Oracle Public Cloud Machine

CLI Reference for Oracle Compute Cloud Service

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Oracle Public Cloud Machine CLI Reference for Oracle Compute Cloud Service, Release 17.1.2

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Preface

This guide describes Oracle Compute Cloud Service command-line interface (CLI) for Oracle Public Cloud Machine.

Audience

This document is intended for tenant administrators and tenant users who use Oracle Compute Cloud Service for Oracle Public Cloud Machine, and who are familiar with the following:

- The UNIX command line
- Virtualization technologies
- Networking and disk storage concepts

Documentation Accessibility

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Related Documents

For more information, see the following documents in the Oracle Public Cloud Machine documentation set:

- *Using Oracle Compute Cloud Service*
- *REST API Reference for Oracle Compute Cloud Service*

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.
`monospace italics`	Text in monospace italic indicates variables for which you supply a value.
`...`	Ellipses indicate that the sample output of a command is truncated for readability.

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Getting Started with the Oracle Compute CLI

Oracle Public Cloud Machine supports a customized version of the Oracle Compute Cloud Service (Oracle Compute) command-line interface (CLI). The Oracle Compute CLI supports any action that can be performed by the Oracle Compute REST API. Use the CLI to manage the various Oracle Compute objects. This section gives an overview of the Oracle Compute CLI.

Topics:

About the Oracle Compute CLI for Oracle Public Cloud Machine

Oracle Compute Cloud service supports `oracle-compute` CLI tool. Use this tool to view and manage Oracle Compute objects such as instances, storage volumes, and orchestrations.

For more information on Oracle Compute Cloud Services and supported objects, see *Getting Started with Using Oracle Compute Cloud Services* in *Using Oracle Compute Cloud Service*.

Roles of CLI Users

The following CLI user roles are supported:

- Tenant administrator (`/tenant_name/username`): Administrator for a given tenant. Can perform all the administrative functions for a tenant. Can create users in their tenancy with Tenant User role. The default tenant admin user is `/tenant_name/administrator`.
- Tenant user (`/tenant_name/username`): User of a tenant group. Can create and use VMs and resources within the tenant.

For more information on user roles, see *Getting Started with Using Oracle Compute Cloud Services* in *Using Oracle Compute Cloud Service*.

Preparing to Use the Oracle Compute CLI

Before installing the Oracle Compute CLI tools, you must get the *API URL* of the API server used when installing your Oracle Public Cloud Machine. You can get this information from Oracle Cloud Administrator.

Examples in this guide use the following name for the API server:

`api.oc.example.com`

Setting Up Environment Variables

Set the environment variables in the shell to avoid having to provide the values in the CLI command.

The following table lists the environment variables, describes each variable, and provides the command to set the variable in the host using a bash shell.

Name	Description	Command
ORACLE_COMPUTE_API	URL of API endpoint When this variable isn't set, you must specify a API endpoint with the `-a` option on the command line.	export ORACLE_COMPUTE_API=*API URL* Example: `export ORACLE_COMPUTE_API="https://api.oc.example.com"` To make the environment variable persist across login sessions, add this line to your `.bash_profile` or `.bashrc` file.
ORACLE_COMPUTE_USER	The Oracle Compute user name. When this variable isn't set, you must specify a user name with the `-u` option on the command line.	export ORACLE_COMPUTE_USER=*username* Example: `export ORACLE_COMPUTE_USER="mytenant/user"` To make the environment variable persist across login sessions, add this line to your `.bash_profile` or `.bashrc` file.
ORACLE_COMPUTE_COOKIE	The value of an authentication token received from the `oracle-compute auth` command. See Authenticate User.	export ORACLE_COMPUTE_COOKIE=*auth_token* If both ORACLE_COMPUTE_USER and ORACLE_COMPUTE_COOKIE are specified, then ORACLE_COMPUTE_USER takes precedence.

Installing the Oracle Compute CLI on a Remote System

The prerequisites for installing the Oracle Compute CLI on the remote client system are as follows:

- Client system must have Oracle Linux 6.3 or later.
- Client system must have Python 2.6 or later but not Python 3.x.

- The script must have root privileges in the client system.

To install the `oracle-compute` tool:

1. Install the prerequisite RPMs: `python-simplejson, python-dateutil, python-setuptools`.

   ```
   sudo yum install python-simplejson python-dateutil python-setuptools
   ```

2. Get the installation script and make it executable.

   ```
   wget http://API_URL/tools/Linux/install-IaaS-CLI.sh
   chmod 555 install-IaaS-CLI.sh
   ```

3. Run the installation script.

   ```
   ./install-IaaS-CLI.sh
   ```

   Use `./install-IaaS-CLI.sh http://API_URL` if ORACLE_COMPUTE_API variable isn't configured.

   Note:

   Use the `-f` option of the script to force run the script, even if the host isn't running on a known RedHat OS.

After the installation, the following CLI tool is available:

- `/usr/bin/oracle-compute`

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Overview of the Oracle Compute CLI

This section provides an overview for using the `oracle-compute` command for managing Oracle Compute Cloud Service on Oracle Public Cloud Machine.

Topics:

General Syntax

The `oracle-compute` CLI tool has the following syntax:

```
oracle-compute -u user [ -a url] [ -p file] [options] action object [--parameter1
arg1 --parameter2 arg2 ...]
```

Command Option	Description
`-u username| --user=username`	The tenant user name (`/tenant_name/username`), or tenant administrators (`/tenant_name/username`) Defaults to ORACLE_COMPUTE_USER environment variable.
`-a url| --address=url`	(Optional) URL of Oracle Compute API service. Defaults to ORACLE_COMPUTE_API environment variable.
`-p file| --pass=file`	(Optional) File containing the user password.
--options	(Optional)See General Command Options.
action	An operation to execute. See General Command Actions.
object	The target of the action. See About Object Names.
--parameters	(Optional) Action-specific and object-specific parameters to direct the operation.

General Command Options

This section lists the options common to all commands.

`-d, --debug`
Enables the debug mode that shows the full details of the requests and responses.

`-f` *`format`* `| --format=`*`format`*
Specifies the format of the command output:

- `table` (default): Each field is displayed in a separate column.
- `tabbed`: Each record is displayed as a tab-separated list on a single line.
- `csv`: Each record is displayed as a comma-separated list on a single line.
- `json`: The output is displayed in JavaScript Object Notation (JSON) format. When you specify this format, the CLI ignores the `-F` option.
- `xml`: The output is displayed in XML format. This format can be used only for commands for the `user` resource.

`-F` *`fields`* `|, --fields=`*`fields`*
Specifies the fields depending on the type of object. Use this option to filter the fields or columns in the display of a large result.

`-h | --help`
Shows the help message and then exits.

`-H | --no-header`
Suppresses column headings in the default table output.

General Command Actions

This section lists the actions that can be executed on an object. Not all objects can use all actions.

`add`
Creates an object in a container.

`delete`
Deletes an object. No response is returned.

`discover`
Discovers objects in a container without the requirement of `list` or `get` permissions on each object. You must specify a container, which can only be a parent path of the key field (for example, `/` or `/mytenant`). Only objects in that container and names of subcontainers that the user has permission to discover are returned. The contents of subcontainers are not returned.

`get`
Retrieves information of a specific object.

`list`
Retrieves information about the listed object in the container you specify. The container can only be a key field of the specific object (for example, the tenant name, such as `/mytenant/public`) or a parent path of the key field (for example, `/` or `/cloud`) subject to listing permissions. Oracle Compute object key fields are usually the object names or ID fields (for example, `/mytenant/public/myinstance` for

an instance). Be sure to use the correct field as the container, as detailed in the specific command descriptions. Use arguments to filter the output as needed.

`update`
Updates information of an object.

Each action can display its specific requirements for each type of object.

You can also expand Oracle Compute CLI commands at the action level to list all the objects associated with that action. For example, the `oracle-compute add` command lists all the objects for which the `add` action can be performed.

```
$ oracle-compute add

oracle-compute add alertrule <name> <subscriber> [--event] [--event_type] [--
severity] [--error_code] [--alert_type] \
[--frequency]
oracle-compute add imagelist <name> <description> [--default]
oracle-compute add imagelistentry <imagelist name> <machineimages> <version> [--
attributes]
oracle-compute add machineimage <name> <file> [--attributes] [--quota]
oracle-compute add orchestration <filename>
oracle-compute add servicenet <name> <type> [--pkey] [--num_provider_nodes] [--
description]
oracle-compute add snapshot <instance> [--name] [--machineimage] [--quota]
oracle-compute add sshkey <name> <key> [--enabled] [--osuser]
oracle-compute add storageattachment <instance_name> <storage_volume_name> <index>
oracle-compute add storagevolume <name> <size> <properties> [--description] [--
source_storagevolume_name] [--imagelist] \
[--imagelist_entry] [--tags] [--quota]
oracle-compute add user <username> <fullname> <email> [--role] [--password]
oracle-compute add vethernet <name> <description> <type> <id> [--switchports] [--
svcnet]
```

In the same way, the Oracle Compute CLI also lists all the actions that can be performed on an object. For example, the `oracle-compute instance` command lists all the actions associated with object `instance`.

```
$oracle-compute instance

oracle-compute delete instance <name>
oracle-compute discover instance <container>
oracle-compute get instance <name>
oracle-compute list instance <container> [--tags] [--quota] [--vcable_id]
oracle-compute restart instance <name>
oracle-compute shutdown instance <name>
oracle-compute update instance <name> [--shape] [--networking] [--nis] [--tag] [--
delete_tag]
```

About Object Names

Each Oracle Compute object for which you can execute a CLI command is identified uniquely by its URI. An object such as an instance, a storage volume, or an SSH key has a name based on its position in a hierarchy of containers.

For example, the object name `/mytenant/public/8e7c16ad-1bc4-4743-a9ce-781be4e26f24` indicates that this instance `8e7c16ad-1bc4-4743-a9ce-781be4e26f24` is in the container `public`, and `public` is in the container `mytenant`.

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Tenant Management

The tenant is a framework within which system objects such as users and machine images are created. The tenant can be an organization, a department within an organization, or an individual.

The Oracle Cloud Administrator grants designated tenant administrators and tenant users the authorization to use computing, networking, and storage resources of the Oracle Public Cloud Machine. The tenant provides the required capabilities to manage these resources.

Topics:

Viewing Tenants

The Tenant is the entity that uses Oracle Compute Cloud Service resources. Tenants must be registered by the Oracle Cloud Administrator before they can start using the service. For more information on how to obtain your tenant user information, see *Using Oracle Compute Cloud Service*.

Topics:

discover tenant

This command enables you to list existing tenants in a specified container.

Syntax

```
oracle-compute discover tenant container
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
container	Hierarchical name-space for a tenant. For example, /

Example

```
$ oracle-compute discover tenant /
```

Sample Output

```
$ oracle-compute discover tenant /
entry
/mytenant

.
```

get tenant

This command enables you to retrieve information for a specific tenant.

Syntax

```
oracle-compute get tenant name
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	A unique hierarchical name for a tenant. For example, `/mytenant`.

Example

```
$ oracle-compute get tenant /mytenant
```

Sample Output

```
$oracle-compute get tenant /mytenant

uri                            name        description    email
public_pkey    private_pkey
https://api/tenant/mytenant    mytenant    Tenant User    mytenant@example.com
0x1415         0x1414
```

list tenant

This command enables you to display information about all tenants in a specific container.

Syntax

```
oracle-compute list tenant container
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
container	Hierarchical name-space for a tenant. For example, /

Example

```
$ oracle-compute list tenant /demo
```

Sample Output

```
$ oracle-compute list tenant /mytenant
uri                          name       description   email           public_pkey
private_pkey
https://api/tenant/mytenant  mytenant   My Tenant      mytenant@e.com 0x1016
0x1015
```

Viewing Tenant Quotas

Quota defines the resource usage limit set for a tenant. The Oracle Cloud Administrator determines the quota limits for the tenant.

Topics:

- discover quota
- get quota
- list quota

discover quota

This command enables you to retrieve tenant quotas in the specified container and its subcontainers.

Syntax

```
oracle-compute discover quota container
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
container	Hierarchical name-space for tenant. For example, / .

Example

```
$ oracle-compute discover quota /
```

Sample Output

```
$ oracle-compute discover quota /
entry
    /default
    /mytenant
```

get quota

This command enables you to retrieve the quota information for a specific tenant.

Syntax

`oracle-compute get quota` *`name`*

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	A unique hierarchical name for a tenant. For example, `/mytenant`.

Example

```
$ oracle-compute get quota /mytenant
```

Sample Output

```
$
oracle-compute get quota /mytenant -fjson
{
 "list": [
  {
   "usage": {
    "machineimage": {
     "number": 2,
     "megabytes": 4247
    },
    "vnet": {
     "vnetreservations": 3
    },
    "compute": {
     "instances": 6,
     "ram": 46080,
     "instance_restrictions": {},
     "cpus": 12.0
    },
    "nds": {
     "megabytes": 181468
    }
   },
   "uri": "http://api.oc.example.com./quota/mytenant",
   "description": "Default quota for \"mytenant\"",
   "name": "/mytenant",
   "allowance": {
    "machineimage": {
```

```
     "number": 5,
     "megabytes": 100000
    },
    "vnet": {
     "vnetreservations": null
    },
    "compute": {
     "instances": 10,
     "ram": 50000,
     "instance_restrictions": {},
     "cpus": 20.0
    },
    "nds": {
     "megabytes": 200000
    }
   }
  }
 ]
}
```

list quota

This command enables you to list details about the tenant quotas for a specific container.

