kept in the database. The default value is 86400 .
PankoExpirerHour	Cron to delete events data from database - Hour. The default value is 0 .
PankoExpirerMinute	Cron to delete events data from database - Minute. The default value is 1 .
PankoExpirerMonth	Cron to delete events data from database - Month. The default value is * .
PankoExpirerMonthday	Cron to delete events data from database - Month Day. The default value is * .
PankoExpirerWeekday	Cron to delete events from database - Week Day. The default value is * .
PankoPassword	The password for the panko services.
PipelinePublishers	A list of publishers to put in pipeline.yaml. When the collector is used, override this with <code>notifier://publisher</code> . Set <code>ManagePipeline</code> to true for override to take effect.

Parameter	Description
SnmpdReadonlyUserName	The user name for SNMPd with readonly rights running on all Overcloud nodes. The default value is ro_snmp_user .
SnmpdReadonlyUserPassword	The user password for SNMPd with readonly rights running on all Overcloud nodes.

CHAPTER 20. TIME PARAMETERS

Parameter	Description
EnablePackageInstall	Set to true to enable package installation at deploy time. The default value is false .
MaxPoll	Specify maximum poll interval of upstream servers for NTP messages, in seconds to the power of two. Allowed values are 4 to 17. The default value is 10 .
MinPoll	Specify minimum poll interval of upstream servers for NTP messages, in seconds to the power of two. The minimum poll interval defaults to 6 (64 s). Allowed values are 4 to 17. The default value is 6 .
NtpburstEnable	Specifies whether to enable the iburst option for every NTP peer. If iburst is enabled, when the NTP server is unreachable NTP will send a burst of eight packages instead of one. This is designed to speed up the initial synchronization. The default value is True .
NtpServer	NTP servers list. The default value is ['pool.ntp.org'] .
TimeZone	The timezone to be set on the overcloud. The default value is UTC .