## Joyent Triton Provider

The Triton provider is used to interact with resources in Joyent's Triton cloud. It is compatible with both public- and onpremise installations of Triton. The provider needs to be configured with the proper credentials before it can be used.

Use the navigation to the left to read about the available resources.

#### **Example Usage**

```
provider "triton" {
   account = "AccountName"
   key_id = "25:d4:a9:fe:ef:e6:c0:bf:b4:4b:d4:a8:8f:01:0f"

# If using a private installation of Triton, specify the URL, otherwise
# set the URL according to the region you wish to provision.
   url = "https://us-west-1.api.joyentcloud.com"

# If you want to use a triton account other than the main account, then
# you can specify the username as follows
   user = "myusername"
}
```

### **Argument Reference**

The following arguments are supported in the provider block:

- account (Required) This is the name of the Triton account. It can also be provided via the SDC\_ACCOUNT or TRITON\_ACCOUNT environment variables.
- user (Optional) This is the username to interact with the triton API. It can be provided via the SDC\_USER or TRITON\_USER environment variables.
- key\_material (Optional) This is the private key of an SSH key associated with the Triton account to be used. If this is not set, the private key corresponding to the fingerprint in key\_id must be available via an SSH Agent. It can be provided via the SDC\_KEY\_MATERIAL or TRITON\_KEY\_MATERIAL environment variables.
- key\_id (Required) This is the fingerprint of the public key matching the key specified in key\_path. It can be obtained via the command ssh-keygen -l -E md5 -f /path/to/key. It can be provided via the SDC\_KEY\_ID or TRITON\_KEY\_ID environment variables.
- url (Optional) This is the URL to the Triton API endpoint. It is required if using a private installation of Triton. The default is to use the Joyent public cloud us-west-1 endpoint. Valid public cloud endpoints include: us-east-1, us-east-2, us-east-3, us-sw-1, us-west-1, eu-ams-1. It can be provided via the SDC\_URL or TRITON\_URL environment variables.
- insecure\_skip\_tls\_verify (Optional defaults to false) This allows skipping TLS verification of the Triton endpoint. It is useful when connecting to a temporary Triton installation such as Cloud-On-A-Laptop which does not generally use a certificate signed by a trusted root CA.

## triton\_account

The triton\_account data source queries Triton for Account information.

**NOTE:** This data source uses the name of the Account currently configured in the Trition provider (/docs/providers/triton/index.html).

### **Example Usages**

Find current Account unique identifier:

```
# Declare the data source.
data "triton_account" "main" {}

# Access unique Account ID using output from the data source.
output "account_id" {
  value = "${data.triton_account.main.id}"
}
```

### **Argument Reference**

There are no arguments available for this data source.

#### Attribute Reference

The following attributes are supported:

- id (string) The unique identifier representing the Account in Triton.
- login (string) The login name associated with the Account.
- email (string) An e-mail address that is current set in the Account.
- cns\_enabled (boolean) Whether the Container Name Service (CNS) is enabled for the Account.

## triton\_datacenter

The triton\_datacenter data source queries Triton for Data Center information.

**NOTE:** This data source uses the endpoint URL of the Data Center currently configured in the Trition provider (/docs/providers/triton/index.html).

### **Example Usages**

Find current Data Center endpoint URL:

```
# Declare the data source.
data "triton_datacenter" "current" {}

# Access current endpoint URL using output from the data source.
output "endpoint" {
  value = "${data.triton_datacenter.current.endpoint}"
}
```

### **Argument Reference**

There are no arguments available for this data source.

#### Attribute Reference

**NOTE:** When using the Triton Public Cloud (https://www.joyent.com/triton), the endpoint attribute might include an old, but still fully supported, domain name "joyentcloud.com" (e.g. https://us-east-1.api.joyentcloud.com (https://us-east-1.api.joyentcloud.com)), even when the new domain name "joyent.com" has been used to configure the cloud endpoint URL in the Trition provider (/docs/providers/triton/index.html).

The following attributes are supported:

- name (string) The name of the Data Center.
- endpoint (string) The endpoint URL of the Data Center.

## triton\_fabric\_network

The triton\_fabric\_network data source queries Triton for Fabric Network (https://docs.joyent.com/public-cloud/network/sdn) information (e.g., subnet CIDR, gateway, state routes, etc.) based on the name of the Fabric Network and ID of the VLAN on which the network has been created.

