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# Lago Documentation

*Release 0.3*

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## Getting started

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Check out the awesome README!



## 2.1 lagoon package

```
class lagoon.Prefix(prefix)
    Bases: object

    _add_nic_to_mapping(net, dom, nic)
    _allocate_ips_to_nics(conf)
    _allocate_subnets(conf)
    _check_predefined_subnets(conf)
    _config_net_topology(conf)
    _create_disk(name, spec, template_repo=None, template_store=None)
    _create_paths()
    _create_ssh_keys()
    _create_virt_env()
    _get_metadata()
    _init_net_specs(conf)
    _register_preallocated_ips(conf)
    _save_metadata()
    _use_prototype(spec, conf)
    cleanup()
    create_snapshots(name)
    initialize()
    paths
    revert_snapshots(name)
    save()
    start()
    stop()
    virt_conf(conf, template_repo=None, template_store=None)
```

**virt\_env**

lago.\_**create\_ip** (*subnet, index*)

lago.\_**ip\_in\_subnet** (*subnet, ip*)

## 2.1.1 Submodules

### 2.1.2 lago.brctl module

lago.brctl.\_**brctl** (*command, \*args*)

lago.brctl.\_**set\_link** (*name, state*)

lago.brctl.**create** (*name, stp=True*)

lago.brctl.**destroy** (*name*)

lago.brctl.**exists** (*name*)

### 2.1.3 lago.config module

lago.config.\_**get\_environ** ()

lago.config.\_**get\_from\_dir** (*path, key*)

lago.config.\_**get\_from\_env** (*key*)

lago.config.\_**get\_from\_files** (*paths, key*)

lago.config.\_**get\_providers** ()

lago.config.**get** (*key, default=<object object>*)

### 2.1.4 lago.constants module

### 2.1.5 lago.dirlock module

lago.dirlock.\_**lock\_path** (*path*)

lago.dirlock.**lock** (*path, excl, key\_path*)

lago.dirlock.**trylock** (*path, excl, key\_path*)

lago.dirlock.**unlock** (*path, key\_path*)

### 2.1.6 lago.paths module

**class** lago.paths.**Paths** (*prefix*)

Bases: `object`

  \_**prefixed** (*\*args*)

**images** (*\*path*)

**logs** ()

**metadata** ()

**prefix** ()



```
prefix_lagofile()  
    This file represents a prefix that's initialized  
ssh_id_rsa()  
ssh_id_rsa_pub()  
uuid()  
virt(*path)
```

## 2.1.7 lago.subnet\_lease module

```
lago.subnet_lease._acquire(*args, **kwargs)  
lago.subnet_lease._lease_owned(path, current_uuid_path)  
lago.subnet_lease._lease_valid(path)  
lago.subnet_lease._locked(func)  
lago.subnet_lease._release(*args, **kwargs)  
lago.subnet_lease._take_lease(path, uuid_path)  
lago.subnet_lease._validate_lease_dir_present(func)  
lago.subnet_lease.acquire(uuid_path)  
lago.subnet_lease.is_leasable_subnet(subnet)  
lago.subnet_lease.release(subnet)
```

## 2.1.8 lago.sysprep module

```
lago.sysprep._config_net_interface(iface, **kwargs)  
lago.sysprep._upload_file(local_path, remote_path)  
lago.sysprep._write_file(path, content)  
lago.sysprep.add_ssh_key(key)  
lago.sysprep.config_net_interface_dhcp(iface, hwaddr)  
lago.sysprep.set_hostname(hostname)  
lago.sysprep.set_iscsi_initiator_name(name)  
lago.sysprep.set_root_password(password)  
lago.sysprep.set_selinux_mode(mode)  
lago.sysprep.sysprep(disk, mods)
```

## 2.1.9 lago.templates module

```
class lago.templates.FileSystemTemplateProvider(root)  
  
    _prefixed(*path)  
    download_image(handle, dest)
```

```
    get_hash (handle)
    get_metadata (handle)
class lago.templates.HttpTemplateProvider (baseurl)

    download_image (handle, dest)
    get_hash (handle)
    get_metadata (handle)
class lago.templates.Template (name, versions)

    get_latest_version ()
    get_version (ver_name=None)
class lago.templates.TemplateRepository (dom)

    _get_provider (spec)
    classmethod from_file (path)
    get_by_name (name)
    name
class lago.templates.TemplateStore (path)

    _init_users (temp_ver)
    _prefixed (*path)
    download (temp_ver, store_metadata=True)
    get_path (temp_ver)
    get_stored_hash (temp_ver)
    get_stored_metadata (temp_ver)
    mark_used (temp_ver, key_path)
class lago.templates.TemplateVersion (name, source, handle, timestamp)

    download (destination)
    get_hash ()
    get_metadata ()
    timestamp ()
lago.templates._locked (func)
lago.templates.find_repo_by_name (name, repo_dir=None)
```

## 2.1.10 lago.utils module

**class** `lago.utils.CommandStatus`  
 Bases: `lago.utils.CommandStatus`

**class** `lago.utils.EggTimer` (*timeout*)

**elapsed** ()

**class** `lago.utils.RollbackContext` (*\*args*)  
 Bases: `object`

A context manager for recording and playing rollback. The first exception will be remembered and re-raised after rollback

Sample usage: > with RollbackContext() as rollback: > step1() > rollback.prependDefer(lambda: undo step1) > def undoStep2(arg): pass > step2() > rollback.prependDefer(undoStep2, arg)

More examples see tests/utilsTests.py @ vdsms code

**\_\_exit\_\_** (*exc\_type, exc\_value, traceback*)

If this function doesn't return True (or raises a different exception), python re-raises the original exception once this function is finished.