Syntax

`oracle-compute list quota` *`container`*

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
container	A hierarchical name-space for a tenant. For example, `/mytenant/`

Example

```
$ oracle-compute list quota /mytenant/
```

Sample Output

```
$
oracle-compute list quota /mytenant -fjson
{
 "list": [
  {
   "usage": {
    "machineimage": {
     "number": 2,
     "megabytes": 4247
    },
    "vnet": {
     "vnetreservations": 3
    },
```

```
     "compute": {
      "instances": 6,
      "ram": 46080,
      "instance_restrictions": {},
      "cpus": 12.0
     },
     "nds": {
      "megabytes": 181468
     }
    },
    "uri": "http://api.oc.example.com/quota/mytenant",
    "description": "Default quota for \"mytenant\"",
    "name": "/mytenant",
    "allowance": {
     "machineimage": {
      "number": 5,
      "megabytes": 100000
     },
     "vnet": {
      "vnetreservations": null
     },
     "compute": {
      "instances": 10,
      "ram": 50000,
      "instance_restrictions": {},
      "cpus": 20.0
     },
     "nds": {
      "megabytes": 200000
     }
    }
   }
  ]
}
```

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User Management

A user is an entity within the system that is able to make requests. Each user is associated with one tenant, and has an associated role. The user's role determines the actions that the user is allowed to take. Tenant administrators manage users within their tenancy. Users have the `/tenant_name/users` role by default. Only the Oracle Cloud Administrator can grant a user the `/tenant_name/admin` role.

Topics:

Managing Users

User names are unique within a specific tenant, and tenant names are unique within the system as a whole.

Topics:

add user

This command enables you to add new users.

> **Note:** Only a tenant administrator can add a new user.

Syntax

```
oracle-compute add user username fullname email [ --role] [ --password]
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
username	An unique hierarchical name for a user. For example, `/mytenant/myuser`. Object names can contain only alphanumeric characters, hyphens, and periods. Object names are case-sensitive.
fullname	Full name of the user
email	Valid email address
--role	(Optional) The role of a user in the system. This option can be specified only by the Oracle Cloud Administrator. A user can be granted one of the following roles: • `/cloud/admin` for Oracle Cloud Administrators • `/cloud/monitor` for cloud monitors • `/`*`tenant_name`*`/admin` for tenant administrators • `/`*`tenant_name`*`/users` for tenant users If this option is not specified, then the default role of `/tenant_name/users` is granted.
--password	(Optional) User password. The password should be specified in a regular file, or should be entered from the terminal. You can supply the password in one of the following ways: • Specify the full path and name of the file containing the password . Note that it must be a text file that is not world-readable (permission level: 600). • Use a hyphen (-), to denote that you want to be prompted for the password value and enter it directly into the terminal. If you omit this option, you will be prompted to enter and confirm the password. The password is stored in an encrypted format. The password for a user must meet the following requirements: • Alphanumeric. • At least 6 characters in length. • At least 5 unique characters. For example, "azylaz" is not a valid password but "azylmz" is valid. • Can contain underscore and dash. • Must not contain a sequence of characters. For example, "abcde1" and "asdfgh" are not valid passwords. • Must not contain a dictionary word.

Example

```
$ oracle-compute add user /mytenant/myuser “User name”
name@example.com --password /root/myuser_pwd.txt
```

delete user

This command enables you to delete an existing user.

Note: Only the tenant administrator can delete a user.

Syntax

```
oracle-compute delete user username
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
username	Hierarchical name of the user to be deleted. For example, `/mytenant/myuser` and `/cloud/myuser` .

Example

```
$ oracle-compute delete user /mytenant/myuser
```

update user

This command enables you to update user information.

Note: Tenant users can only update their password and email address.

Syntax

```
oracle-compute update user username [--fullname] [--email] [--role] [--password] [--blacklisted]
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
username	A unique hierarchical name for a user. For example, `/mytenant/myuser` and `/cloud/myuser`.
--fullname	(Optional) Full name of the user
--email	(Optional) Valid email address
--role	(Optional) The role of a user in the system. This option can be specified only by the Oracle Cloud Administrator. A user can be granted any one of the following roles: • `/cloud/admin` for cloud administrators. • `/cloud/monitor` for cloud monitors. • `/tenant_name/admin` for tenant administrators. • `/tenant_name/users` for tenant users

Parameter	Description
--password	(Optional) User password. The password must be specified in a regular text file or entered from the terminal. The password for a user must meet the following requirements: • Alphanumeric. • At least 6 characters in length. • At least 5 unique characters. For example, "azylaz" is not a valid password but "azylmz" is valid. • Can contain underscore and dash. • Must not contain a sequence of characters. For example, "abcde1" and "asdfgh" are not valid passwords. • Must not contain a dictionary word.
--blacklisted	(Optional) Specifies if the user is blacklisted.

Example

```
$ oracle-compute update user /mytenant/myuser --email
new.email@example.com
```

Sample Output

```
uri              username         id                                     fullname
email       customer role      blacklisted
https://api/user /mytenant/myuser f36f54ca-e8d2-4e56-9371-0acae392c4f1 myuserfull
new.email@e mytenant /mytenant False
```

authenticate user

This command enables you to specify authentication credentials for a user.

Authentication is generally used for testing the credentials for a user. This command returns an authentication cookie that you can use in future CLI requests. You can export this cookie to the ORACLE_COMPUTE_COOKIE environment variable. When you export the cookie, you no longer have to specify `-u` or `-p` options for future CLI requests; instead, the authentication information in the cookie is used.

Syntax

Use either of the following commands to specify the authentication credentials of the user:

`oracle-compute auth user` *`username password`*

`oracle-compute authenticate user` *`username password`*

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
username	Name of the user
password	Password for the user **Note:** The password can either be supplied as a command-line argument (in which case the value must be the name of a text file that is not world-readable, containing the password) or omitted from the command and entered directly from the terminal.

Example

```
$ oracle-compute auth user /mytenant/administrator pwdfile.txt
```

Sample Output

The following sample cookie is returned.

```
export ORACLE_COMPUTE_COOKIE='{"identity": "{\"realm\": \"myExa-Site\", \"value\":
\"{\\\"customer\\\": \\\"mytenant\...+Kpdvzg==\"}"}'
```

Retrieve User Details

You can retrieve the user details using CLI.

Topics:

- discover user
- get user
- list user

discover user

This command enables you to discover a list of users in a specific container.

Note: You can discover only tenant users in your tenancy.

Syntax

```
oracle-compute discover user container
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
container	Hierarchical name-space for users

Example

```
$ oracle-compute discover user /mytenant
```

Sample Output

```
$ oracle-compute discover  user /mytenant
entry
/mytenant/administrator
/mytenant/myuser
```

get user

This command enables you to retrieve information for a specific user.

Note: You can retrieve information only for tenant users in your tenancy.

Syntax

```
oracle-compute get user username
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
username	Hierarchical name of the user. For example, `/mytenant/myuser` and `/cloud/myuser`

Example

```
$ oracle-compute get user /mytenant/myuser
```

Sample Output

```
$ oracle-compute get user /mytenant/myuser -F username,id,fullname,email,blacklisted
uri               username        id             fullname email            blackisted
https://api/.../ /mytenant/myuser b730fb22...e7  MyUser   user@example.com False
```

list user

This command enables you to list users in a specific container.

Note: You can list only tenant users in your tenancy.

Syntax

```
oracle-compute list user container [--role]
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
container	Hierarchical name-space for the user
--role	(Optional) The role of a user in the system. You can filter the list output based on user role by specifying one of the following: • `/cloud/admin` for cloud administrators • `/cloud/monitor` for cloud monitors • `/tenant_name/admin` for tenant administrators • `/tenant_name/users` for tenant users

Example

```
$ oracle-compute list user /
```

Sample Output

```
$ oracle-compute list user / -F username,role
username           role
/mytenant/myuser1  /mytenant/users
/mytenant/myuser2  /mytenant/users
```

5

Instance and Snapshot Management

This section describes the various operations that can be performed for managing instances and snapshots.

Topics:

Managing Instances

An instance is a logical representation of a virtual machine (VM). An instance defines the properties of a virtual machine and has a life cycle that surrounds and extends beyond the life cycle of a single virtual machine. You create virtual machine instances by starting orchestrations, but you can manage them individually thereafter by using CLI commands or API requests.

> **Note:** Life-cycle commands (such as `start`, `stop`, `restart` etc.) that change the state of an instance, return immediately with the state change proceeding on the server side. Instance state can be monitored by retrieving the instance details.

Topics:

delete instance

This command enables you to delete a specific instance.

Note: An instance can only be deleted when it is in any one of the following states: `running`, `shut_down`, or `error`.

Syntax

```
oracle-compute delete instance name
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	A unique hierarchical name of an instance. For example, `/mytenant/public/e6640ebc-6953-444f-848d-4a3bf6050ea5`

Example

```
oracle-compute delete instance /mytenant/public/3e81e735-
cdfc-43c2-9ba9-219585501f90
```

shutdown instance

This command enables you to shut down a specific instance.

Syntax

```
oracle-compute shutdown instance name
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	A unique hierarchical name for an instance. For example, `/mytenant/public/e6640ebc-6953-444f-848d-4a3bf6050ea5`

Example

```
$ oracle-compute shutdown instance /mytenant/public/
0c9f738c-26e1-440e-9a92-c81378f80683
```

restart instance

This command enables you to restart a specific instance.

Note: An instance can only be restarted when it is in one of the following states:`shut_down`, `warning`, and `error` .

Syntax

```
oracle-compute restart instance name
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	A unique hierarchical name of an instance. For example, `/mytenant/public/e6640ebc-6953-444f-848d-4a3bf6050ea5`

Example

```
$ oracle-compute restart instance /mytenant/public/dc48d972-d893-4574-9446-5b7d6ea1f596
```

Sample Output

```
$
 oracle-compute restart instance /mytenant/public/dc48d972-
d893-4574-9446-5b7d6ea1f596 -Fname,state
name                                                    state
/mytenant/public/dc48d972-d893-4574-9446-5b7d6ea1f596     shut_down
```

update instance

This command enables you to update information for a specific instance.

Syntax

```
oracle-compute update instance name [--shape] [--networking] [--nis] [--tag] [--delete_tag]
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	An unique hierarchical name for an instance. For example, `/mytenant/public/e6640ebc-6953-444f-848d-4a3bf6050ea5e`
--shape	(Optional) The name of the shape to be associated with the instance. You can update the shape only when the instance is in the `shut_down` state.
--networking	(Optional) Mapping of device name to network specifiers for the virtual Network Interface Card (NICs) to be attached to this instance. You can update the instance when it is in either the `running` state or the `shut_down` state.

Parameter	Description
--nis	(Optional) Network Information Service (NIS) configuration. You can update the NIS configuration only when the instance is in the `running` state or the `shut_down` state.
--tag	(Optional) User-friendly tags for a specific instance. You can tag an instance with a list of human-readable tags (strings) that can be used to identify a group of instances easily during instance listing.
--delete_tag	(Optional) Deletes user-friendly strings for a specific instance. You can remove tags from the instance in any state.

For more information on instance optional parameters, see section *Orchestration Templates* in *Using Oracle Compute Cloud Service*.

Example

```
$ oracle-compute update instance /mytenant/public/e8faac3a-
d4bb-41bd-9e79-e13d8be4d9d0 --shape medium -Fname,shape,state
```

Sample Output

```
name                                                  shape   state
/mytenant/public/e8faac3a-d4bb-41bd-9e79-e13d8be4d9d0 medium  shut_down
```

Retrieve Instance Details

You can retrieve instance details by using the CLI.

Topics:

- discover instance
- get instance
- list instance

discover instance

This command enables you to discover instances in the specific container and subcontainers.

Syntax

```
oracle-compute discover instance container
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
container	Hierarchical name-space containing instances

Example

```
$ oracle-compute discover instance /mytenant/
```

Sample Output

```
$ oracle-compute discover instance /mytenant/
name
/mytenant/public/0c9f738c-26e1-440e-9a92-c81378f80683
/mytenant/public/58f3a5d2-2c8c-41cb-8047-44f2e3aab876
/mytenant/public/6e319b05-4158-4d43-961b-be37157c8022
/mytenant/public/8243c540-337f-499e-ab08-4abd48b4d7bf
/mytenant/public/bdb7b6da-8919-4034-ad0f-6e506837e4f3
/mytenant/public/d02a40a0-5e51-43f9-a15d-09d014d0c915
/mytenant/public/e25237f7-def4-4853-9c13-dde120cb9161
/mytenant/public/fdd530da-347c-4f07-86ad-0855add035f2
/mytenant/public/scae09-sdi-sdivm-el1-8-instance/1a9ce3a1-ddba-44f7-9cc5-04c77f6523bc
```

get instance

This command enables you to retrieve information for a specific instance.

Syntax

```
oracle-compute get instance name
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	A unique hierarchical name for an instance. For example, `/mytenant/public/e6640ebc-6953-444f-848d-4a3bf6050ea5`

Example

```
$ oracle-compute get instance /mytenant/public/
0c9f738c-26e1-440e-9a92-c81378f80683
```

Sample Output

```
$ oracle-compute get instance /mytenant/public/0c9f738c-26e1-440e-9a92-c81378f80683 -
F shape,tags,entry
entry           shape           tags
1               oc4             mytenant_db, mytenant_db_instance1, /mytenant/
public/el-db-vms, db8633ae9d611203b6c566770b51d34b
```

list instance

This command enables you to retrieve instance information in a specific container or subcontainer.

