# » opennebula\_group

Use this data source to retrieve the group information for a given name.

## » Example Usage

```
data "opennebula_group" "ExistingGroup" {
  name = "My_Service_Group"
}
```

# » Argument Reference

• name - (Required) The OpenNebula group to retrieve information for.

# » opennebula\_image

Use this data source to retrieve the image information for a given name.

# » Example Usage

```
data "opennebula_image" "ExistingImagr" {
  name = "My_Image"
}
```

## » Argument Reference

• name - (Required) The OpenNebula image to retrieve information for.

# » opennebula\_security\_group

Use this data source to retrieve the security group information for a given name.

```
data "opennebula_security_group" "ExistingSecurityGroup" {
  name = "My_Security_Group"
}
```

• name - (Required) The OpenNebula security group to retrieve information for.

# » opennebula\_template

Use this data source to retrieve the template information for a given name.

# » Example Usage

```
data "opennebula_template" "ExistingTemplate" {
  name = "My_Template"
}
```

# » Argument Reference

• name - (Required) The OpenNebula template to retrieve information for.

# $\ \ \, \text{$\rangle$ opennebula\_virtual\_data\_center}$

Use this data source to retrieve the virtual data center information for a given

# » Example Usage

```
data "opennebula_virtual_data_center" "ExistingVdc" {
  name = "My_VDC"
}
```

# » Argument Reference

• name - (Required) The OpenNebula virtual data center to retrieve information for.

# 

Use this data source to retrieve the virtual network information for a given name.

## » Example Usage

```
data "opennebula_virtual_network" "ExistingVNet" {
   name = "My_VNet"
}
```

## » Argument Reference

• name - (Required) The OpenNebula virtual network to retrieve information for.

# » opennebula\_group

Provides an OpenNebula group resource.

This resource allows you to manage groups on your OpenNebula clusters. When applied, a new group will be created. When destroyed, that group will be removed.

```
data "template_file" "grptpl" {
   template = "${file("group_template.txt")}"
}

resource "opennebula_group" "group" {
   name = "terraform"
   template = "${data.template_file.grptpl.rendered}"
   delete_on_destruction = true
   quotas {
       id = 1
       images = 3
       size = 10000
   }

   vm_quotas {
       cpu = 3
```

```
running_cpu = 3
            memory = 2048
            running_memory = 2048
        }
        network_quotas = {
            id = 10
            leases = 6
        network_quotas = {
            id = 11
            leases = 4
        }
        image_quotas = {
            id = 8
            running_vms = 1
        image_quotas = {
            id = 9
            running_vms = 1
        }
    }
}
```

### » Argument Reference

The following arguments are supported:

- name (Required) The name of the group.
- template (Required) Group template content in OpenNebula XML or String format. Used to provide SUSNTONE arguments.
- delete\_on\_destruction (Optional) Flag to delete the group on destruction. Defaults to false.
- admins (Optional) List of Administrator user IDs part of the group.
- quotas (Optional) See Quotas parameters below for details

#### » Quotas parameters

quotas supports the following arguments:

• datastore\_quotas - (Optional) List of datastore quotas. See Datastore quotas parameters below for details.

- network\_quotas (Optional) List of network quotas. See Network quotas parameters below for details.
- image\_quotas (Optional) List of image quotas. See Image quotas parameters below for details
- vm\_quotas (Optional) See Virtual Machine quotas parameters below for details

#### » Datastore quotas parameters

datastore supports the following arguments:

- id (Required) Datastore ID.
- images (Optional) Maximum number of images allowed on the datastore.

  Defaults to default quota
- size (Optional) Total size in MB allowed on the datastore. Defaults to default quota

#### » Network quotas parameters

network supports the following arguments:

- id (Required) Network ID.
- leases (Optional) Maximum number of ip leases allowed on the network. Defaults to default quota

#### » Image quotas parameters

image supports the following arguments:

- id (Required) Image ID.
- running\_vms (Optional) Maximum number of Virtual Machines in RUNNING state with this image ID attached. Defaults to default quota

### » Virtual Machine quotas parameters

vm supports the following arguments:

- cpu (Optional) Maximum number of CPU allowed (in total). Defaults to default quota.
- memory (Optional) Maximum memory (in MB) allowed (in total). Defaults to default quota.
- vms (Optional) Maximum number of Virtual Machines allowed. Defaults to default quota.
- running\_cpu (Optional) Number of CPUs of Virtual Machine in RUNNING state allowed. Defaults to default quota.
- running\_memory (Optional) Memory (in MB) of Virtual Machine in RUNNING state allowed. Defaults to default quota.