#### **Example Usages**

Find the subnet CIDR of a Fabric Network:

```
# Declare the data source to retrieve Fabric VLAN details.
data "triton_fabric_vlan" "private" {
   name = "Private-VLAN-Production"
}

# Declare the data source to retrieve Fabric Network details.
data "triton_fabric_network" "private" {
   name = "Private-Network-Production"
   vland_id = "${data.triton_fabric_vlan.private.vlan_id}"
}

# Access subnet CIDR using output from the data source.
output "private_network_cidr" {
   value = "${data.triton_fabric_network.private.subnet}"
}
```

#### **Argument Reference**

**NOTE:** You can use the triton\_fabric\_vlan (/docs/providers/triton/d/triton\_fabric\_vlan.html) data source to retrieve details about a Fabric VLAN (https://docs.joyent.com/public-cloud/network/sdn#vlans) for reference.

The following arguments are supported:

- name (string) **Required.** The name of the Fabric Network.
- vlan\_id (integer) Required. The unique identifier (VLAN ID) of the Fabric VLAN.

#### Attribute Reference

- name (string) The name of the Fabric Network.
- public (boolean) Whether this Fabric Network is a public or private RFC1918 (https://tools.ietf.org/html/rfc1918) network.
- fabric (boolean) Whether this network is created on a Fabric (https://docs.joyent.com/public-cloud/network/sdn).
  This is always **true** for a Fabric Network.
- description (string) The description of the Fabric Network, if any.

- subnet (string) A CIDR (https://tools.ietf.org/html/rfc4632) block used for the Fabric Network.
- provision\_start\_ip (string) The first IP address on this network that may be assigned.
- provision\_end\_ip (string) The last IP address on this network that may be assigned.
- gateway (string) An IP address of the gateway on this network, if any.
- resolvers (list) A list of IP addresses of DNS resolvers on this network.
- routes (map) A map of static routes (using the CIDR (https://tools.ietf.org/html/rfc4632) notation) and corresponding gateways on this network, if any.
- internet\_nat (boolean) Whether the gateway on this network is also provisioned with the Internet NAT zone.
- vlan\_id (integer) The unique identifier (VLAN ID) of the Fabric VLAN.

## triton\_fabric\_vlan

The triton\_fabric\_vlan data source queries Triton for Fabric VLAN (https://docs.joyent.com/public-cloud/network/sdn#vlans) information (e.g., VLAN ID, etc.) based either on the name, VLAN ID or description of the Fabric VLAN.

#### **Example Usages**

Find the VLAN ID using the name of the Fabric VLAN as a search filter:

```
# Declare the data source.
data "triton_fabric_vlan" "public" {
   name = "Public-VLAN-Production"
}

# Access unique VLAN ID using output from the data source.
output "public_vlan_id" {
   value = "${data.triton_fabric_vlan.public.vlan_id}"
}
```

Find the VLAN ID using name (with a wildcard match) and description of the Fabric VLAN as a search filters:

### **Argument Reference**

**NOTE:** The arguments of this data source act as filters when searching for a matching Fabric VLAN and can be combined together, but at lease one of name, vlan\_id or description must be assigned.

- name (string) Optional. The name of the Fabric VLAN.
- vlan\_id (integer) Optional. The unique identifier (VLAN ID) of the Fabric VLAN.
- description (string) Optional. The description of the Fabric VLAN.

**NOTE:** Both the name and description arguments support a simple wildcard pattern matching using two common wildcards, such as \* (asterisk) and ?. There is no support for either ranges or character classes. More details about wildcard pattern matching can be found here (https://en.wikipedia.org/wiki/Glob\_(programming)).

### Attribute Reference

The following attributes are exported:

- name (string) The name of the Fabric VLAN, if any.
- vlan\_id (integer) The unique identifier (VLAN ID) of the Fabric VLAN.
- description (string) The description of the Fabric VLAN, if any.

## triton\_image

The triton\_image data source queries the Triton Image API for an image ID based on a variety of different parameters.

### **Example Usages**

Find the ID of a Base 64 LTS image.

```
data "triton_image" "base" {
  name = "base-64-lts"
  version = "16.4.1"
}

output "image_id" {
  value = "${data.triton_image.base.id}"
}
```

### **Argument Reference**

The following arguments are supported:

- name (string) The name of the image
- os (string) The underlying operating system for the image
- version (string) The version for the image
- public (boolean) Whether to return public as well as private images
- state (string) The state of the image. By default, only active images are shown. Must be one of: active, unactivated, disabled, creating, failed or all, though the default is sufficient in almost every case.
- owner (string) The UUID of the account which owns the image
- type (string) The image type. Must be one of: zone-dataset, lx-dataset, zvol, docker or other.
- most\_recent (bool) If more than one result is returned, use the most recent Image.