**clear** ()

**defer** (*func, \*args, \*\*kwargs*)

**prependDefer** (*func, \*args, \*\*kwargs*)

**class** `lago.utils.VectorThread` (*targets*)

**join\_all** (*raise\_exceptions=True*)

**start\_all** ()

`lago.utils._CommandStatus`  
 alias of `CommandStatus`

`lago.utils._read_nonblocking` (*f*)

`lago.utils._ret_via_queue` (*func, queue*)

`lago.utils.drain_ssh_channel` (*chan, stdin=None, stdout=<open file '<stdout>', mode 'w'>, stderr=<open file '<stderr>', mode 'w'>*)

`lago.utils.func_vector` (*target, args\_sequence*)

`lago.utils.interactive_ssh_channel` (*chan, command=None, stdin=<open file '<stdin>', mode 'r'>*)

`lago.utils.invoke_in_parallel` (*func, \*args\_sequences*)

`lago.utils.json_dump` (*obj, f*)

`lago.utils.run_command` (*command, input\_data=None, env=None, \*\*kwargs*)

`lago.utils.service_is_enabled` (*name*)

`lago.utils.setup_logging` (*logdir*)

### 2.1.11 lago.virt module

```
class lago.virt.BridgeNetwork(env, spec)
    Bases: lago.virt.Network
    _libvirt_xml()
    start()
    stop()

class lago.virt.NATNetwork(env, spec)
    Bases: lago.virt.Network
    _libvirt_xml()

class lago.virt.Network(env, spec)
    Bases: object
    _libvirt_name()
    add_mapping(name, ip, save=True)
    add_mappings(mappings)
    alive()
    gw()
    is_management()
    name()
    resolve(name)
    save()
    start()
    stop()

class lago.virt.ServiceState

    ACTIVE = 2
    INACTIVE = 1
    MISSING = 0

class lago.virt.VM(env, spec)
    Bases: object
    VM properties: * name * cpus * memory * disks * metadata * network/mac addr
    _check_alive(func)
    _create_dead_snapshot(name)
    _create_live_snapshot(name)
    _detect_service_manager()
    _get_ssh_client(*args, **kwargs)
    _libvirt_name()
    _libvirt_xml()
```

```

classmethod _normalize_spec (spec)
_open_ssh_client ()
_reclaim_disk (path)
_reclaim_disks ()
_sftp (*args, **kws)
_template_metadata ()
alive ()
bootstrap ()
copy_from (remote_path, local_path)
copy_to (local_path, remote_path)
create_snapshot (name)
distro ()
extract_paths (paths)
guest_agent ()
interactive_ssh (*args, **kwargs)
ip ()
iscsi_name ()
metadata
name ()
nics ()
revert_snapshot (name)
root_password ()
save (path=None)
service (*args, **kwargs)
ssh (command, data=None, show_output=True)
ssh_script (path, show_output=True)
start ()
stop ()
virt_env ()
vnc_port (*args, **kwargs)
wait_for_ssh (connect_retries=50)
class lago.virt.VirtEnv (prefix, vm_specs, net_specs)
    Bases: object
    Env properties: * prefix * vms * net
        •libvirt_con
    _create_net (net_spec)

```

```
_create_vm (vm_spec)
bootstrap ()
create_snapshots (name)
classmethod from_prefix (prefix)
get_net (name=None)
get_nets ()
get_vm (name)
get_vms ()
libvirt_con
prefixed_name (unprefixed_name)
revert_snapshots (name)
save ()
start ()
stop ()
virt_path (*args)

class lago.virt.__Service (vm, name)

    alive ()
    exists ()
    classmethod is_supported (vm)
    start ()
    stop ()

class lago.virt.__SysVInitService (vm, name)
    Bases: lago.virt.__Service
    BIN_PATH = '/sbin/service'
    _request_start ()
    _request_stop ()
    state ()

class lago.virt.__SystemdContainerService (vm, name)
    Bases: lago.virt.__Service
    BIN_PATH = '/usr/bin/docker'
    HOST_BIN_PATH = '/usr/bin/systemctl'
    _request_start ()
    _request_stop ()
    state ()

class lago.virt.__SystemdService (vm, name)
    Bases: lago.virt.__Service
```

```
BIN_PATH = '/usr/bin/systemctl'  
_request_start()  
_request_stop()  
state()  
lago.virt._gen_ssh_command_id()  
lago.virt._guestfs_copy_path(g, guest_path, host_path)  
lago.virt._ip_to_mac(ip)  
lago.virt._path_to_xml(basename)
```

## 2.2 ovirtlago package

### 2.2.1 Submodules

#### 2.2.2 ovirtlago.constants module

#### 2.2.3 ovirtlago.merge\_repos module

#### 2.2.4 ovirtlago.paths module

#### 2.2.5 ovirtlago.repoverify module

#### 2.2.6 ovirtlago.testlib module

#### 2.2.7 ovirtlago.utils module

#### 2.2.8 ovirtlago.virt module





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