Syntax

```
oracle-compute list instance container [--tags] [--quota] [--vcable_id]
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

> **Note:** The output of this command is filtered based on the optional parameters (if specified).

Parameter	Description
container	Hierarchical name-space for instances
--tags	(Optional) You can tag an instance with a list of human-readable tags (strings) that can be used to identify a group of instances easily during instance listing.
--quota	(Optional) The name of a quota associated with an instance
--vcable_id	(Optional) The unique identifier of a Virtual Cable (vCable) associated with an instance.

Example

```
$ oracle-compute list instance /mytenant/public/
```

Sample Output

```
$ oracle-compute list instance /demo/ -Fname,ip,state,label -ftab
name                                                  label     state     ip
/demo/public/960adf49-eefd-4f93-a300-2c798ba4a123     vm2       shut_down
10.247.60.146
/demo/public/dg1/35faaf0b-825c-42f9-bbfe-e72470c23883 myvm-j-v1 shut_down
10.247.64.55
/demo/public/ff94e915-a1d1-4f0f-88de-cc41b91394d3     vm1       shut_down
10.247.60.145
```

Managing Snapshots

A snapshot is a copy of the machine image boot disk taken at a specific time from an instance that is in `running` or `shutdown` state. You can add this copy to image lists, and use it to create a new instance.

Instance modifications are not preserved when an instance is deleted as a result of stopping an orchestration. Deleting an instance also removes all customizations and

changes made to the boot disk since its creation. To keep the customized virtual machine (VM), create a snapshot to preserve the machine image. Then use the snapshot to create new VMs with the same customizations.

> **Note:** Another way to preserve customizations is to shut down that instance to free CPU and memory resources. When the VM is restarted, its customizations remain in effect. For more information about shutting down VM, see shutdown instance.

Topics:

add snapshot

This command enables you to add a new snapshot for a specific instance.

Syntax

```
oracle-compute add snapshot instance [--name] [--machineimage]
[--quota]
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
instance	Instance for which a snapshot must be taken
--name	(Optional) Unique identifier of the snapshot which replaces the identifier generated by the server. Object names can contain only alphanumeric characters, hyphens, and periods. Object names are case-sensitive.
--quota	(Optional) Quota against which this snapshot will be stored
--machineimage	(Optional) Unique identifier of the machine image. If you do not provide this option, then the unique identifier is generated by the server.

Example

```
$ oracle-compute add snapshot /mytenant/public/190f166c-
a08d-4f33-8c21-7291bcce98fc --machineimage /mytenant/public/
snapshot-1
```

Sample Output

```
$ oracle-compute add snapshot /mytenant/public/190f166c-a08d-4f33-8c21-7291bcce98fc
--machineimage /mytenant/public/snapshot-1 -Fname,state
```

```
name
       state
/mytenant/public/190f166c-a08d-4f33-8c21-7291bcce98fc/
a0d58bae-687e-4c6f-9a77-5f6092f58590  active
```

delete snapshot

This command enables you to delete a snapshot creation request. This deletes only the request; the machine image that was the result of the request is not removed.

The following restrictions apply for deleting a snapshot request:

- Requests in the `active` state cannot be deleted.
- Requests can only be deleted when they are in the `error` or `complete` state.

Syntax

```
oracle-compute delete snapshot name
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	Snapshot unique identifier

Example

```
$ oracle-compute delete snapshot /mytenant/public/a6fbb572-
a584-486a-9314-56a24499028d/4dbb2b4c-d315-47ba-b938-696f74826bec
```

Retrieve Snapshot Details

You can retrieve the snapshot details by using the CLI.

Topics:

- discover snapshot
- get snapshot
- list snapshot

discover snapshot

This command enables you to discover snapshots in a specific container.

Syntax

```
oracle-compute discover snapshot container
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
container	Hierarchical name-space for snapshots

Example

```
$ oracle-compute discover snapshot /mytenant/public/a6fbb572-
a584-486a-9314-56a24499028d/
```

Sample Output

```
$ oracle-compute discover snapshot /mytenant/public/a6fbb572-
a584-486a-9314-56a24499028d/
entry
/mytenant/public/a6fbb572-a584-486a-9314-56a24499028d/4dbb2b4c-d315-47ba-
b938-696f74826bec
/mytenant/public/a6fbb572-a584-486a-9314-56a24499028d/
df8caca5-8a27-4153-9c5f-7440080b40c8
```

get snapshot

This command enables you to retrieve details for a specific snapshot.

Syntax

```
oracle-compute get snapshot name
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	Snapshot unique identifier generated by the server

Example

```
$ oracle-compute get snapshot /mytenant/public/a6fbb572-
a584-486a-9314-56a24499028d/4dbb2b4c-d315-47ba-b938-696f74826bec
-f json
```

Sample Output

```
 $ oracle-compute get snapshot /mytenant/public/a6fbb572-a584-486a-9314-56a24499028d/
4dbb2b4c-d315-47ba-b938-696f74826bec -fjson
{
 "list": [
  {
   "name": "/mytenant/public/a6fbb572-a584-486a-9314-56a24499028d/4dbb2b4c-d315-47ba-
b938-696f74826bec",
```

```
   "machineimage": "/mytenant/public/snapshot1",
   "uri": "https://api.oc.example.com/snapshot/mytenant/public/a6fbb572-
a584-486a-9314-56a24499028d/4dbb2b4c-d315-47ba-b938-696f74826bec",
   "quota": null,
   "instance": "/mytenant/public/a6fbb572-a584-486a-9314-56a24499028d",
   "state": "active",
   "error_reason": ""
  }
 ]
}
```

list snapshot

This command enables you to list information for snapshots in a specific container.

Syntax

`oracle-compute list snapshot` *`container`* `[`*`--name`*`] [`*`--quota`*`] [`*`--instance`*`] [`*`--machineimage`*`]`

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

> **Note:** The output of this command is filtered based on the optional parameters (if specified).

Parameter	Description
container	Hierarchical namespace for snapshots
--name	(Optional)) Unique identifier of the Snapshot which replaces the identifier generated by the server
--quota	(Optional) Quota against which this snapshot will be stored
--instance	(Optional) Instance for which the snapshot was taken
--machineimage	(Optional) Unique identifier of the machine image

Example

```
$ oracle-compute list snapshot /mytenant/
```

Sample Output

```
$ oracle-compute list snapshot /mytenant/ -Fname,machineimage
name                                                          machineimage
/mytenant/public/a6fbb572-48....7ba-b938-696f74826bec   /mytenant/it/lucid64
/mytenant/public/a6fbb...-8a27-4153-9c5f-7440080b40c8   /mytenant/public/a6fbb572-
a5....7440080b40c8
```

Managing SSH Keys

You can automate the login process to instances by using the SSH keys.

Topics:

add sshkey

This command enables you to import a new public SSH key and associate it with a user.

Syntax

```
oracle-compute add sshkey name key [--osuser] [--enabled]
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	Name of the SSH key. Object names can contain only alphanumeric characters, hyphens, and periods. Object names are case-sensitive.
key	Name of the file that contains the value of the SSH public key
--osuser	(Optional) Operating system user to which this key will be assigned. If this option is not specified, no key is installed in the VM.
--enabled	(Optional) Specifies if the key is enabled or disabled. Default value is `True`.

Example

```
oracle-compute add sshkey /mytenant/public/sshkey id_rsa.pub -f
json
```

Sample Output

```
$ oracle-compute add sshkey /mytenant/public/sshkey id_rsa.pub -f json
```

```
{"list":
    [ {
    "osuser": "",
    "enabled": true,
    "uri": "http://api/sshkey/mytenant/public/sshkey",
    "key": "-----BEGIN RSA PRIVATE KEY-----\nMIIEo.....==\n-----END RSA PRIVATE
KEY-----",
    "name": "/mytenant/public/sshkey"
    } ]
}
```

delete sshkey

This command enables you to delete a specific SSH key.

Syntax

`oracle-compute delete sshkey` *`name`*

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	Name of the SSH key to be deleted

Example

```
$ oracle-compute delete sshkey /mytenant/public/sshkey
```

update sshkey

This command enables you to update information for a specific SSH key.

Syntax

`oracle-compute update sshkey` *`name`* `[--key] [--enabled] [--osuser]`

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	Name of the SSH key
--key	(Optional) Name of the file that contains the value of the SSH public key
--enabled	(Optional) Specifies if the key is enabled or disabled.
--osuser	(Optional) Operating system user to which this key will be assigned.

Example

```
$ oracle-compute -u /mytenant/user update sshkey /mytenant/
public/sshkey --enabled false
```

Sample Output

```
$  oracle-compute -u /mytenant/user update sshkey /mytenant/public/sshkey --enabled
false  -f json
{
 "list": [
  {
   "osuser": "",
   "enabled": false,
   "uri": "http://api.oc.example.com/sshkey/mytenant/public/sshkey",
   "key": "-----BEGIN RSA PRIVATE KEY-----\nMIIEo.....==\n-----END RSA PRIVATE
KEY-----",
   "name": "/mytenant/public/sshkey"
  }
 ]
}
```

download sshkey

This command enables you to download a specific SSH key.

Syntax

```
oracle-compute download sshkey name sshkey
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	Name of the SSH key to be downloaded
sshkey	Name of a local file to store the downloaded key

Example

```
oracle-compute download sshkey /mytenant/public/sshkey
sshkey.pub
```

Retrieve SSH Key Details

You can retrieve SSH Key details by using the CLI.

Topics:

- discover sshkey
- get sshkey

- list sshkey

discover sshkey

This command enables you to discover SSH keys in a specific container and subcontainer.

Syntax

```
oracle-compute discover sshkey container
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
container	Hierarchical name-space for the SSH key

Example

```
$ oracle-compute discover sshkey /mytenant/public
```

Sample Output

```
$ oracle-compute discover sshkey /mytenant/public
entry
/mytenant/public/user1_key1
/mytenant/public/root_key1
```

get sshkey

This command enables you to retrieve key information for a specific tenant or user.

Syntax

```
oracle-compute get sshkey name
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	Name of SSH key, for which information must be retrieved

Example

```
$ oracle-compute get sshkey /mytenant/public/root_key1
```

Sample Output

```
$ oracle-compute get sshkey /mytenant/public/root_key1 -Fname,osuser
name                                 osuser
/mytenant/public/root_key1           root
```

list sshkey

This command enables you to list SSH Key information in a specific container and subcontainers.

Syntax

`oracle-compute list sshkey` *`container`* `[`*`--name`*`]`

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
container	Hierarchical name-space for SSH key
--name	(Optional) Name of SSH Key, for which information must be retrieved

Example

```
oracle-compute list sshkey /mytenant/public/
```

Sample Output

```
$ oracle-compute list sshkey /mytenant/public/ -F name,osuser
name                                    osuser
/mytenant/public/user1_key1             oracle
/mytenant/public/root_key1              root
```

Managing Orchestrations

Orchestration automates the management of your system components for high availability, monitoring, and persistence.

Orchestration ties together the components that you create into a single, manageable collection. In addition, you can specify the dependencies to control the sequence in which the components are created. For example, you can coordinate the creation of network and storage resources with the creation of the instance and, if high availability is enabled, restart the instance automatically if it terminates unexpectedly. In Oracle Compute Cloud Service, all instances are created using orchestrations.

Note: Life-cycle commands (such as `start`, `stop`, `restart` etc.) that change the status of an orchestration, return immediately with the status change proceeding on the server side. Orchestration status can be monitored by retrieving the orchestration details.

For more information about procedures related to orchestrations, see *Orchestration Templates* in *Using Oracle Compute Cloud Service*.

Topics:

add orchestration

This command enables you to create a new orchestration from a JSON file.

> **Note:** For more information about how to create an orchestration JSON file and the supported attributes, see *Orchestration Templates* in *Using Oracle Compute Cloud Service*.

Syntax

```
oracle-compute add orchestration filename
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
filename	Name of an orchestration JSON file containing the configuration of the orchestration

Example

```
$ oracle-compute add orchestration mytenant_orchest.json
```

delete orchestration

This command enables you to delete a specific orchestration. The orchestration must be stopped to be deleted. No response is returned for the delete action if the command is successful.

Syntax

```
oracle-compute delete orchestration name
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	A unique hierarchical name of an orchestration. For example, /mytenant/public/myorch.

Example

```
oracle-compute delete orchestration /mytenant/public/myorch
```

download orchestration

This command enables you to download a previously added orchestration to a file. The downloaded orchestration is saved in JSON format. You can later use this file to edit and launch a new orchestration.

Syntax

```
oracle-compute download orchestration name [--filename]
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	A unique hierarchical name of an orchestration. For example, /mytenant/public/myorch.
--filename	(Optional) Name of an orchestration file to which the JSON file will be downloaded. If this parameter is not specified, then a file named with the last part of the orchestration name will be created in the current directory. For example, if the orchestration name is `/mytenant/public/user1/test-vm` and `--filename` is not given, then a file called `test-vm.json` will be created. **Note:** For more information about how to create and modify a JSON file, see *Orchestration Templates* in *Using Oracle Compute Cloud Service*.

Example

```
$ oracle-compute download orchestration /mytenant/public/user1/
test-vm --filename mytenant_orch.json
```

update orchestration

This command enables you to update information for a specific orchestration.