#### Attribute Reference

The following attributes are exported:

• id - (string) - The identifier representing the image in Triton.

## triton\_network

The triton\_network data source queries Triton for Network information (e.g., Network ID, etc.) based on the name of the Network.

### **Example Usages**

Find the Network ID of the Joyent-SDC-Private network.

```
# Declare the data source.
data "triton_network" "private" {
   name = "Joyent-SDC-Private"
}

# Access unique Network ID using output from the data source.
output "private_network_id" {
   value = "${data.triton_network.private.id}"
}
```

### **Argument Reference**

The following arguments are supported:

• name - (string) **Required.** The name of the Network.

#### Attribute Reference

The following attributes are supported:

- id (string) The unique identifier of the Network.
- public (boolean) Whether this Network is a public or private RFC1918 (https://tools.ietf.org/html/rfc1918) network.
- fabric (boolean) Whether this Network is created on a Fabric (https://docs.joyent.com/public-cloud/network/sdn).

## triton\_fabric

The triton\_fabric resource represents an fabric for a Triton account. The fabric is a logical set of interconnected switches.

#### **Example Usages**

#### Create a fabric

### **Argument Reference**

The following arguments are supported:

- name (String, Required, Change forces new resource) Network name.
- description (String, Optional, Change forces new resource) Optional description of network.
- subnet (String, Required, Change forces new resource) CIDR formatted string describing network.
- provision\_start\_ip (String, Required, Change forces new resource) First IP on the network that can be assigned.
- provision\_end\_ip (String, Required, Change forces new resource) Last assignable IP on the network.
- gateway (String, Optional, Change forces new resource) Optional gateway IP.
- resolvers (List, Optional) Array of IP addresses for resolvers.
- routes (Map, Optional, Change forces new resource) Map of CIDR block to Gateway IP address.
- internet\_nat (Bool, Optional, Change forces new resource) If a NAT zone is provisioned at Gateway IP address.

  Default is true.
- vlan\_id (Int, Required, Change forces new resource) VLAN id the network is on. Number between 0-4095 indicating
   VLAN ID.

#### Attribute Reference

The following attributes are exported:

- id (string) The identifier representing the network in Triton.
- name (String) Network name.
- public (Bool) Whether or not this is an RFC1918 network.
- fabric (Bool) Whether or not this network is on a fabric.
- description (String) Optional description of network.
- subnet (String) CIDR formatted string describing network.
- provision\_start\_ip (String) First IP on the network that can be assigned.
- provision\_end\_ip (String) Last assignable IP on the network.
- gateway (String) Optional gateway IP.
- resolvers (List) Array of IP addresses for resolvers.
- routes (Map) Map of CIDR block to Gateway IP address.
- internet\_nat (Bool) If a NAT zone is provisioned at Gateway IP address.
- vlan\_id (Int) VLAN id the network is on. Number between 0-4095 indicating VLAN ID.

## triton\_firewall\_rule

The triton firewall rule resource represents a rule for the Triton cloud firewall.

### **Example Usages**

Allow web traffic on ports tcp/80 and tcp/443 to machines with the 'www' tag from any source

```
resource "triton_firewall_rule" "www" {
  description = "Allow web traffic on ports tcp/80 and tcp/443 to machines with the 'www' tag from any so
urce."
  rule = "FROM any TO tag \"www\" ALLOW tcp (PORT 80 AND PORT 443)"
  enabled = true
}
```

#### Allow ssh traffic on port tcp/22 to all machines from known remote IPs

```
resource "triton_firewall_rule" "22" {
  description = "Allow ssh traffic on port tcp/22 to all machines from known remote IPs."
  rule = "FROM (ip w.x.y.z OR ip w.x.y.z) TO all vms ALLOW tcp PORT 22"
  enabled = true
}
```

#### Block IMAP traffic on port tcp/143 to all machines

```
resource "triton_firewall_rule" "imap" {
  description = "Block IMAP traffic on port tcp/143 to all machines."
  rule = "FROM any TO all vms BLOCK tcp PORT 143"
  enabled = true
}
```

### **Argument Reference**

- rule (string, Required) The firewall rule described using the Cloud API rule syntax defined at https://docs.joyent.com/public-cloud/network/firewall/cloud-firewall-rules-reference (https://docs.joyent.com/public-cloud/network/firewall/cloud-firewall-rules-reference). Note: Cloud API will normalize rules based on case-sensitivity, parentheses, ordering of IP addresses, etc. This can result in Terraform updating rules repeatedly if the rule definition differs from the normalized value.
- enabled (boolean, Optional) Default: false Whether the rule should be effective.

