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# **OpenStack-Ansible Documentation:**

## **lxc\_hosts role**

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Ansible role that configures a host for running LXC containers.

To clone or view the source code for this repository, visit the role repository for [lxc\\_hosts](#).



## DEFAULT VARIABLES

```
# Set the package install state for distribution packages
# Options are 'present' and 'latest'
lxc_hosts_package_state: "latest"

# Define a list of extra distribution packages to install onto the host
# at the discretion of the deployer
lxc_hosts_extra_distro_packages: []

# Define the total list of packages which to install onto the host combining
# distribution specific and deployers extra package lists
lxc_hosts_distro_packages: "{{ _lxc_hosts_distro_packages + lxc_hosts_extra_
→distro_packages }}"

# Mappings from Ansible reported architecture to distro release architecture
lxc_architecture_mapping:
  x86_64: amd64
  ppc64le: ppc64el
  s390x: s390x
  armv7l: armhf
  aarch64: arm64

# Set the volume size for the machine image caches. We only use the
# most specific mountpoint from the hierarchy.
# NOTE: Size is set in Gigabytes.
lxc_host_machine_volume_size: |-
  {%- set mounts = [] -%}
  {%- set mount_points = ['/var/lib/machines', '/var/lib/', '/var', '/'] -%}
  {%- for mount in mount_points -%}
  {%-   for dev in ansible_facts['mounts'] -%}
  {%-     if mount == dev.mount -%}
  {%-       set _ = mounts.append(dev.size_total // (1024 ** 3)) -%}
  {%-     endif -%}
  {%-   endfor -%}
  {%- endfor -%}
  {{ mounts[0] }}

# Enable or Disable the BTRFS quota system for the "/var/lib/machines" mount
# point. More information on the BTRFS quota system can be found here:
```

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```
# * https://btrfs.wiki.kernel.org/index.php/Quota\_support
lxc_host_machine_quota_disabled: false

# Set the default qgroup limits used for file system quotas. The default is
# "none". See the following documentation for more information:
# * https://btrfs.wiki.kernel.org/index.php/Manpage/btrfs-qgroup
lxc_host_machine_qgroup_space_limit: none
lxc_host_machine_qgroup_compression_limit: none

# DefaultTasksMax systemd value. It's not recommended to change this value as
↳ it
# could prevent new processes from starting on busy containers.
lxc_default_tasks_max: 8192

# lxc container rootfs directory and cache path
lxc_container_directory: "/var/lib/lxc"
lxc_container_cache_path: "/var/cache/lxc/download"

# The container backing store can be set to 'overlayfs' to use overlayfs
# This should only be done for production use with a linux kernel > 3.14
# which is when overlayfs was merged into the mainline kernel
lxc_container_backing_store: dir

# The container backing method can be set to 'copy-on-write' to use LVM
# snapshot-backed containers when the container backing store is set to
# 'lvm'.
# lxc_container_backing_method: copy-on-write

# The cache map is used as a basic instruction set when prep'ing the base
# container image. If the cache map is overridden, the following fields are
# required:
#   lxc_cache_map:
#     distro: name of the distro
#     arch: "CPU architecture"
#     release: version of the release
#     copy_from_host: [] # List of files to copy into the container
lxc_cache_map: "{{ _lxc_cache_map }}"

# When using a base container to snapshot from for the overlayfs or LVM
# copy-on-write backing stored, the base container can be set.
lxc_container_base_name: "{{ lxc_cache_map.distro }}-{{ lxc_cache_map.release_
↳ }}-{{ lxc_cache_map.arch }}"

# Set the default zfs root name
lxc_container_zfs_root_name: "pool/lxc"

# lxc container net network
lxc_net_bridge: lxcbr0
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```

lxc_net_bridge_port: none
lxc_net_address: 10.0.3.1
lxc_net_netmask: 255.255.255.0
lxc_net_cidr: 24
lxc_net_gateway: null ## if null, no gateway will be on the LXC bridge. lxc_
↳net_nat must be "false" to use a gateway.
#lxc_net_mtu: 1500 ##setting this variable will add mtu configuration for the_
↳lxc config and network bridge

# lxc container nat enabled
lxc_net_nat: true ## If "true", nat rules will be created with the lxc_
↳network.

# Enable iptables for lxc network
lxc_net_manage_iptables: true ## If "true" iptables rules will be added when_
↳the bridge is up and deleted when bridge is down

# lxc container dhcp settings
lxc_net_dhcp_range: 10.0.3.2,10.0.3.253
lxc_net_dhcp_max: 253
lxc_net_dhcp_config: ''
lxc_net_dnsmasq_user: lxc-dnsmasq
lxc_net_domain: ''

# lxc network ipv6 settings
lxc_net6_address: null ## ie. fd05:ffb8:32b4:1212::1
lxc_net6_netmask: null ## ie. 64
lxc_net6_nat: false

# System control kernel tuning
lxc_kernel_options:
  - { key: 'fs.inotify.max_user_instances', value: 1024 }

lxc_cache_sshd_configuration:
  - { regexp: "^PermitRootLogin", line: "PermitRootLogin prohibit-
↳password" }
  - { regexp: "^TCPKeepAlive", line: "TCPKeepAlive yes" }
  - { regexp: "^UseDNS", line: "UseDNS no" }
  - { regexp: "^X11Forwarding", line: "X11Forwarding no" }
  - { regexp: "^PasswordAuthentication", line: "PasswordAuthentication no"
↳}