You can update any part of an orchestration aside from the name when it is in `stopped` status. When the orchestration is in `ready` status, you can update the `ha_policy` and `label` of an existing oplan in the orchestration. You can also add and remove oplans. Added oplans will be `started`, and removed oplans will be `stopped`.

Syntax

`oracle-compute update orchestration` *`name`* `[--`*`filename`*`] [--`*`oplan_label`*`] [--`*`ha_policy`*`]`

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	A unique hierarchical name of an orchestration. For example, `/mytenant/public/myorch`.
--filename	(Optional) Name of the updated orchestration JSON file containing the configuration of the orchestration. **Note:** For more information about how to create and modify a JSON file, see *Orchestration Templates* in *Using Oracle Compute Cloud Service*.
--oplan_label	(Optional) Label of an object plan (oplan) to update. An oplan is an element within an orchestration defining a specific object creation action. **Note:** You must specify the `ha_policy` parameter when the `oplan_label` parameter is provided.

Parameter	Description
--ha_policy	(Optional) High availability policy can only be set to `active` (for instances) or `monitor` (for instances and volumes). Attempting to set high availability policy on any other elements results in an error. The default is no high availability. **Note:** You must specify the `oplan_label` parameter when the `ha_policy` parameter is provided.

Example

```
$ oracle-compute update orchestration myorch.json
```

shutdown orchestration

This command enables you to shut down all VM instance members of an orchestration while preserving the resources used by the instance, such as IP addresses and boot disk contents. If you do not want to preserve these resources, then use `stop orchestration`. You can shut down orchestrations with a `ready` or `warning` status.

Syntax

```
oracle-compute shutdown orchestration name
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	A unique hierarchical name of an orchestration. For example, `/mytenant/public/myorch`.

Example

```
$ oracle-compute shutdown orchestration /mytenant/public/user1/
test-vm
```

restart orchestration

This command enables you to restart an orchestration that was previously in `shut_down` status. You can also restart an orchestration when it is in `warning` or `error` status.

Syntax

```
oracle-compute restart orchestration name
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	A unique hierarchical name of an orchestration. For example, `/mytenant/public/myorch`.

Example

```
$ oracle-compute restart orchestration /mytenant/public/user1/
test-vm
```

start orchestration

This command enables you to start a specific orchestration. You can start only orchestrations with a `stopped` status.

Syntax

`oracle-compute start orchestration` *`name`*

Starting an orchestration creates all of the objects defined in the orchestration. The status of the orchestration changes over time. You can view the details of the orchestration to see the status as the orchestration progresses. The `start` command returns the response immediately; however the start operation continues on the server. The start operation is completed only when the orchestration status reaches the `ready` status.

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	A unique hierarchical name of an orchestration. For example, `/mytenant/public/myorch`.

Example

```
$ oracle-compute start orchestration /mytenant/public/user1/
test-vm
```

stop orchestration

This command enables you to stop a specific orchestration. Stopping an orchestration deletes all instances, releasing all resources allocated by the orchestration.. This includes all boot (root) disks and all unreserved IP addresses. It is valid to stop orchestrations with the following statuses: `ready`, `shut_down`, `warning`, and `error`. You can start the orchestration again, creating new instances and allocating new resources.

Syntax

```
oracle-compute stop orchestration name [--confirm]
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	A unique hierarchical name of an orchestration. For example, `/mytenant/public/myorch`.
--confirm	(Optional) Confirms the action to stop an orchestration. If the option is not specified, then a warning message is displayed and the operation is not executed.

Example

```
$ oracle-compute stop orchestration /mytenant/public/user1/test-vm
```

Retrieve Orchestration Details

You can retrieve the orchestration details by using the CLI.

Topics:

- discover orchestration
- get orchestration
- list orchestration

get orchestration

This command enables you to retrieve information for a specific orchestration.

Syntax

```
oracle-compute get orchestration name
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	A unique hierarchical name of an orchestration. For example, `/mytenant/public/myorch`.

Example

```
$ oracle-compute get orchestration /mytenant/public/el-db-vms
```

Sample Output

```
$ oracle-compute get orchestration  /mytenant/public/el-db-vms -F name,status,info
name                          status         info
/mytenant/public/el-db-vms    ready          {"errors": {}, "warnings": {}}
```

list orchestration

This command enables you to list a set of orchestrations in a specific container.

Syntax

`oracle-compute list orchestration` *`container`* `[`*`--status`*`]`

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
container	Hierarchical name-space for orchestrations
--status	(Optional) Current status of the orchestration. The following status options are supported: • `ready` • `scheduled` • `warning` • `error` • `starting` • `stopping` • `updating` • `shut_down` • `shutting_down` • `restarting` If this parameter is specified, then the list orchestration output is filtered for the given status.

Example

```
$ oracle-compute list orchestration /mytenant/public --
status=ready
```

Sample Output

```
$ oracle-compute list orchestration /mytenant/public --status=ready -F name,status
name                                  status
/mytenant/public/el-control-vms       ready
/mytenant/public/el-db-vms            ready
```

discover orchestration

This command enables you to discover an orchestration within a specific container or subcontainer.

Syntax

```
oracle-compute discover orchestration container
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
container	Hierarchical name-space for orchestrations

Example

```
$ oracle-compute discover orchestration /mytenant/public
```

Sample Output

```
$ oracle-compute discover orchestration /mytenant/public
entry
/mytenant/public/el-control-vms
/mytenant/public/el-db-vms
/mytenant/public/el-grill-vms
/mytenant/public/el-sim-vms
/mytenant/public/scae09-sdi-sdivm-el1-4-storagevolume-app
/mytenant/public/scae09-sdi-sdivm-el1-5-storagevolume-ops
/mytenant/public/scae09-sdi-sdivm-el1-6-storagevolume-data
/mytenant/public/scae09-sdi-sdivm-el1-8-instance
```

Viewing Shapes

Shapes define the compute resources for an instance. You can view the shapes that are available to your tenant. Contact your Oracle Cloud Administrator if you need a shape with a different configuration.

Topics:

- discover shapes
- get shape
- list shape

discover shapes

This command enables you to determine what shapes you have access to in a specific container.

Syntax

```
oracle-compute discover shape container
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
container	Hierarchical name-space for shapes

Example

```
$ oracle-compute discover shape /
```

Sample Output

```
$ oracle-compute discover shape /
entry
/myshape
/LARGE
/SMALL
/large
/oc4m
/oc5
/oc5m
/oc6
/oc7
/ot1
/small
```

get shape

This command enables you to retrieve information for a specific shape.

Syntax

```
oracle-compute get shape name
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	Name of the shape

Example

```
$ oracle-compute get shape myshape
```

Sample Output

```
$ oracle-compute get shape myshape
uri                              name         cpus        ram
https://api/shape/myshape        myshape      32.0        122880
```

list shape

This command enables you to list information about shapes. The only valid container for shape is /.

Syntax

```
oracle-compute list shape container [--name]
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
container	Hierarchical name-space for shapes. It is always set to /.
--name	(Optional) Name of the shape

Example

```
$ oracle-compute list shape /
```

Sample Output

```
$ oracle-compute list shape /
uri                                 name                cpus                ram
https://api/shape/oc4m              oc4m                16.0
122880
https://api/shape/myshape           myshape             32.0
122880
https://api/shape/oc3m              oc3m                8.0                 61440
https://api/shape/oc5m              oc5m                32.0
245760
https://api/shape/SMALL             SMALL               1.0                 4096
https://api/shape/oc1m              oc1m                2.0                 15360
https://api/shape/LARGE             LARGE               2.0                 8192
https://api/shape/oc2m              oc2m                4.0                 30720
https://api/shape/oc1               oc1                 2.0                 16384
```

Connecting to an Instance VNC Console

To gain access to a virtual machine's (VM) Virtual Network Computing (VNC) console, a SSH tunnel from the local machine through the API endpoint to the node hosting the VM has to be created. Once the SSH tunnel is created, a VNC client is then launched on the local machine and connects to a specific local port. Each VM's SSH connection has a specific user, port and SSH keys.

Topics:

- download instancevnckey
- get instancevnckey

download instancevnckey

This command enables you to download the private RSA key used for the SSH tunnel to connect the VNC.

Syntax

```
oracle-compute download instancevnckey instance_name rsa_file
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
instance_name	Name of the instance for which you want to download the VNC key
rsa_file	Name of the file to which the RSA key will be downloaded

Example

```
$ oracle-compute download instancevnckey /mytenant/public/
e8faac3a-d4bb-41bd-9e79-e13d8be4d9d0 instance1_rsa.priv
```

Sample Output

```
$oracle-compute -u /mytenant/user1 download instancevnckey /mytenant/public/e8faac3a-
d4bb-41bd-9e79-e13d8be4d9d0 instance1_rsa.priv

instance1_rsa.priv is saved to the current directory
```

get instancevnckey

This command enables you to get all of the information related to accessing the VNC for the instance, such as VNC/SSH IP address, SSH port, VNC port, SSH user, and SSH private key.

Syntax

```
oracle-compute get instancevnckey instance_name
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
instance_name	Name of the instance.

Example

```
$ oracle-compute get instancevnckey /mytenant/public/scae09-msg-
mcspod-amqax1-8-instance/19e61c76-e50b-4570-9bad-de40ad40e615
```

Sample Output

```
$ oracle-compute get instancevnckey /mytenant/public/scae09-msg-mcspod-amqax1-8-
instance/19e61c76-e50b-4570-9bad-de40ad40e615 -f json
{
 "list": [
  {
   "vncip": "10.128.36.31",
   "vnckey": "-----BEGIN RSA PRIVATE KEY-----
\nMIIEoQIBAAKCAQEAwV....HtCEgy3iMsBYvmA==\n-----END RSA PRIVATE KEY-----",
   "vnc_user": "19e61c76e50b45709badde40ad40e615",
   "vncport": 5900,
   "uri": "https://api/instancevnckey/mytenant/public/scae09-msg-mcspod-amqax1-8-
instance/19e61c76-e50b-4570-9bad-de40ad40e615",
   "vnc_sshd_port": 62300,
   "name": "/mytenant/public/scae09-msg-mcspod-amqax1-8-instance/19e61c76-
e50b-4570-9bad-de40ad40e615"
  }
 ]
}
```

6

Template Management

Template management consists of managing three Oracle Compute objects: the machine image (`machineimage`), the image list (`imagelist`), and the image list entry (`imagelistentry`).

A machine image object is a copy of a virtual hard disk with an installed operating system that is used to launch a virtual machine (VM). An image list object is an ordered sequence of machine image objects, one of which may be selected as the default version. This allows users to continue using the same `imagelist` while upgrades are made to the latest version (that is, users can boot a different machine image if the `imagelist` gets a new default version). The image list entries are used to add and remove machine images from an image list.

Topics:

Managing Machine Images

A machine image is a hard disk snapshot used to launch a virtual machine instance. The machine image archive must be a single raw disk image (including partition table and kernel) stored at the root of a tar archive and compressed with gzip. All machine images must be based on the Oracle Public Cloud Machine templates. A machine image template can be created only by a Oracle Cloud Administrator. For more information about building machine images and templates, see *Using Oracle Compute Cloud Service*.

Topics:

add machineimage

This command enables you to add a new machine image to the system.

Note: You can add only private machine images to the system. To make a public machine image on the system, contact your Oracle Cloud Administrator.

Syntax

```
oracle-compute add machineimage name file [--attributes] [--quota]
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	A unique hierarchical name for the machine image. For example, `/mytenant/public/mymachineimage`. Object names can contain only alphanumeric characters, hyphens, and periods. Object names are case-sensitive.
file	Name of the file containing the disk image (`.tar.gz`)
--attributes	(Optional) User-defined parameters that can be passed to an instance of this machine image when it is launched. These parameters are passed as JSON objects. Syntax (key/value pairs): '{ "key1": "value1", "key2": "value2" }' User-defined parameters that can be passed to an instance of this machine image when it is launched. These parameters are passed as JSON objects. For example, you can specify the location of a database server and login details, which are then passed to the machine image during launch. For more information about attributes, see *Orchestration Templates* in *Using Oracle Compute Cloud Service*.
--quota	(Optional) The quota against which this image will be created

Example

```
$ oracle-compute add machineimage /mytenant/public/
mymachineimage image.tar.gz
```

delete machineimage

This command enables you to delete an existing machine image.

Note: You can delete only those private machine images that you have created.

Syntax

```
oracle-compute delete machineimage name
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	A unique hierarchical name for the machine image. For example, `/mytenant/public/mymachineimage`.

Example

```
$ oracle-compute delete machineimage /mytenant/public/
mymachineimage
```

download machineimage

This command enables you to download one or more machine images.

Syntax

```
oracle-compute download machineimage path [--outputdir]
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
path	The full path name of your machine image. You can specify either the full path name of a single machine image, or a container. If a container is specified, then all machine images in that container are downloaded.
--outputdir	(Optional) Specifies the directory to which all the machine images will be downloaded

Example

```
$ oracle-compute download machineimage /oracle/public/oel6
```

Retrieve Machine Image Details

You can view machine image details by using the CLI.

Topics:

- discover machineimage
- get machineimage
- list machineimage

discover machineimage

This command enables you to discover machine images in a specific container.

Syntax

```
oracle-compute discover machineimage container
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
container	Hierarchical name-space for machine images

Example

```
$ oracle-compute discover machineimage /oracle/public
```

Sample Output

```
$ oracle-compute discover machineimage /oracle/public
entry
/oracle/public/linux5_16.1.2_64
/oracle/public/linux6_16.1.2_64
/oracle/public/linux6_12.2.1.0.0_64_jaas_16.2.1.0.103
```

get machineimage

This command enables you to retrieve information for a specific machine image.