- running\_vms (Optional) Number of Virtual Machines in RUNNING state allowed. Defaults to default quota.
- system\_disk\_size (Optional) Maximum disk size (in MB) on a SYSTEM datastore allowed (in total). Defaults to default quota.

#### » Attribute Reference

The following attribute is exported: \* id - ID of the image.

## » Import

```
To import an existing group #134 into Terraform, add this declaration to your .tf file:

resource "opennebula_group" "importgroup" {
    name = "importedgroup"
}

And then run:

terraform import opennebula_group.importgroup 134

Verify that Terraform does not perform any change:

terraform plan
```

# » opennebula image

Provides an OpenNebula image resource.

This resource allows you to manage images on your OpenNebula clusters. When applied, a new image will be created. When destroyed, that image will be removed.

```
Clone an existing image and make it persistent: hcl resource "opennebula_image"
"osimageclone" {
                   datastore_id = 113
                                         permissions = "660"
                     persistent = true
group = "terraform" }
Allocate a new OS image using a URL: hcl resource "opennebula_image"
"osimage" {
              name = "Ubuntu 18.04"
                                      description = "Terraform
image"
          datastore_id = 103
                               persistent = false
                                                    lock =
"MANAGE"
           path = "http://marketplace.opennebula.org/appliance/ca5c3632-359a-429c-ac5b-b86
```

```
dev_prefix = "vd"
                      driver = "qcow2"
                                            permissions = "660"
group = "terraform" }
Allocate a new persistent 1GB datablock image: hcl resource "opennebula_image"
                       name = "terra-datablock"
"datablockimage" {
                                                    description
                                                  persistent =
= "Terraform datablock"
                           datastore_id = 103
        type = "DATABLOCK"
                                                dev_prefix = "vd"
                               size = "1000"
                    group = "terraform" }
driver = "qcow2"
Allocate a new context file: hcl resource "opennebula image" "contextfile"
      name = "terra-contextfile"
                                      description = "Terraform
{
             datastore id = 2
                                   type = "CONTEXT"
context"
                                                        path =
"http://server/myscript.sh" }
Allocate a new CDROM image:
                                   hcl resource "opennebula_image"
"cdimage" {
                name = "terra-cdimage"
                                            description = "Terraform
cdrom"
           datastore id = 103
                                   type = "CDROM"
                                                      path =
"http://server/mini.iso" }
```

The following arguments are supported:

- name (Required) The name of the image.
- description (Optional) Description of the image.
- permissions (Optional) Permissions applied to the image. Defaults to the UMASK in OpenNebula (in UNIX Format: owner-group-other => Use-Manage-Admin.
- clone\_from\_image (Optional) ID or name of the image to clone from. Conflicts with path, size and type.
- datastore\_id (Required) ID of the datastore to host new image. The datastore\_id must be an IMAGE datastore.
- persistent (Optional) Flag which indicates if the Image has to be persistent. Defaults to false.
- lock (Optional) Lock the image with a specific lock level. Supported values: USE, MANAGE, ADMIN, ALL or UNLOCK.
- path (Optional) Path or URL of the orinal image to use. Conflicts with clone\_from\_image.
- type (Optional) Type of the image. Supported values: OS,
   CDROM, DATABLOCK, KERNEL, RAMDISK or CONTEXT. Conflicts with clone\_from\_image.
- size (Optional) Size of the image in MB. Conflicts with clone\_from\_image.
- dev\_prefix (Optional) Device prefix on Virtual Machine. Usually one of these: hd, sd or vd.
- target (Optional) Device target on Virtual Machine.
- driver (Optional) OpenNebula Driver to use.
- format (Optional) Image format. Example: raw, qcow2.