# The compression ratio used when creating the container cache rootfs archive
lxc_image_compression_ratio: 0

# A list of files may be copied into the container image cache from the
# deployment host during its preparation.
# Example:
# lxc_container_cache_files:

```

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# - src: "/etc/openstack_deploy/files/etc/issue"
# dest: "/etc/issue"
lxc_container_cache_files: []

# A list of files may be copied into the container image cache from the
# LXC host during its preparation.
# Example:
# lxc_container_cache_files_from_host:
# - "/etc/apt/sources.list.d/myrepo.list"
lxc_container_cache_files_from_host: []

# LXC container shutdown delay before force-killing running container
lxc_container_shutdown_delay: 60

# DNS servers to use during cache preparation
lxc_cache_prep_dns:
  - "{{ lxc_net_address }}"

# Custom shell commands to run before/after the LXC cache prep process has
↳ taken
# place.
lxc_cache_prep_pre_commands: '## pre command skipped ##'
lxc_cache_prep_post_commands: '## post command skipped ##'

# User defined variable pointing to a specific variable file used when setting
# up the base container image. Deployers can use the provided container_
↳ variable
# files by simply inputting the file name
# "{{ ansible_facts['distribution'] }}-{{ ansible_facts['distribution_version'] }}
↳ }-container.yml"
# or by providing the full path to a local file containing all of the_
↳ variables
# needed to prepare a container. built-in supported values are:
# [redhat-7.yml, ubuntu-16.04.yml, ubuntu-18.04.yml]
#lxc_user_defined_container: null

# Full path to the base image prep script. By default this will use the
# named script for a given OS within the "templates/prep-scripts" directory.
# If a deployer wishes to override this script with something else they can
# do so by defining a user variable with the full path to the local script
# which will be templated onto the deployment targets.
lxc_cache_prep_template: "{{ _lxc_cache_prep_template }}"

## Define a list of extra distribution packages to install in the container
# cache at the discretion of the deployer
lxc_cache_extra_distro_packages: []

# List of packages to be installed into the base container cache
# Combines the distribution specific list with deployers extra list
```

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lxc_cache_distro_packages: "{{ _lxc_cache_distro_packages + lxc_cache_extra_
↳distro_packages }}"

# The maximum amount of time (in seconds) to wait until failing the cache
# preparation process. This is necessary to mitigate the issue that can
# arise where the cache prep hangs and never fails.
# The value is specified in seconds, with the default being 20 minutes.
lxc_cache_prep_timeout: "{{ _lxc_cache_prep_timeout | default(1200) }}"

# Command to build a chroot for the container rootfs
lxc_hosts_container_build_command: "{{ _lxc_hosts_container_build_command |
↳default ('') }}"

# Local path to cached image
lxc_image_cache_path: "/var/lib/machines/{{ lxc_container_base_name }}"

# Set this option to true to pull a new cached image.
lxc_image_cache_refresh: false

## Default download template options
## This can be customized to use a local build server and options.
## By default these options will be fulfilled by the distro specific
## variable files found in vars/
# lxc_cache_download_template_options: >
# --dist NAME_OF_DISTRO
# --release DISTRO_RELEASE
# --arch CONTAINER_ARCH
# --force-cache
# --server SERVER_TO_GET_IMAGES_FROM
lxc_cache_default_variant: default
lxc_cache_download_template_extra_options: ""
lxc_cache_download_template_options: >-
  --dist {{ lxc_cache_map.distro }}
  --release {{ lxc_cache_map.release }}
  --arch {{ lxc_cache_map.arch }}
  --force-cache
  --server localhost
  --variant {{ lxc_cache_default_variant }}
  {{ lxc_cache_download_template_extra_options }}

# Locales to populate in the LXC base cache
lxc_cache_locales: "{{ _lxc_cache_locales | default(['en_US.UTF-8']) }}"

# Centos EPEL repository options
lxc_centos_epel_mirror: "{{ centos_epel_mirror | default('http://download.
↳fedoraproject.org/pub/epel') }}"
lxc_centos_epel_key: "{{ centos_epel_key | default('http://download.
↳fedoraproject.org/pub/epel/RPM-GPG-KEY-EPEL-' ~ ansible_facts['distribution_
↳major_version']) }}"

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```
# LXC must be installed from a COPR repository on CentOS since the version
# provided in EPEL is much too old (1.x).
lxc_centos_package_baseurl: "{{ _lxc_centos_package_baseurl }}"
lxc_centos_package_key: "{{ _lxc_centos_package_key }}"

lxc_apt_mirror: "{{ ansible_facts['distribution'] == 'Ubuntu' | ternary(
↪ 'http://archive.ubuntu.com/ubuntu', 'http://deb.debian.org/debian') }}"
```

## DEPENDENCIES

This role needs `pip >= 7.1` installed on the target host.



## EXAMPLE PLAYBOOK

```
---  
- name: Basic LXC host setup  
  hosts: "hosts"  
  user: root  
  roles:  
    - { role: "lxc_hosts" }
```