Syntax

```
oracle-compute get machineimage name
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	A unique hierarchical name for the machine image. For example, `/mytenant/public/mymachineimage`.

Example

```
oracle-compute get machineimage /oracle/public/linux6_16.1.2_64
-f json
```

Sample Output

```
$ oracle-compute get machineimage /oracle/public/linux6_16.1.2_64 -f json
```

```
{
 "list": [
  {
   "name": "/oracle/public/linux6_16.1.2_64",
   "sizes": {
    "uploaded": 2176821211,
    "total": 2176821211,
    "decompressed": 19327352832
   },
   "no_upload": false,
   "quota": null,
   "uri": "https://api/machineimage/oracle/public/linux6_16.1.2_64",
   "state": "available",
   "signed_by": null,
   "file": "https://api:443/machineimage/oracle/public/linux6_16.1.2_64",
   "checksums": null,
   "attributes": {},
   "error_reason": null,
   "audited": null
  }
 ]
}
```


list machineimage

This command enables you to retrieve information for the machine images in a specific container.

Syntax

`oracle-compute list machineimage` *`container`* `[`*`--quota`*`]`

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

> **Note:** The output of this command is filtered based on the optional parameters (if specified).

Parameter	Description
container	Hierarchical name-space for machine images
--quota	(Optional) Quota associated with the image

Example

```
$ oracle-compute list machineimage /oracle/public
```

Sample Output

```
$ oracle-compute list machineimage /oracle/public -F name,quota,state
name                                                quota    state
/oracle/public/linux5_16.1.2_64                     None     available
/oracle/public/linux6_16.1.2_64                     None     available
/oracle/public/linux6_12.2.1.0.0_64_jaas_16.2.1.0.103 None     available
```

Managing Image Lists

Machine images must be added to an image list to create a versioned instance template. When defining the launch plan for an orchestration to create an instance, an image list must be selected. You may also optionally select the version of the member machine image for launch. If no version is selected, then the default entry defined for the image list is launched. For example, you might want to set up an image list containing a selection of machine images of various Oracle Linux releases.

Topics:

add imagelist

This command enables you to add a new image list.

Note: You can add only private image lists to the system. To make these image lists public, contact you Oracle Cloud Administrator.

Syntax

```
oracle-compute add imagelist name description [--default]
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	A unique hierarchical name for the image list. For example, /mytenant/public/myimagelist . Object names can contain only alphanumeric characters, hyphens, and periods. Object names are case-sensitive.
description	A description of this image list
--default	(Optional) The version of the image in the list that should be considered the default. The default is used on instance launch if a specific version has not been given.

Example

```
$ oracle-compute add imagelist  /mytenant/admin/oel6 "new
imagelist" --default=1
```

Sample Output

```
$ oracle-compute add imagelist  /mytenant/admin/oel6 "new imagelist" --default=1 -f
json
{
 "list": [
  {
   "default": 1,
   "uri": "http://api.oc.example.com/imagelist/mytenant/admin/oel6",
   "description": "new imagelist",
   "name": "/mytenant/admin/oel6",
   "entries": []
  }
 ]
}
```

delete imagelist

This command enables you to delete an existing image list.

Note: You can delete only private image lists that you have created.

Syntax

`oracle-compute delete imagelist` *`name`*

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description

Parameter	Description
name	A unique hierarchical name for the image list. For example, `/mytenant/public/myimagelist`.

Example

```
$ oracle-compute delete imagelist /mytenant/public/oel6
```

update imagelist

This command enables you to update an image list.

Note: You can update only private image lists that you have created.

Syntax

`oracle-compute update imagelist` *`name`* [*`--description`*] [*`--default`*]

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	A unique hierarchical name for the image list. For example, `/mytenant/public/myimagelist`
--description	(Optional) A description of this image list
--default	(Optional) The default machine image when launching instances from this image list

Example

```
$  oracle-compute update imagelist /mytenant/public/ol66_40GB --
description "Refreshed imagelist"
```

Sample Output

```
$  oracle-compute update imagelist /mytenant/public/ol66_40GB --description
"Refreshed imagelist" -f json
{
 "list": [{
  "default": 2,
  "description": "Refreshed imagelist",
  "entries": [],
  "uri": "https://api.oc.example.com/imagelist/mytenant/public/ol66_40GB",
  "name": "/mytenant/public/ol66_40GB"
  }]

}
```

Retrieve Image List Details

You can retrieve image list details by using the CLI.

Topics:

- discover imagelist
- get imagelist
- list imagelist

discover imagelist

This command enables you to discover image lists in a specific container.

Syntax

```
oracle-compute discover imagelist container
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
container	Hierarchical name-space for the image list

Example

```
oracle-compute discover imagelist /oracle/public
```

Sample Output

```
$ oracle-compute discover imagelist /oracle/public
entry
/oracle/public/linux5_16.1.2_64
/oracle/public/linux6_16.1.2_64
/oracle/public/linux6_12.2.1.0.0_64_jaas_16.2.1.0.103
```

get imagelist

This command enables you to retrieve information for a specific image list.

Syntax

```
oracle-compute get imagelist name
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	A unique hierarchical name for the image list. For example, `/mytenant/public/myimagelist`

Example

```
$ oracle-compute get imagelist /oracle/public/linux6_16.1.2_64
```

Sample Output

```
$ oracle-compute get imagelist /oracle/public/linux6_16.1.2_64 -F
name,description,default
name                                description                 default
/oracle/public/linux6_16.1.2_64     A default public image.     1
$
```

list imagelist

This command enables you to retrieve information for image lists in a container or subcontainers.

Syntax

```
oracle-compute list imagelist container
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
container	Hierarchical name-space for the image list.

Example

```
$ oracle-compute list imagelist /oracle/public
```

Sample Output

```
$ oracle-compute list imagelist /oracle/public -F name,description,default
name                                                  description
default
/oracle/public/linux5_16.1.2_64                       A default public image. 1
/oracle/public/linux6_16.1.2_64                       A default public image. 1
/oracle/public/linux6_12.2.1.0.0_64_jaas_16.2.1.0.103 JCS Image               1
```

Managing Image List Entries

An image list entry connects machine images to image lists. This section specifies the operations associated with managing image list entries.

Topics:

- add imagelistentry
- delete imagelistentry
- Retrieve Image List Entry Details

add imagelistentry

This command enables you to add a machine image list to an image list entry.

> **Note:** You can add only private machine image list entries to the system. To make a public image list entry to the system, contact your Oracle Cloud Administrator.

Syntax

```
oracle-compute add imagelistentry imagelist name machineimages
version [--attributes]
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
imagelist name	Unique hierarchical name for the imagelist entry. For example, `/mytenant/public/myimagelistentry`. Object names can contain only alphanumeric characters, hyphens, and periods. Object names are case-sensitive.
machineimages	List of machine images to be used for this image lists
version	The version of the machine image in the specified image list
--attributes	(Optional) Specified as a JSON object, user-defined parameters that can be passed to an instance of this machine image when it is launched For more information on attributes, see section *Orchestration Templates* in *Using Oracle Compute Cloud Service*.

Example

```
$ oracle-compute add imagelistentry /mytenant/public/my-
imagelist-1 /mytenant/public/snapshot-1 1
```

Sample Output

```
$ oracle-compute add imagelistentry /mytenant/public/my-imagelist-1 /mytenant/public/
snapshot-1 1 -fjson
{
 "list": [
  {
   "attributes": {},
   "imagelist": {
    "default": 1,
    "description": null,
    "entries": null,
    "uri": "imagelist/mytenant/public/my-imagelist-1",
    "name": "/mytenant/public/my-imagelist-1"
   },
   "version": 1,
   "machineimages": [
    "/mytenant/public/snapshot-1"
   ],
   "uri": "http://api.oc.example.com/imagelist/mytenant/public/my-imagelist-1/
entry/1"
  }
 ]
}
```

delete imagelistentry

This command enables you to delete a specific version of an image list entry.

Note: You can delete only those image list entries that you have created.

Syntax

```
oracle-compute delete imagelistentry imagelist name version
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
imagelist name	Unique hierarchical name for the image list entry. For example, `/mytenant/public/myimagelistentry`.
version	The version of the machine image in the specified image list

Example

```
$ oracle-compute delete imagelistentry /oracle/public/oel6 2 -f
json
```

Retrieve Image List Entry Details

You can retrieve details of image list entry by using the CLI.

Topics:

- get imagelistentry
- list imagelistentry

get imagelistentry

This command enables you to retrieve information for a specific version of an image list entry.

Syntax

```
oracle-compute get imagelistentry imagelist_name version
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
imagelist_name	Unique hierarchical name for the image list entry. For example, `/mytenant/public/my-imagelist-1`
version	The version of this machine image in this image list

Example

```
$ oracle-compute get imagelistentry /oracle/public/
linux6_16.1.2_64 1
```

Sample Output

```
$ oracle-compute get imagelistentry /oracle/public/linux6_16.1.2_64 1 -F
machineimages,version
machineimages                     version
/oracle/public/linux6_16.1.2_64   1
```

list imagelistentry

This command enables you to list information about image list entries for a specific image list. You must specify a container, which must be a specific image list.

Syntax

```
oracle-compute list imagelistentry imagelist_name
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
imagelist_name	Unique hierarchical name for the image list entry. For example, `/mytenant/public/myimagelistentry`

Example

```
oracle-compute list imagelistentry /oracle/public/
linux6_16.1.2_64
```

Sample Output

```
$ oracle-compute list imagelistentry /oracle/public/linux6_16.1.2_64 -
Fmachineimages,version,attributes

machineimages                     version    attributes
/oracle/public/linux6_16.1.2_64   1          {"connect2db": "true"}
```

7

Site Information

You may want to access site information in order to report any site related problem/ issue to the cloud administrator. The following site wide information is available to all users.

Topics:

Accessing Site Information

This section specifies the operation that you can use to retrieve information about the installed site. Some of this information may be required for licensing and support requests. The fingerprint of the site is usually required for licensing, and provides a unique identifier for the installed site.

Topics:

get siteinformation

This command enables you to retrieve information for an installed site.

Syntax

```
oracle-compute get siteinformation
```

Parameters and Options

This command does not have any parameters or options.

Example

```
$ oracle-compute get siteinformation
```

Sample Output

```
$ oracle-compute get siteinformation
name        idpname     fingerprint         version          platform
system_identifier
example.com example.com 2B:9B:9F:02:..4D:D9 14.1x.005656-dev opcm
AK00298507uri
```

list siteinformation

This command enables you to retrieve detailed site information.

Syntax

```
oracle-compute list siteinformation
```

Parameters and Options

This command does not have any parameters or options.

Example

```
$ oracle-compute list siteinformation
```

Sample Output

```
$ oracle-compute list siteinformation -
Fname,idpname,fingerprint,version,platform,system_identifier
name        idpname      fingerprint
version         platform system_identifier
example.com example.com  D9:51:F6:97:06:44:FF:FD:48:7A:AE:C1:05:90:A8:D3:F4:27:8B:07
14.x.213443-dev opcm     AK00057539
```

8

Storage Management

Oracle Compute Cloud Service assigns a block of storage to an instance. The block of storage is a chunk of disk space on virtual disks. Oracle Compute manages virtual disks independently of the instances that use them. When an instance terminates, another instance can replace it and use the virtual disk space allocated to it. This section specifies the operations that can be performed to manage storage components.

Topics:

Managing Storage Volumes

Storage volumes are pieces of storage of specific size created in the storage pool. You can attach them to an instance, either in an orchestration or after the instance has been launched.

Topics:

add storagevolume

This command enables you to create a storage volume.

> **Note:** You can add only private volumes within your tenancy.

Syntax

```
oracle-compute add storagevolume name size properties [--
description] [--source_storagevolume_name] [--imagelist] [--
imagelist_entry] [--tags] [--quota]
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	Name of this storage volume Object names can contain only alphanumeric characters, hyphens, and periods. Object names are case-sensitive.
size	The size of this storage volume measured in the number of bytes or multiples of bytes. The allowed range is from 1 GB to 2 TB, in increments of 1 GB. Use one of the following abbreviations as the unit of measurement: • B or b (bytes) • K or k (kilobytes) • M or m (megabytes) • G or g (gigabytes) • T or t (terabytes) For example, to create a volume of size 10 gigabytes, you can specify 10G, or 10240M, or 10485760K, and so on.
properties	A list of the storage properties that are associated with this storage volume. The following storage properties are supported: • `/oracle/public/storage/default`—Default storage property for internal storage appliance. • `/oracle/public/storage/latency`—Storage property for placing volumes on external storage appliance. • `/oracle/public/storage/throughput`—Storage property for placing volumes on external storage appliance. For information on setting up storage volumes on external storage appliances, see section Managing Storage Volumes in *Using Oracle Compute Cloud Service*.
--description	(Optional) Description of the storage volume
--source_storagevolume_name	(Optional) Name of an existing storage volume, from where the data will be copied when this volume is created
--imagelist	(Optional) Name of the image list to use as the source for this storage volume when its created. This option must be paired with `--imagelist_entry` to reference a specific machine image.
--imagelist_entry	(Optional) Specific image list entry version to extract.
--tags	(Optional) A list of user-friendly strings that will tag the storage volume. Tags should be specified by using the syntax `--tags 'tag1,tag2'`
--quota	(Optional) The quota against which this volume will be created. If the quota is not specified, then the default quota of the tenancy (to which the user belongs) is used.