• group - (Optional) Name of the group which owns the image. Defaults to the caller primary group.

#### » Attribute Reference

The following attributes are exported: \* id - ID of the image. \* uid - User ID whom owns the image. \* gid - Group ID which owns the image. \* uname - User Name whom owns the image. \* gname - Group Name which owns the image.

# » Import

To import an existing image #14 into Terraform, add this declaration to your .tf file:

```
resource "opennebula_image" "importimage" {
    name = "importedimage"
}
And then run:
terraform import opennebula_image.importimage 14
Verify that Terraform does not perform any change:
terraform plan
```

# » opennebula\_security\_group

Provides an OpenNebula security group resource.

This resource allows you to manage security groups on your OpenNebula clusters. When applied, a new security group will be created. When destroyed, that security group will be removed.

```
resource "opennebula_security_group" "mysecgroup" {
   name = "terrasec"
   description = "Terraform security group"
   group = "terraform"
   rule {
       protocol = "ALL"
       rule_type = "OUTBOUND"
   }
```

```
rule {
    protocol = "TCP"
    rule_type = "INBOUND"
    range = "22"
}
rule {
    protocol = "ICMP"
    rule_type = "INBOUND"
}
```

The following arguments are supported:

- name (Required) The name of the security group.
- description (Optional) Description of the security group.
- permissions (Optional) Permissions applied on security group. Defaults to the UMASK in OpenNebula (in UNIX Format: owner-group-other => Use-Manage-Admin.
- commit (Optional) Flag to commit changes on Virtual Machine on security group update. Defaults to true.
- rule (Required) List of rules. See Rules parameters below for details
- group (Optional) Name of the group which owns the security group. Defaults to the caller primary group.

#### » Rules parameters

rules supports the following arguments:

- protocol (Required) Protocol for the rule. Supported values: ALL, TCP, UDP, ICMP or IPSEC.
- rule\_type (Required) Direction of the traffic flow to allow, must be INBOUND or OUTBOUND.
- network\_id (Optional) VNET ID to be used as the source/destination IP addresses.
- ip (Optional) IP (or starting IP if used with 'size') to apply the rule to.
- size (Optional) Number of IPs to apply the rule from, starting with 'ip'.
- range (Optional) Comma separated list of ports and port ranges.
- icmp\_type (Optional) Type of ICMP traffic to apply to when 'protocol' is ICMP.

See https://docs.opennebula.org/5.8/operation/network\_management/security groups.html for more details on allowed values.

## » Attribute Reference

The following attribute are exported: \* id - ID of the security group. \* uid - User ID whom owns the security group. \* gid - Group ID which owns the security group. \* uname - User Name whom owns the security group. \* gname - Group Name which owns the security group.

# » Import

To import an existing security group #142 into Terraform, add this declaration to your .tf file:

```
resource "opennebula_security_group" "importsg" {
    name = "importedsg"
}
And then run:
terraform import opennebula_security_group.importsg 142
Verify that Terraform does not perform any change:
terraform plan
```

# » opennebula\_template

Provides an OpenNebula template resource.

This resource allows you to manage templates on your OpenNebula clusters. When applied, a new template will be created. When destroyed, that template will be removed.

```
data "template_file" "templatetpl" {
  template = "${file("template-tpl.txt")}"
}

resource "opennebula_template" "mytemplate" {
  name = "mytemplate"
  template = "${data.template_file.templatetpl.rendered}"
  group = "terraform"
  permissions = "660"
}
```

```
with template file template-tpl.txt: php CPU = 1 VCPU = 1 MEMORY
= 512 Context = [ DNS_HOSTNAME = "YES", NETWORK = "YES",
SSH_PUBLIC_KEY = "$USER[SSH_PUBLIC_KEY]" ] NIC_DEFAULT = [ MODEL
= "virtio-net-pci" ] OS = [ ARCH = "x86_64", BOOT = "" ]
```

The following arguments are supported:

- name (Required) The name of the virtual machine template.
- template (Required) Text describing the OpenNebula template object, in Opennebula's XML string format.
- permissions (Optional) Permissions applied on template. Defaults to the UMASK in OpenNebula (in UNIX Format: owner-group-other => Use-Manage-Admin.
- group (Optional) Name of the group which owns the template. Defaults to the caller primary group.