• description - (string, Optional) Description of the firewall rule

# Attribute Reference

The following attributes are exported:

 $\bullet \;\; \mbox{id}$  - (string) - The identifier representing the firewall rule in Triton.

# triton\_instance\_template

The triton instance template resource represents a Triton Service Group instance template.

**NOTE:** Triton Service Groups are in Preview and only supported in specific regions at this time. They will become Generally Available in the near future.

#### **Example Usages**

```
data "triton_image" "base" {
 name = "base-64-lts"
  version = "16.4.1"
data "triton_network" "private" {
 name = "Joyent-SDC-Private"
resource "triton_instance_template" "base" {
 template_name = "Base template"
               = "${data.triton_image.base.id}"
 image
                = "g4-highcpu-128M"
 package
 firewall_enabled = false
                 = ["${data.triton_network.private.id}"]
 networks
  tags {
   hello = "world"
   role = "database"
  }
}
```

### **Argument Reference**

- template\_name (string, Required) Friendly name for the instance template.
- image (string, Required) UUID of the image.
- package (string, Required) Package name used for provisioning.
- firewall\_enabled (boolean, Optional) Whether to enable the firewall for group instances. Default is false.
- tags (map, Optional) Tags for group instances.
- networks (list, Optional) Network IDs for group instances.
- metadata (map, Optional) Metadata for group instances.
- userdata (string, Optional) Data copied to instance on boot.

# Attribute Reference

The following attributes are exported:

• id - (string) - The identifier representing the Triton Service Group instance template.

# triton\_key

The triton\_key resource represents an SSH key for a Triton account.

## **Example Usages**

Create a key

```
resource "triton_key" "example" {
  name = "Example Key"
  key = "${file("keys/id_rsa")}"
}
```

## **Argument Reference**

- name (string, Change forces new resource) The name of the key. If this is left empty, the name is inferred from the comment in the SSH key material.
- key (string, Required, Change forces new resource) The SSH key material. In order to read this from a file, use the file interpolation.

## triton\_machine

The triton\_machine resource represents a virtual machine or infrastructure container running in Triton.

**Note:** Starting with Triton 0.2.0, Please note that when you want to specify the networks that you want the machine to be attached to, use the networks parameter and not the nic parameter.

### **Example Usages**

#### Run a SmartOS base-64 machine.

```
resource "triton_machine" "test-smartos" {
    name = "test-smartos"
    package = "g3-standard-0.25-smartos"
    image = "842e6fa6-6e9b-11e5-8402-1b490459e334"

    tags {
        hello = "world"
        role = "database"
    }

    cns {
        services = ["web", "frontend"]
    }

    metadata {
        hello = "again"
    }
}
```

#### Attaching a Machine to Joyent public network

```
data "triton_image" "image" {
   name = "base-64-lts"
   version = "16.4.1"
}

data "triton_network" "public" {
   name = "Joyent-SDC-Public"
}

resource "triton_machine" "test" {
   package = "g4-highcpu-128M"
   image = "${data.triton_image.image.id}"
   networks = ["${data.triton_network.public.id}"]
}
```

#### Run two SmartOS machine's with placement rules.

### **Argument Reference**

- name (string) The friendly name for the machine. Triton will generate a name if one is not specified.
- tags (map) A mapping of tags to apply to the machine.
- cns (map of CNS attributes, Optional) A mapping of CNS (https://docs.joyent.com/public-cloud/network/cns) attributes to apply to the machine.
- metadata (map, optional) A mapping of metadata to apply to the machine.
- package (string, Required) The name of the package to use for provisioning.
- image (string, Required) The UUID of the image to provision.