Example

```
$ oracle-compute add storagevolume /demo/public/v2 1G /oracle/
public/storage/default --description "1GB volume" --tags
'tag1,tag2'
```

Sample Output

```
$ oracle-compute add storagevolume /demo/public/v2 1G /oracle/public/storage/default
--description "1GB volume" --tags 'tag1,tag2' -Fstatus,name,size,tags
status       name           size       tags
Initializing /demo/public/v2 1073741824 tag1,tag2
```

delete storagevolume

This command enables you to delete a storage volume.

Note: You can delete only private volumes within your tenancy.

Syntax

`oracle-compute delete storagevolume` *`name`*

Note: To delete storage volumes that are attached to instances, you must first detach them by using the `oracle-compute delete storageattachment` command.

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	Name of the storage volume

Example

```
$ oracle-compute delete storagevolume /mytenant/public/v2
```

update storagevolume

This command enables you to update a storage volume.

Note: You can update only private volumes within your tenancy.

Syntax

`oracle-compute update storagevolume` *`name`* `[`*`--description`*`] [`*`--tags`*`]`

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	Name of this storage volume, generated by the server
--description	(Optional) Description of this storage volume
--tags	(Optional) A list of user-friendly strings that will tag the storage volume. During an update, the list of tags specified becomes the new list. To preserve existing tags, you must retrieve the existing set, make any desired changes to that list, and then specify that list for the update.

Example

```
oracle-compute update storagevolume /mytenant/public/vol-u01 --
tags ‘my-application-volume-01’
```

Sample Output

```
$ oracle-compute update storagevolume /mytenant/public/vol-u01 --tags 'my-
application-volume-01' -Fstatus,name,size,status_detail,tags -ftab
status    status_detail                  name                      size        tags
Online    The storage volume is online.    /mytenant/public/vol-u01 1073741824
my-application-volume-01
```

Retrieve Storage Volume Details

You can retrieve storage volume details by using the CLI.

Topics:

- discover storagevolume
- get storagevolume
- list storagevolume

discover storagevolume

This command enables you to retrieve information about existing storage volumes.

Syntax

```
oracle-compute discover storagevolume container
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
container	Hierarchical name-space for the storage volume

Example

```
$ oracle-compute discover storagevolume /mytenant/public
```

Sample Output

```
$ oracle-compute discover storagevolume /mytenant/public/
entry
/mytenant/public/demo-em-1_vm1_vol01
/mytenant/public/demo-em-1_vm1_vol02
/mytenant/public/demo-em-1_vm2_vol01
/mytenant/public/demo-em-1_vm2_vol02
/mytenant/public/vol1
```

get storagevolume

This command enables you to retrieve storage volume information.

Syntax

```
oracle-compute get storagevolume name
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	Name of the storage volume

Example

```
$ oracle-compute get storagevolume /mytenant/public/vol1
```

Sample Output

```
$ oracle-compute get storagevolume /mytenant/public/vol1 -
Fstatus,name,size,status_detail

status status_detail                  name                 size
Online The storage volume is online. /mytenant/public/vol1 1073741824
```

list storagevolume

This command enables you to retrieve storage volumes from a specific container.

Syntax

```
oracle-compute list storagevolume container [--tags] [--quota]
[--name]
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
container	Hierarchical name-space for the storage volume
--tags	(Optional) A list of user-friendly strings that tag the storage volume
--quota	(Optional) The quota against which this volume is created
--name	(Optional) Name of this storage volume

Example

```
$ oracle-compute list storagevolume /mytenant/public/
```

Sample Output

```
$ oracle-compute list storagevolume /mytenant/public/ -Fstatus,name,size,tags
status  name                                size         tags
Online /mytenant/public/demo-em-1_vm1_vol01 1073741824
Online /mytenant/public/demo-em-1_vm1_vol02 1073741824
Online /mytenant/public/demo-em-1_vm2_vol01 1073741824
Online /mytenant/public/demo-em-1_vm2_vol02 1073741824
Online /mytenant/public/vol1 1073741824
```

Managing Storage Attachments

A storage attachment is an association between a storage volume and an instance. You can attach a storage volume to an instance either at launch time (by using a launch plan in an orchestration) or after an instance is running (by using UI, CLI and API). Each volume may only be attached to one instance at a time. To detach a storage volume from an instance, delete the associated storage attachment object.

Note: The storage attachment must exist within the tenant name-space of the instance owner.

Topics:

add storageattachment

This command enables you to attach a storage volume to an instance.

Syntax

```
oracle-compute add storageattachment instance_name
storage_volume_name index
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
instance_name	Name of the instance to which the volume should be attached
storage_volume_name	Name of the storage volume to which the instance should be attached
index	Index number for the volume. The allowed range is 1 to 10. The index determines the device name by which this volume is exposed to the instance (for example, `/dev/sda1`). The index to device mapping is as follows: • 1—`/dev/xvdb` • 2—`/dev/xvdc`, and so on

Example

```
$ oracle-compute add storageattachment /mytenant/public/
1a9ce3a1-ddba-44f7-9cc5-04c77f6523bc /mytenant/public/
storagevolume-data 1
```

delete storageattachment

This command enables you to detach a storage volume from a specific instance.

If the instance is in the `running` state, then you must first `unmount` the storage volume in the instance. Log in to the instance, identify the storage volume, and unmount the storage volume using the command `umount path-to-disk-mount-point`.

Syntax

```
oracle-compute delete storageattachment name
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	System-generated name of the storage attachment to be deleted

Example

```
$ oracle-compute delete storageattachment /mytenant/public/
1a9ce3a1-ddba-44f7-9cc5-04c77f6523bc/8a6551a2-
af25-4616-98e8-50db17da8f64
```

Retrieve Storage Attachment Details

You can retrieve storage attachment details by using the CLI.

Topics:

- discover storageattachment
- get storageattachment
- list storageattachment

discover storageattachment

This command enables you to discover storage attachments in a specific container or subcontainer.

Syntax

```
oracle-compute discover storageattachment container
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
container	Hierarchical name-space containing the storage attachments

Example

```
$ oracle-compute discover storageattachment /mytenant/public/
```

Sample Output

```
$ oracle-compute discover storageattachment /mytenant/public/
entry
/mytenant/public/1a9ce3a1-ddba-44f7-9cc5-04c77f6523bc/
```

get storageattachment

This command enables you to retrieve information for a specific storage attachment.

Syntax

```
oracle-compute get storageattachment name
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	System-generated name of the storage attachment

Example

```
$ oracle-compute get storageattachment /mytenant/public/
960adf49-eefd-4f93-a300-2c798ba4a123/a74237e5-53a5-49e9-9167-
f09f3697a6bb
```

Sample Output

```
$ oracle-compute get storageattachment /mytenant/public/960adf49-eefd-4f93-
a300-2c798ba4a123/a74237e5-53a5-49e9-9167-f09f3697a6bb -F
storage_volume_name,index,hypervisor,state,readonly -ftab

storage_volume_name        index hypervisor state     readonly
/mytenant/public/vm2_vol02 2     None       attached  False
```

list storageattachment

This command enables you to list details about the storage attachment in a specific container.

Syntax

```
oracle-compute list storageattachment container [--name] [--
instance_name] [--state] [--storage_volume_name]
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

> **Note:**
>
> The output of this command is filtered based on the optional parameters (if specified).

Parameter	Description
container	Hierarchical name-space containing the storage attachments
--name	(Optional) Name of the attachment, automatically generated by the server
--instance_name	(Optional) Name of the instance to which the volume is attached

Parameter	Description
--state	(Optional) Attachment state. The following values are supported: • `attaching` The storage attachment is in the process of attaching to the instance. • `attached` The storage attachment is attached to the instance. • `detaching` The storage attachment is in the process of detaching to the instance. • `unavailable` The storage attachment is unavailable. • `error` The storage attachment is in error state.
--storage_volume_name	(Optional) Name of the storage volume to which the instance is attached

Example

```
$ oracle-compute list storageattachment /mytenant/public/
```

Sample Output

```
$ oracle-compute list storageattachment /mytenant/public/ -Fname,state
name
      state
/mytenant/public/960adf49-eefd-4f93-a300-2c798ba4a123/a74237e5-53a5-49e9-9167-
f09f3697a6bb attached
/mytenant/public/960adf49-eefd-4f93-a300-2c798ba4a123/eaa6406a-49ce-4912-
b2bc-4e5b410c3735 attached
/mytenant/public/ff94e915-a1d1-4f0f-88de-cc41b91394d3/5d28def6-10fc-4b9e-b80c-
f3849f1490c0 attached
/mytenant/public/ff94e915-a1d1-4f0f-88de-cc41b91394d3/836b7374-e56a-4adb-
a53c-403d20b7895f attached
```

Viewing Storage Properties

Storage properties are used to describe the characteristics of storage pools and determine the volume placement within a pool when a volume is created.

Topics:

discover property storage

This command enables you to discover storage property objects in a specific container.

Syntax

```
oracle-compute discover property storage container
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
container	Hierarchical name-space containing property objects

Example

```
$ oracle-compute discover property storage /oracle/public/
storage/protocol
```

Sample Output

```
$ oracle-compute discover property storage /oracle/public/storage/protocol
entry
/oracle/public/storage/protocol/iscsi
/oracle/public/storage/protocol/nfs
```

get property storage

This command enables you to retrieve a specific storage property.

Syntax

```
oracle-compute get property storage name
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	Name of the storage property

Example

```
$ oracle-compute get property storage /oracle/public/storage/
protocol/nfs/
```

Sample Output

```
$ oracle-compute get property storage /oracle/public/storage/protocol/nfs/
```

```
uri                          name                                 description
https://api/property/.../nfs  /oracle/public/storage/protocol/nfs  Storage property
for protocol: nfs
```

list property storage

This command enables you to retrieve a list of storage properties in a specific container.

Syntax

```
oracle-compute list property storage container [ --name]
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
container	Hierarchical name-space containing property objects
--name	(Optional) Name of the storage property

Example

```
$ oracle-compute list property storage /
```

Sample Output

```
$ oracle-compute list property storage / -Fname,description
name                                 description
/oracle/public/storage/protocol/nfs     Storage property for protocol: nfs
/oracle/public/storage/default          Default storageproperty for all StoragePools
and StorageVolumes
/oracle/public/storage/protocol/iscsi   Storage property for protocol: iscsi
```

9

Network Management

The Oracle Public Cloud Machine includes compute nodes, a storage appliance, switches, and other components that require connectivity to your network. The network connections allow clients and administrators to use the compute resources remotely, by accessing the IaaS, and PaaS user interfaces and APIs, as well as virtual machines running on compute nodes.

The following three types of networks are supported:

- **Infrastructure service networks**: Infrastructure service networks are service networks that are created during the installation process while configuring the Oracle Public Cloud Machine. This network type is managed by Oracle Cloud Administrator. Oracle Cloud Administrator can provide access to specific tenants, like for ZFSSA or OMS access.
- **Service networks**: Service networks provide shared services across multiple tenants. The shared services include access to storage, networks, and other engineered systems. The service networks are further classified as public networks (EoIB) and private networks (IPoIB). This network type is created and shared by Oracle Cloud Administrators, and used by tenant administrators and tenant users.
- **Tenant networks**: Networks that are assigned exclusively for a specific tenant. Only the instances in that tenant can use this network. The tenant networks are further classified as public networks (EoIB) and private (IPoIB) networks.

  EoIB networks are created by Oracle Cloud Administrators, and used by tenant administrators and tenant users. IPoIB networks are fully managed by tenant administrators and tenant users.

Topics:

Viewing Service Networks

Service networks (servicenets) are created in the system to provide shared services across multiple tenants. The shared services include access to storage, networks, and other engineered systems. An example of an external service provider is an Oracle ZFS storage appliance that provides storage shared across tenants. A dedicated InfiniBand partition is allocated for a servicenet, and no two servicenets share the partition.

The networks can be of type EoIB or IPoIB. The Oracle Cloud Administrator creates and manages these servicenets. In order to view a service network, a tenant must be granted access to the servicenet's underlying vNet by the Oracle Cloud Administrator. This is done with the use of vNet access.

- **IPoIB Service Networks**: The IPoIB servicenet is used for communication between service consumers and service providers. The servicenet is constructed over InfiniBand inside the system, between engineered Systems, or external ZFS appliance interconnected using InfiniBand.
- **EoIB Service Networks**: The EoIB servicenet is used for communication with a service provider or service consumer located outside the system over Ethernet through NM2 Gateways.

Topics:

discover servicenet

This command enables you to discover a list of service networks defined within a container.

Syntax

```
oracle-compute discover servicenet container
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
container	Hierarchical name-space for service networks

Example

```
$ oracle-compute discover servicenet /oracle/public
```

Sample Output

```
$ oracle-compute discover servicenet /oracle/public
```

```
entry
/oracle/public/IPoIB-virt-admin
```

get servicenet

This command enables you to retrieve information for a specific service network.