#### » Attribute Reference

The following attribute are exported: \* id - ID of the template. \* uid - User ID whom owns the template. \* gid - Group ID which owns the template. \* uname - User Name whom owns the template. \* gname - Group Name which owns the template. \* reg\_time - Registration time of the template.

#### » Import

To import an existing virtual machine template #54 into Terraform, add this declaration to your .tf file:

```
resource "opennebula_template" "importtpl" {
    name = "importedtpl"
}
And then run:
terraform import opennebula_template.importtppl 54
Verify that Terraform does not perform any change:
terraform plan
```

# » opennebula\_virtual\_data\_center

Provides an OpenNebula virtual data center resource.

This resource allows you to manage virtual data centers on your OpenNebula organization. When applied, a new virtual data center will be created. When destroyed, that virtual data center will be removed.

## » Example Usage

```
resource "opennebula_virtual_data_center" "vdc" {
   name = "terravdc"
   group_ids = ["${opennebula_group.group.id}"]
   zones {
      id = 0
      host_ids = [0, 1]
      datastore_ids = [0, 1, 2]
      vnet_ids = ["${opennebula_virtual_network.vnet.id}"]
      cluster_ids = [0, 100]
   }
}
```

## » Argument Reference

The following arguments are supported:

- name (Required) The name of the virtual data center.
- groups\_ids (Optional) List of group IDs part of the virtual data center.
- zones (Optional) List of zones. See Zones parameters below for details

#### » Zones parameters

zones supports the following arguments:

- id (Optional) Zone ID from where resource to add in virtual data center are located. Defaults to 0.
- host\_ids (Optional) List of hosts from Zone ID to add in virtual data center.
- datastore\_ids (Optional) List of datastore from Zone ID to add in virtual data center.
- vnet\_ids (Optional) List of virtual networks from Zone ID to add in virtual data center.
- cluster\_ids (Optional) List of clusters from Zone ID to add in virtual data center.

### » Attribute Reference

The following attribute is exported: \* id - ID of the virtual data center.

### » Import

To import an existing virtual data center #13 into Terraform, add this declaration to your .tf file:

```
resource "opennebula_virtual_data_center" "importvdc" {
    name = "importedvdc"
}
And then run:
terraform import opennebula_virtual_data_center.importvdc 13
Verify that Terraform does not perform any change:
terraform plan
```

# » opennebula\_virtual\_machine

Provides an OpenNebula virtual machine resource.

This resource allows you to manage virtual machines on your OpenNebula clusters. When applied, a new virtual machine will be created. When destroyed, that virtual machine will be removed.

```
data "template_file" "cloudinit" {
   template = "${file("cloud-init.yaml")}"
}

resource "opennebula_virtual_machine" "demo" {
   count = 2
   name = "tfdemovm"
   cpu = 1
   vcpu = 1
   memory = 1024
   group = "terraform"
   permissions = "660"

context {
```

```
NETWORK = "YES"
    HOSTNAME = "$NAME"
    USER_DATA = "${data.template_file.cloudinit.rendered}"
 }
  graphics {
    type = "VNC"
    listen = "0.0.0.0"
    keymap = "fr"
 }
  os {
    arch = "x86_64"
    boot = "disk0"
 }
 disk {
    image_id = "${opennebula_image.osimage.id}"
    size = 10000
    target = "vda"
    driver = "qcow2"
 }
 nic {
    model = "virtio-pci-net"
    network id = "${var.vnetid}"
    security_groups = ["${opennebula_security_group.mysecgroup.id}"]
}
```

The following arguments are supported:

- name (Required) The name of the virtual machine.
- permissions (Optional) Permissions applied on virtual machine. Defaults to the UMASK in OpenNebula (in UNIX Format: owner-group-other => Use-Manage-Admin.
- template\_id (Optional) If set, VM are instantiated from the template ID.
- pending (Optional) Pending state during VM creation. Defaults to false.
- cpu (Optional) Amount of CPU shares assigned to the VM. Mandatory if 'template id' is not set.
- vpcu (Optional) Number of CPU cores presented to the VM.