- affinity (list of Affinity rules, Optional) A list of valid Affinity Rules (https://apidocs.joyent.com/cloudapi/#affinity-rules) to apply to the machine which assist in data center placement. Using this attribute will force resource creation to be serial. NOTE: Affinity rules are best guess and assist in placing instances across a data center. They're used at creation and not referenced after.
- (Deprecated) locality (map of Locality hints, Optional) A mapping of Locality (https://apidocs.joyent.com/cloudapi/#CreateMachine) attributes to apply to the machine that assist in data center placement. NOTE: Locality hints are only used at the time of machine creation and not referenced after. Locality is deprecated as of CloudAPI v8.3.0 (https://apidocs.joyent.com/cloudapi/#830).
- firewall\_enabled (boolean) Default: false Whether the cloud firewall should be enabled for this machine.
- root\_authorized\_keys (string) The public keys authorized for root access via SSH to the machine.
- user\_data (string) Data to be copied to the machine on boot. **NOTE:** The content of user\_data will *not be executed* on boot. The data will only be written to the file on each boot before the content of the script from user\_script is to be run.
- user\_script (string) The user script to run on boot (every boot on SmartMachines). To learn more about both the user script and user data see the metadata API (https://docs.joyent.com/private-cloud/instances/using-mdata) documentation and the Joyent Metadata Data Dictionary (https://eng.joyent.com/mdata/datadict.html) specification.
- administrator\_pw (string) The initial password for the Administrator user. Only used for Windows virtual machines.
- cloud\_config (string) Cloud-init configuration for Linux brand machines, used instead of user\_data.
- deletion\_protection\_enabled (bool) Whether an instance is destroyable. Default is false.

#### Attribute Reference

The following attributes are exported:

- id (string) The identifier representing the machine in Triton.
- type (string) The type of the machine (smartmachine or virtualmachine).
- state (string) The current state of the machine.
- dataset (string) The dataset URN with which the machine was provisioned.
- memory (int) The amount of memory the machine has (in Mb).
- disk (int) The amount of disk the machine has (in Gb).
- ips (list of strings) IP addresses of the machine.
- primaryip (string) The primary (public) IP address for the machine.
- created (string) The time at which the machine was created.
- updated (string) The time at which the machine was last updated.
- compute\_node (string) UUID of the server on which the instance is located.

- nic A list of the networks that the machine is attached to. Each network is represented by a nic, each of which has the following properties:
- ip The NIC's IPv4 address
- mac The NIC's MAC address
- primary Whether this is the machine's primary NIC
- netmask IPv4 netmask
- gateway IPv4 Gateway
- network The ID of the network to which the NIC is attached
- state The provisioning state of the NIC

#### The following attributes are used by cns:

- services (list of strings) The list of services that group this instance with others under a shared domain name.
- disable (boolean) The ability to temporarily disable CNS services domains (optional).

#### The following attributes are used as locality hints:

- close\_to (list of strings) List of container UUIDs that a new instance should be placed alongside, on the same host.
- far\_from (list of strings) List of container UUIDs that a new instance should not be placed onto the same host.

# triton\_service\_group

The triton\_service\_group resource represents a Triton Service Group.

**NOTE:** Triton Service Groups are in Preview and only supported in specific regions at this time. They will become Generally Available in the near future.

### **Example Usages**

```
resource "triton_service_group" "web" {
  group_name = "web_group"
  template = "${triton_instance_template.base.id}"
  capacity = 3
}
```

## **Argument Reference**

The following arguments are supported:

- group\_name (string, Required) Friendly name for the service group.
- template (string, Required) Identifier of an instance template.
- capacity (int, Optional) Number of instances to launch and monitor.

#### Attribute Reference

The following attributes are exported:

• id - (string) - The identifier representing the Triton Service Group.

# triton\_snapshot

The triton\_snapshot resource represents a snapshot of a Triton machine. Snapshots are not usable with other instances; they are a point-in-time snapshot of the current instance. Snapshots can also only be taken of instances that are not of brand kvm.

#### **Example Usages**

## **Argument Reference**

The following arguments are supported:

- name (string, Required) The name for the snapshot.
- machine\_id (string, Required) The ID of the machine of which to take a snapshot.

#### Attribute Reference

The following attributes are exported:

- id (string) The identifier representing the snapshot in Triton.
- state (string) The current state of the snapshot.

## triton\_vlan

The triton\_vlan resource represents an Triton VLAN. A VLAN provides a low level way to segregate and subdivide the network. Traffic on one VLAN cannot, *on its own*, reach another VLAN.

## **Example Usages**

#### Create a VLAN

```
resource "triton_vlan" "dmz" {
  vlan_id = 100
  name = "dmz"
  description = "DMZ VLAN"
}
```

## **Argument Reference**

- vlan\_id (int, Required, Change forces new resource) Number between 0-4095 indicating VLAN ID
- name (string, Required) Unique name to identify VLAN
- description (string, Optional) Description of the VLAN