Syntax

```
oracle-compute get servicenet name
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	Name of the service network. For example, `/oracle/public/mysvcnet`

Example

```
$ oracle-compute get servicenet /cloud/public/IPoIB-default
```

Sample Output

```
$ oracle-compute get servicenet /cloud/public/IPoIB-default -F
name,pkey,type,description
name                          pkey     type    description
/cloud/public/IPoIB-default   0x7fff   ipoib   Infrastructure service network: cloud/
public/IPoIB-default
```

list servicenet

This command enables you to retrieve information for all the service networks within a specific container.

Syntax

```
oracle-compute list servicenet container
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
container	Hierarchical name-space for service networks

Example

```
$ oracle-compute list servicenet /
```

Sample Output

```
$ oracle-compute list servicenet / -F name,pkey,type,description
name                                        pkey        type       description
/cloud/public/IPoIB-default                 0x7fff      ipoib      Infrastructure
service network: cloud/public/IPoIB-default
/oracle/public/IPoIB-virt-admin             0x1402      ipoib      Infrastructure
service network: oracle/public/IPoIB-virt-admin
/cloud/public/IPoIB-ldap-internal           0x1405      ipoib      IPoIB-ldap-
internal
/cloud/public/IPoIB-service-manager         0x1404      ipoib      IPoIB-service
/cloud/public/IPoIB-management              0x1ffe      ipoib      Infrastructure
service network: cloud/public/IPoIB-management
/cloud/public/IPoIB-instance-storage        0x1401      ipoib      Infrastructure
service network: cloud/public/IPoIB-instance-storage
/cloud/public/IPoIB-load-balancer           0x140b      ipoib      IPoIB-load-
balancer
/cloud/public/EoIB-vlan3072                 0x1416      eoib
/cloud/public/IPoIB-storage                 0x1400      ipoib      Infrastructure
service network: cloud/public/IPoIB-storage
/cloud/public/EoIB-management               0x1403      eoib       Infrastructure
service network: cloud/public/EoIB-management
/cloud/public/EoIB-OMS                      0x1406      eoib       EoIB-OMS
```

Managing vEthernet

A virtual Ethernet (vEthernet) is an IaaS object representing an OSI Layer 2 network, defined by a VLAN ID, switch pair name and e-port. vEthernets serve the purpose to isolate networks for instances run by different departments or business units (tenants).

Topics:

add vethernet

This command enables you to add a virtual Ethernet to the network.

> **Note:** You can only add IPoIB vEthernets. To add EoIB vEthernet, contact your Oracle Cloud Administrator.

Syntax

`oracle-compute add vethernet` *`name description type id`* `[--` *`switchports`*`] [--` *`svcnet`*`]`

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	A unique hierarchical name for vEthernet. For example, `/mytenant/public/EoIB`. Object names can contain only alphanumeric characters, hyphens, and periods. Object names are case-sensitive.
description	A description for a vEthernet.
type	Type of vEthernet (supported types: `vlan`, `eoib`, `ipoib`). **Note:** Tenant User can only add vEthernet type `ipoib`.
id	Unique identifier for this vEthernet (VLAN ID for `eoib/vlan` type). Set this parameter to 0 for vEthernet type `ipoib`.
--switchports	(Optional) Dictionary containing two switch names as keys each mapped to a list containing a single eport (HA pairs). For example, {"switchname1": ["eport1"],"switchname2":["eport1"]}. This field is only applicable for type `eoib`.
--svcnet	(Optional) Service network to use for this vEthernet

Example

```
$ oracle-compute -u /mytenant/user1 add vethernet /mytenant/public/testnet1 "My
Tenant Private Net 1" ipoib 0
uri                                              name
description             type  id  switchports svcnet
https://api/vethernet/mytenant/public/testnet1  /mytenant/public/testnet1 My Tenant
Private Net 1  ipoib 0   None        None
```

delete vethernet

This command enables you to delete a virtual Ethernet.

Note: You can only delete IPoIB vEthernets.

Syntax

`oracle-compute delete vethernet` *`name`*

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	A unique hierarchical name for the vEthernet. For example, `/mytenant/public/myvethernet`.

Example

```
$ oracle-compute delete vethernet /mytenant/public/myvethernet
```

update vethernet

This command enables you to update information for a specific virtual Ethernet.

Note: You can only update IPoIB vEthernets.

Syntax

```
oracle-compute update vethernet name [--description]
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	Unique hierarchical name for the vEthernet. For example, `/mytenant/public/myvethernet`.
--description	(Optional)A description for a vEthernet

Example

```
$ oracle-compute update vethernet /mytenant/public/myvEthernet
--description "Private Tenant Network"
```

Sample Output

```
$ oracle-compute update vethernet /mytenant/public/myvEthernet --description
"Private Tenant Network" -Fname,description
name                                description
/demo/public/Private-Tenant-Network Private Tenant Network
```

Retrieve vEthernet Details

You can retrieve vEthernet details by using the CLI.

Topics:

- discover vethernet
- get vethernet

- list vethernet

discover vethernet

This command enables you to discover virtual Ethernets configured in a specific container.

Syntax

```
oracle-compute discover vethernet container
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
container	Hierarchical name-space for vEthernets

Example

```
$ oracle-compute discover vethernet /oracle/public
```

Sample Output

```
$ oracle-compute discover vethernet /oracle/public
entry
/oracle/public/IPoIB-virt-admin-c2
/oracle/public/default
```

get vethernet

This command enables you to retrieve information for a specific virtual Ethernet.

Syntax

```
oracle-compute get vethernet name
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	Name of the vEthernet

Example

```
$ oracle-compute get vethernet /mytenant/public/veth-ipoib
```

Sample Output

```
 $ oracle-compute get vethernet /mytenant/public/veth-ipoib -
Fname,description,type,svcnet
```

```
name                                description         type          svcnet
/mytenant/public/veth-ipoib         description         ipoib         None
```

list vethernet

This command enables you to retrieve information for the configured virtual Ethernet in a specific container or subcontainer.

Syntax

```
oracle-compute list vethernet container [--type]
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
container	Hierarchical name-space for the virtual Ethernet.
--type	(Optional) Type of vEthernet. **Note:** Output of this command is filtered based on the values provided for this parameter.

Example

```
$ oracle-compute list vethernet /oracle/public
```

Sample Output

```
 $  oracle-compute list vethernet /oracle/public -F name,description,svcnet,type,id
name                                type   id  svcnet
/oracle/public/IPoIB-virt-admin-c2  ipoib  0   oracle/public/IPoIB-virt-admin-c2
/oracle/public/default              vlan   0   None
```

Managing vNET

A virtual network (vNET) is deployed in the scope of a service network or tenant network. vNET represents an IP subnet and defines an IP address range. You require a vEthernet to create a vNET.

Topics:

- add vnet
- delete vnet
- update vnet
- Retrieve vNET Details

add vnet

This command enables you to add a new virtual network for a tenant.

> **Note:** The tenant users can only add vNETs that are tied to IPoIB type vEthernets. However, if EoIB vNET is needed the Oracle Cloud Administrator must create it in the tenancy for the tenant user to use.

Syntax

```
oracle-compute add vnet name vethernet [--cidr] [--ipranges] [--description] [--global_ip_num]
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	A unique hierarchical name for a vNET . For example, `/mytenant/public/myvnet`. Object names can contain only alphanumeric characters, hyphens, and periods. Object names are case-sensitive.
vethernet	vEthernet to be associated with this vNET. For tenant user, only IPoIB vEthernet is supported.
--cidr	(Optional) Specifies the subnet Classless Inter-Domain Routing (CIDR) for vNET. Optional for IPoIB network. Format: *ip_address*`/#`. For example, `192.0.1.0/24` If `cidr` is not specified for `IPoIB` networks, then `global_ip_num` parameter must be specified.
--ipranges	(Optional) IP address range for the vNET. It's a comma-separated list that can have individual IP addresses or ranges using "-" as a separator. For example, 192.0.1.10, 192.0.1.20-192.0.1.30 If no IP range is provided, then the entire CIDR (from .1 to .254) is used for IP addresses.
--description	(Optional) Description to correlate this vNET with an internal tenant schema
--global_ip_num	(Optional) Specifies the number of IP addresses to be used from the global IP pool. Not valid for EoIB network. If the global IP pool is enabled in Oracle Compute Cloud Service, using this option will create a vNET by allocating a specified number of IP addresses from the global pool of IP addresses to guarantee uniqueness. This option is mutually exclusive of `cidr` and `ipranges` options.

Example

```
$ oracle-compute add vnet /mytenant/public/IPoIB /mytenant/public/IPoIB --cidr 192.0.2.1/21
```

delete vnet

This command enables you to delete a specific vNET for a tenant. You cannot delete a vNET if it is used by any instance, or if there is an existing vNET Reservation associated with the vNET.

Syntax

```
oracle-compute delete vnet name
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	A unique hierarchical name for a vNET . For example, `/mytenant/public/myvnet`

Example

```
$ oracle-compute delete vnet /mytenant/public/IPoIB-service-
manager-c2
```

update vnet

This command enables you to update information for a specific tenant vNET.

> **Note:** The tenant users can only update vNETs that are tied to IPoIB vEthernets.

Syntax

```
oracle-compute update vnet name [--cidr] [--ipranges] [--
gateway] [--description] [--global_ip_num]
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	A unique hierarchical name for a vNET . For example, `/mytenant/public/myvnet` .
--cidr	(Optional) Specifies the subnet Classless Inter-Domain Routing (CIDR) for vNET. Optional for IPoIB network. Format: *ip_address*`/#`. For example, 192.0.1.0/24

Parameter	Description
--ipranges	(Optional) IP address range for the vNET. It is a comma separated list that can have individual IP addresses or ranges using "-" as a separator. For example, 192.0.1.10, 192.0.1.20-192.0.1.30 If no IP range is provided, then the entire CIDR (from .1 to .254) is used for IP addresses.
--description	(Optional) Description to correlate this vNET with the internal tenant schema
--global_ip_num	(Optional) Specifies the number of IP addresses to be used from the global IP pool. Not valid for EoIB network. If the global IP pool is enabled in Oracle Compute, using this option will create a vNET by allocating a specified number of IP addresses from the global pool of IP addresses to guarantee uniqueness. This option is mutually exclusive of `cidr` and `ipranges` options.

Example

```
$ oracle-compute update vnet /mytenant/public/IPoIB --ipranges
192.0.10.1-192.0.10.10
```

Retrieve vNET Details

You can retrieve vNET details by using the CLI.

> **Note:** You can view the details of any vNET in your own tenancy, as well as vNETs you have been given access to by the Oracle Cloud Administrator.

Topics:

- discover vnet
- get vnet
- list vnet

discover vnet

This command enables you to discover a list of configured vNETs in a specific container or subcontainer.

Syntax

```
oracle-compute discover vnet container
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
container	Hierarchical name-space for vNET. For example, `/mytenant/public/`.

Example

```
$ oracle-compute discover vnet /mytenant/public/
```

Sample Output

```
$ oracle-compute discover vnet /mytenant/public/
entry
/mytenant/public/IPoIB-private-c2
/mytenant/public/eth-admin
$
```

get vnet

This command enables you to retrieve information for a specific vNET.

Syntax

```
oracle-compute get vnet name
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	An unique hierarchical name for a vNET . For example, `/mytenant/public/IPoIB`

Example

```
$ oracle-compute get vnet /mytenant/public/IPoIB
```

Example

```
$ oracle-compute get vnet /mytenant/public/IPoIB   -F name,vethernet,cidr
name                      vethernet               cidr
/mytenant/public/IPoIB   /mytenant/public/IPoIB   10.128.38.0/23
$
```

list vnet

This command enables you to retrieve information for all the vNETs in a specific container.

Syntax

```
oracle-compute list vnet container
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
container	Hierarchical name-space for vNET. For example, `/mytenant/public/myVNET`

Example

```
$ oracle-compute list vnet /cloud/public/
```

Example

```
$ oracle-compute list vnet  /cloud/public/ -F name,vethernet,cidr,ipranges
name                                    vethernet
cidr             ipranges
/cloud/public/EoIB-OMS               /cloud/public/EoIB-OMS
10.196.38.0/23   10.196.38.101-10.196.38.245
/cloud/public/EoIB-management        /cloud/public/EoIB-management
10.196.36.0/23   10.196.36.55, 10.196.36.56, 10.196.36.58
/cloud/public/IPoIB-instance-storage /cloud/public/IPoIB-instance-storage
10.196.0.0/16    10.196.0.2-172.38.255.254
/cloud/public/IPoIB-ldap-internal    /cloud/public/IPoIB-ldap-internal
192.168.120.0/24 192.168.120.1-192.168.120.254
/cloud/public/IPoIB-load-balancer    /cloud/public/IPoIB-load-balancer
192.168.127.0/24 192.168.127.1-192.168.127.254
/cloud/public/IPoIB-management       /cloud/public/IPoIB-management
192.168.90.0/24  192.168.90.43, 192.168.90.44, 192.168.90.45
/cloud/public/IPoIB-service-manager  /cloud/public/IPoIB-service-manager
192.168.126.0/24 192.168.126.1-192.168.126.254
/cloud/public/vnet-EoIB-vlan3072     /cloud/public/veth-EoIB-vlan3072
10.196.206.0/23  10.196.206.74-10.196.206.93
```

Viewing vNET Access

Virtual network access (vNET Access) allows sharing of vNETs between tenants. View the vNET Access objects in your own tenancy to determine what vNETs you have permission to use when configuring virtual machines. Tenant users and administrators can fetch the vNET Access information to determine the vNETs that they can use.