- memory (Optional) Amount of RAM assigned to the VM in MB. Mandatory if 'template\_id' is not set.
- context (Optional) Array of free form key=value pairs, rendered and added to the CONTEXT variables for the VM. Recommended to include at a minimum: NETWORK = "YES" and SET\_HOSTNAME = "\$NAME.
- graphics (Optional) See Graphics parameters below for details.
- os (Optional) See OS parameters below for details.
- disk (Optional) Can be specified multiple times to attach several disks. See Disks parameters below for details.
- nic (Optional) Can be specified multiple times to attach several NICs. See Nic parameters below for details.
- group (Optional) Name of the group which owns the virtual machine. Defaults to the caller primary group.

#### » Graphics parameters

graphics supports the following arguments:

- type (Required) Generally set to VNC.
- listen (Required) Binding address.
- port (Optional) Binding Port.
- keymap (Optional) Keyboard mapping.

## » OS parameters

os supports the following arguments:

- arch (Required) Hardware architecture of the Virtual machine. Must fit
  the host architecture.
- boot (Optional) OS disk to use to boot on.

#### » Disk parameters

disk supports the following arguments

- image\_id (Required) ID of the image to attach to the virtual machine.
- size (Optional) Size (in MB) of the image attached to the virtual machine. Not possible to change a cloned image size.
- target (Optional) Target name device on the virtual machine. Depends of the image dev\_prefix.
- driver (Optional) OpenNebula image driver.

Minimum 1 item. Maximum 8 items.

## » NIC parameters

nic supports the following arguments

- network\_id (Required) ID of the virtual network to attach to the virtual machine.
- ip (Optional) IP of the virtual machine on this network.
- mac (Optional) MAC of the virtual machine on this network.
- model (Optional) Nic model driver. Example: virtio.
- physical\_device (Optional) Physical device hosting the virtual network.
- security\_groups (Optional) List of security group IDs to use on the virtual network.

Minimum 1 item. Maximum 8 items.

#### » Attribute Reference

The following attribute are exported: \* id - ID of the virtual machine. \* instance - (Deprecated) Name of the virtual machine instance created on the cluster. \* uid - User ID whom owns the virtual machine. \* gid - Group ID which owns the virtual machine. \* uname - User Name whom owns the virtual machine. \* gname - Group Name which owns the virtual machine. \* state - State of the virtual machine. \* lcmstate - LCM State of the virtual machine.

### » Import

To import an existing virtual machine #42 into Terraform, add this declaration to your .tf file:

```
resource "opennebula_virtual_machine" "importvm" {
    name = "importedvm"
}
And then run:
terraform import opennebula_virtual_machine.importvm 42 "'
Verify that Terraform does not perform any change:
terraform plan
```

# » opennebula\_virtual\_network

Provides an OpenNebula virtual network resource.

This resource allows you to manage virtual networks on your OpenNebula clusters. When applied, a new virtual network will be created. When destroyed, that virtual network will be removed.

# » Example Usage

#### » Reservation of a virtual network

```
Allocate a new virtual network from the parent virtual network "394":
```

```
resource "opennebula_virtual_network" "reservation" {
   name = "terravnetres"
   description = "my terraform vnet"
   reservation_vnet = 394
   reservation_size = 5
   security_groups = [ 0 ]
}
```

#### » Virtual network creation

```
resource "opennebula_virtual_network" "vnet" {
    name = "tarravnet"
    permissions = "660"
    group = "${opennebula_group.group.name}"
    bridge = "br0"
    physical_device = "eth0"
    type = "fw"
    mtu = 1500
    ar = [ {
         ar_type = "IP4",
         size = 16
         ip4 = "172.16.100.101"
    } ]
    dns = "172.16.100.1"
    gateway = "172.16.100.1"
    security_groups = [ 0 ]
    clusters = [{
        id = 0
    }]
}
```

## » Argument Reference

The following arguments are supported:

- name (Required) The name of the virtual network.
- description (Optional) Description of the virtual network.
- permissions (Optional) Permissions applied on virtual network. Defaults to the UMASK in OpenNebula (in UNIX Format: owner-group-other => Use-Manage-Admin.
- reservation\_vnet (Optional) ID of the parent virtual network to reserve from. Conflicts with all parameters excepted name, description, permissions, security\_groups and group.
- reservation\_size (Optional) Size (in address) reserved. Conflicts with all parameters excepted name, description, permissions, security groups and group.
- security\_groups (Optional) List of security group IDs to apply on the virtual network.
- bridge (Optional) Name of the bridge interface to which the virtual network should be associated. Conflicts with reservation\_vnet and reservation size.
- physical\_device (Optional) Name of the physical device interface to which the virtual network should be associated. Conflicts with reservation\_vnet and reservation\_size.
- type (Optional) Virtual network type. One of these: dummy, bridge'fw, ebtables, 802.1Q, vxlan or ovswitch. Defaults to bridge. Conflicts with reservation\_vnet and reservation\_size.
- clusters (Optional) List of cluster IDs where the virtual network can be use. Conflicts with reservation\_vnet and reservation\_size.
- vlan\_id (Optional) ID of VLAN. Only if type is 802.1Q, vxlan or ovswitch. Conflicts with reservation\_vnet, reservation\_size and automatic vlan id.
- automatic\_vlan\_id (Optional) Flag to let OpenNebula scheduler to attribute the VLAN ID. Conflicts with reservation\_vnet, reservation\_size and vlan\_id.
- mtu (Optional) Virtual network MTU. Defaults to 1500. Conflicts with reservation vnet and reservation size.
- guest\_mtu (Optional) MTU of the network caord on the virtual machine. Cannot be greater than mtu. Defaults to 1500. Conflicts with reservation\_vnet and reservation\_size.
- gateway (Optional) IP of the gateway. Conflicts with reservation\_vnet and reservation\_size.
- network\_mask (Optional) Network mask. Conflicts with reservation\_vnet and reservation\_size.
- dns (Optional) Text String containing a comma separated list of DNS IPs. Conflicts with reservation\_vnet and reservation\_size.
- ar (Optional) List of address ranges. See Address Range Parameters below for more details. Conflicts with reservation\_vnet and reservation\_size.
- hold\_size (Optional) Carve a network reservation of this size from the reservation starting from ip\_hold. Conflicts with reservation\_vnet and

reservation\_size.

- ip\_hold (Optional) Start IP of the range to be held. Conflicts with reservation\_vnet and reservation\_size.
- group (Optional) Name of the group which owns the virtual network.
   Defaults to the caller primary group.

#### » Address Range parameters

ar supports the following arguments:

- ar\_type (Optional) Address range type. Supported values: IP4, IP6, IP6\_STATIC, IP4\_6 or IP4\_6\_STATIC or ETHER. Defaults to IP4.
- ip4 (Optional) Starting IPv4 address of the range. Required if ar\_type is IP4 or IP4 6.
- ip6 (Optional) Starting IPv6 address of the range. Required if ar\_type is IP6\_STATIC or IP4\_6\_STATIC.
- 'size (Optional) Address range size.
- mac (Optional) Starting MAC Address of the range.
- global\_prefix (Optional) Global prefix for IP6 or IP\_4\_6.
- ula\_prefix (Optional) ULA prefix for IP6 or IP\_4\_6.
- prefix\_length (Optional) Prefix length. Only needed for IP6\_STATIC or IP4\_6\_STATIC

### » Attribute Reference

The following attribute are exported: \* id - ID of the virtual network. \* uid - User ID whom owns the virtual network. \* gid - Group ID which owns the virtual network. \* uname - User Name whom owns the virtual network. \* gname - Group Name which owns the virtual network.

## » Import

To import an existing virtual network #1234 into Terraform, add this declaration to your .tf file (don't specify the reservation\_size):

```
resource "opennebula_virtual_network" "importtest" {
   name = "importedvnet"
   reservation_vnet = 394
   # Security group "0" allows open access
   security_groups = ["0"]
}
And then run:
```

terraform import opennebula\_virtual\_network.importtest 1234

Verify that Terraform does not perform any change:

terraform plan