Topics:

discover vnetaccess

This command enables you to discover a list of vNET Access entities configured in a specific container.

Syntax

```
oracle-compute discover vnetaccess container
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
container	Hierarchical name-space for vNET Access

Example

```
$ oracle-compute discover vnetaccess /mytenant/public
```

Sample Output

```
$ oracle-compute discover vnetaccess /mytenant/public
entry
/mytenant/public/EoIB-OMS-c2
/mytenant/public/EoIB-management-c2
/mytenant/public/IPoIB-instance-storage-c2
/mytenant/public/IPoIB-load-balancer-c2
/mytenant/public/IPoIB-management-c2
/mytenant/public/IPoIB-service-manager-c2
/mytenant/public/IPoIB-virt-admin-c2
```

get vnetaccess

This command enables you to retrieve information for a specific vNET access entity.

Syntax

```
oracle-compute get vnetaccess name
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	Unique hierarchical name for the virtual network access. For example, `/cloud/public/myvnetworkaccess`

Example

```
$ oracle-compute get vnetaccess /mytenant/public/EoIB-OMS-c2
```

Sample Output

```
uri                                                 name
vnet                        provider
https://api/vnetaccess/mytenant/public/EoIB-OMS   /mytenant/public/EoIB-OMS-c2  /
```

```
cloud/public/EoIB-OMS-c2  False
```

list vnetaccess

This command enables you list information for all the vNet Access entities in a container.

Syntax

```
oracle-compute list vnetaccess container [--vnet]
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
container	Hierarchical name-space for vNET Access
--vnet	(Optional) Name of the associated virtual network

Example

```
$ oracle-compute list vnetaccess /mytenant/public
```

Sample Output

```
 $ oracle-compute list vnetaccess /mytenant/public -F name,vnet,provider
name
vnet                                        provider
/mytenant/public/EoIB-OMS-c2                  /cloud/public/EoIB-OMS-
c2                 False
/mytenant/public/EoIB-management-c2         /cloud/public/EoIB-management-
c2          True
/mytenant/public/IPoIB-instance-storage-c2  /cloud/public/IPoIB-instance-storage-
c2   False
/mytenant/public/IPoIB-load-balancer-c2     /cloud/public/IPoIB-load-balancer-
c2      False
/mytenant/public/IPoIB-management-c2        /cloud/public/IPoIB-management-
c2         False
/mytenant/public/IPoIB-service-manager-c2   /cloud/public/IPoIB-service-manager-
c2    True
/mytenant/public/IPoIB-virt-admin-c2        /oracle/public/IPoIB-virt-admin-
c2        True
```

Managing vNET Reservations

A vNET Reservation enables the user to reserve an IP address for an instance.

Topics:

- add vnetreservation
- delete vnetreservation

- Retrieve vNET Reservation Details

add vnetreservation

This command enables you to add a new vNET Reservation.

Syntax

```
oracle-compute add vnetreservation name vnet [--ip]
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	A unique hierarchical name for vNET Reservation . For example, `/mytenant/public/myvnetreservation` Object names can contain only alphanumeric characters, hyphens, and periods. Object names are case-sensitive.
vnet	vNET name from where the IP address will be reserved
--ip	(Optional) IP address allocated for this IP entry. By default, a random IP address will be taken from the vNET IP range. If an IP address is specified, then the API will attempt to allocate the specified address from the vNET pool.

Example

```
$ oracle-compute add vnetreservation /mytenant/public/res1 /
mytenant/public/IPoIB --ip 192.0.10.4
```

delete vnetreservation

This command enables you to delete a specific vNET Reservation

Syntax

```
oracle-compute delete vnetreservation name
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	Unique hierarchical name for the vNET Reservation. For example, `/mytenant/public/myvnetreservation`

Example

```
$ oracle-compute delete vnetreservation /mytenant/public/res1
```

Retrieve vNET Reservation Details

You can retrieve vNET Reservation details by using the CLI.

Topics:

discover vnetreservation

This command enables you to discover all the vNET Reservations listed in a specific container or subcontainer.

Syntax

```
oracle-compute discover vnetreservation container
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
container	Hierarchical name-space for vNET Reservation.

Example

```
$ oracle-compute discover vnetreservation /mytenant/public/
```

Sample Output

```
$ oracle-compute discover vnetreservation /mytenant/public/

entry
/mytenant/public/myreserve
/mytenant/public/mysecondreserve
```

get vnetreservation

This command enables you to retrieve information for a specific vNET Reservation.

Syntax

```
oracle-compute get vnetreservation name
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	A unique hierarchical name for vNET Reservation. For example, `/mytenant/public/myreservation`

Example

```
$ oracle-compute get vnetreservation /mytenant/public/myreserve
```

Sample Output

```
$ oracle-compute get vnetreservation /mytenant/public/myreserve -Fname,vnet,ip,used
name                          vnet                        ip             used
/mytenant/public/myreserve  /mytenant/public/vnet_1  192.0.10.17  False
```

list vnetreservation

This command enables you to retrieve information for all the vNET Reservations in a specific container.

Syntax

```
oracle-compute list vnetreservation name [--ip] [--quota]
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
name	A unique hierarchical name for vNET Reservation . For example, `/mytenant/public/myvnetreservation`
--ip	(Optional) IP address allocated for the reservation
--quota	(Optional) The quota against which this reservation is created

Example

```
$ oracle-compute list vnetreservation /mytenant/public
```

Sample Output

```
$ oracle-compute list  vnetreservation /mytenant/public -Fname,vnet,ip,used
name                               vnet                    ip           used
/mytenant/public/myreserve       /mytenant/public/vnet_ 192.0.12.17 False
/mytenant/public/mysecondreserve /mytenant/public/vnet_ 192.0.12.18 False$
```

Viewing vCables

A virtual cable (vCable) is an internal representation of the link between an instance's network interface and a specific network. A vCable is created automatically when an instance is launched and is deleted when the instance is deleted. When a vCable is deleted (on instance termination), entities that depend on them are also deleted.

Topics:

discover vcable

This command enables you to discover a list of vCables configured in a specific container.

Syntax

```
oracle-compute discover vcable container
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
container	Hierarchical name-space for vCables. For example, `/mytenant/public/myvcable`

Example

```
$ oracle-compute discover vcable /mytenant/public
```

Sample Output

```
$ oracle-compute discover vcable /mytenant/public
entry
/mytenant/public/01cb8de3-945f-41b3-8e76-206c0a17c770
/mytenant/public/030e87f3-b7aa-423b-83ee-c30bbfd2e8a0
/mytenant/public/06200aa6-3284-4320-a8dc-fbc001e8ace8
/mytenant/public/0973a377-1542-440b-bf9b-8c8e14b93586
/mytenant/public/1117e4b7-25b1-4796-b37d-119a623304b9
/mytenant/public/15e1b187-d739-4d95-9a71-0235774e6779
/mytenant/public/1d361020-f6a2-4deb-9e2b-d5fd0a5444aa
/mytenant/public/1e917354-2858-425c-b92f-8a77ef7b8532
/mytenant/public/2036c074-89f9-4880-a498-d23ba95c6d04
/mytenant/public/265d1044-ca53-441d-bcf9-afb9a2070bcf
/mytenant/public/2cbd35fb-05bc-45e7-b194-5b508d669258
/mytenant/public/2e63136b-7989-426d-93a3-8c63cf5d9e54
/mytenant/public/302b8248-0fd0-42c7-9776-6c248692854d
/mytenant/public/32b4c1b1-85c0-4aa7-9766-431ea2fa40a9
/mytenant/public/3f4647b2-d49d-458e-9a82-253fc22403d9
```

get vcable

This command enables you to retrieve information for a specific vCable.

Syntax

```
oracle-compute get vcable id
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
id	Unique Id of vCable

Example

```
$ oracle-compute get vcable /mytenant/public/f818e9bb-251f-476a-
aa36-08e8fc6f7707
```

Sample Output

```
$ oracle-compute get vcable /mytenant/public/f818e9bb-251f-476a-aa36-08e8fc6f7707 -F
id,vethernet
id                                                              vethernet
/mytenant/public/f818e9bb-251f-476a-aa36-08e8fc6f7707       /cloud/public/IPoIB-
instance-storage
$
```

list vcable

This command enables you to retrieve information for vCables in a specific container.

Syntax

```
oracle-compute list vcable container [--vnet] [--vethernet_id]
[--vethernet_type] [--id] [--instance] [--vethernet]
```

Parameters and Options

The following parameters are specific to this command. You can also use the common options described in General Command Options.

Parameter	Description
container	Hierarchical name-space for vCables. For example, `/mytenant/public/myvcable`
--vnet	(Optional) The path of the vNET used to create the vCable. If specified, the vCable listing is scoped to only include vCables linked to the specified vNET.
--vethernet_id	(Optional) The vEthernet Id for the vCable. If specified, the vCable listing is scoped to only include vCables with the specified Id. The parameter is always set to -1 for infiniband networks.

Parameter	Description
--vethernet_type	(Optional) The type of vEthernet for the vCable. Possible values are `ipoib` or `eoib`. If specified, the vCable listing will be scoped to only include vCables linked to vEthernets of the specified type.
--id	(Optional) Unique identifier of the particular vCable for which you want to retrieve info.
--instance	(Optional) A specific instance you want to list vCables for. If specified, the listing will be scoped to only include vCables linked to this specific instance.
--vethernet	(Optional) The path of the vEthernet used to create the vCable. If specified, the listing will be scoped to only include vCables linked to this specific vEthernet.

Example

```
$ oracle-compute list vcable /mytenant/public/
```

Sample Output

```
oracle-compute list vcable /mytenant/public -Fname,id,address -ftab --instance /
mytenant/public/e6a987d4-2ca6-4edb-926a-89858ecc82a9
id                                                    address
/mytenant/public/2d4ac3e8-4f5f-4081-a5eb-67a7a5b0c3f8  00:21:f6:b5:19:52,
00:21:f6:75:c6:7d, 10.247.64.56
/mytenant/public/b1658206-709a-4bcc-9adb-e173ec1d3634  None, 10.196.0.11
/mytenant/public/fe0598d2-be48-4f0a-a9d0-5286df80300a  None, 192.168.128.25
```

A

Debugging Common Error Messages

When an `oracle-compute` command executes successfully, it either terminates silently or prints a table of values about the object on which the operation was performed.

If an error occurs, the command returns an exit status code and an exception. The exit status code is stored in the exit status environment variable, the name of which depends on the UNIX shell that you use.

The following table describes exit status codes.

Exit status	Exception and description
0	Success
1	General error, including operations that are not allowed.
2	Shell builtins have been misused as a result of a missing keyword or component, or an underlying permission problem not related to Oracle Compute Cloud Service permissions.
3	APIException Indicates an error during the operation of the client or server.
4	ValidationError The input data is not valid. For example, missing values, wrong types or references to non-existent objects. This exception always contains detailed information on the input data.
5	APIInternalError Indicates that communications might have succeeded, but something went wrong inside the client. This is the base class for the APICodec error.
6	APICodecError Indicates a problem with JSON format encoding an object or decoding the response. This is the base class for the APIDecoding and APIEncoding errors.
7	APIDecodingError Indicates a problem with decoding a response to an object, usually because of an invalid JSON format.
8	APIEncodingError Indicates a problem with encoding an object usually caused by data in an unrecognizable format.

Exit status	Exception and description
9	APIClientError A client side error, in line with 4xx errors in HTTP.
10	APIUnauthorizedError The request requires user authentication or authorization.
11	APIForbiddenError The request is formed properly, but the server cannot fulfill it. The issue is not related to authorization. Do not repeat the request.
12	APINotFoundError The server has not found a match for the URI in the request. This state might be temporary so repeat the request.
13	APIMethodNotAllowedError The method specified in the Request-Line is not allowed for the resource identified by the Request-URI. This exception occurs when the request includes a method that is not supported for the object.
14	APINotAcceptableError The resource specified in the request generates response that has characteristics that are not allowed by the accept headers in the request.
15	APIConflictError The request could not be completed because of a conflict with the state of the resource or the resource already exists. You can either delete the existing object to allow the request to create it or you can create a new object with a unique identifier.
16	APIGoneError The requested resource does not exist. This error occurs when an instance exists but is not running, so a duplicate of this instance with the same identifier can not be created.
17	APIUnsupportedTypeError The server cannot complete the request because the request contains a format that is not supported by the method for the resource. This error indicates an error in JSON formatting.
18	APIServerError An internal error has occurred and the server cannot fulfill the request.
21	APIUncaughtExceptionError The server encountered an unexpected condition that prevented it from fulfilling the request. The error includes a code. Use this code when you report the problem to My Oracle Support.
22	APINotImplementedError The server does not support the functionality required to fulfill the request.

Exit status	Exception and description
23	APIServiceUnavailable The server is unable to handle the request due to temporary overloading or maintenance. This error is usually related to the load on the server and is temporary. Repeat the request.
30	IOError A file to be uploaded to the server cannot be found or is unavailable.
24	APIGatewayError The Oracle Compute service layer is not able to respond. This is usually related to a failover of the service and is temporary. Repeat the request.
31	APINetworkError There was a network error while trying to communicate with the server. This can result from a DNS lookup failure or TCP connection failure.
33	APIRequestTooLarge The request attempts to upload an image that exceeds the maximum upload size.

For debugging, use the `-d` option while running the `oracle-compute` command. The -d option prints out all the HTTP traffic, which facilitates the user in debugging error messages.