

## Supported Cloud Providers



# CAM Connections

- Used to securely store credentials for each cloud provider
- Used by Terraform to connect to the cloud provider defined in the Template
- Connections are namespaced for security
- CAM connections can be created for each of the supported cloud providers
- 3rd Party providers may be used however connections to providers will have to be defined in the CAM template

# Supported Connections

[https://www.ibm.com/support/knowledgecenter/en/SS2L37\\_4.2.0.0/cam\\_managing\\_connections.html](https://www.ibm.com/support/knowledgecenter/en/SS2L37_4.2.0.0/cam_managing_connections.html)

- VMware vSphere
- Amazon EC2
- IBM Cloud
- IBM Cloud Kubernetes Service
- Huawei Cloud
- Microsoft Azure
- OpenStack
- VMware vRealize Automation
- Google Cloud
- Nutanix
- VMware NSX-T
- VMware NSXv
- IBM Workload Deployer
- IBM Cloud Orchestrator (ICO)
- IBM Cloud Private

# Considerations

- Cloud connections are closely coupled with Terraform providers
- Terraform providers are not all created equally some are more mature than others
- Don't assume you can perform the same tasks on all cloud providers
- Network connectivity to cloud providers must be available

# VMware vSphere

<https://www.terraform.io/docs/providers/vsphere/index.html>

## Supported Version

vCenter version 6.0 and above

## VMware vSphere Provider

The VMware vSphere provider gives Terraform the ability to work with VMware vSphere Products, notably vCenter Server to access and manage a vSphere environment.

Make this globally accessible

Off ☒ On

\* Connection Name: ⓘ

Team2\_VMWare

\* Connection Description:

team2\_VMWare cloud connection

Connection Parameters

\* vCenter User ⓘ

administrator@vsphere.local

\* vCenter Password ⓘ

\*\*\*\*\*

\* vCenter Server ⓘ

10.0.0.210

# Amazon EC2

For Cloud Automation Manager to access your Amazon Web Services (AWS) account, an access key and the secret access key to your account are required.

The access key and the secret access key are not your AWS username and password, but they are special tokens that allow Cloud Automation Manager to communicate with your AWS account via secure API calls.

## How to setup access keys?

[https://docs.aws.amazon.com/IAM/latest/UserGuide/id\\_credentials\\_access-keys.html](https://docs.aws.amazon.com/IAM/latest/UserGuide/id_credentials_access-keys.html) - Using CreateAccessKey

## Terraform AWS Provider

<https://www.terraform.io/docs/providers/aws/>

### 5. Configure Connection

How to configure an AWS cloud

\* Access Key ID ⓘ

Enter Access Key ID

\* Secret Access Key ⓘ

Enter Secret Access Key

STS Session Token ⓘ

Enter STS Session Token

\* AWS Region ⓘ

US East (Northern Virginia)

```
provider "aws" {  
  region = "${var.aws_region}"  
  token  = "${var.aws_token}"  
  access_key = "${var.aws_access_key}"  
  secret_key = "${var.aws_secret_key}"  
}
```

# IBM Cloud

## IBM Cloud API Key

- Used to provision IBM Cloud Resources

## SoftLayer User Name & SoftLayer API Key

- Used to provision SoftLayer IaaS resources

Maintained by IBM not available from Terraform

## Provider Reference

<https://cloud.ibm.com/docs/terraform?topic=terraform-provider-reference>

## 5. Configure Connection

How to configure an IBM cloud

Provide the IBM Cloud API Key to provision and manage resources.

**IBM Cloud API Key** ⓘ

Enter IBM Cloud API Key

Provide the SoftLayer User Name and API Key to provision SoftLayer resources.

**SoftLayer User Name** ⓘ

Enter SoftLayer User Name

**SoftLayer API Key** ⓘ

Enter SoftLayer API Key

# OpenStack

<https://www.terraform.io/docs/providers/openstack/>

IBM Cloud Automation manager supports OpenStack cloud connection, PowerVC on Openstack connection, and z/VM Cloud Manager Appliance on OpenStack connection.

- [OpenStack connection](#)
- [PowerVC cloud on OpenStack](#) (PowerVC cloud V1.3.3)
- [z/VM Cloud Manager Appliance on OpenStack](#) (see documentation)

## 5. Configure Connection

How to configure an OpenStack cloud

• Authentication URL ⓘ

Enter Authentication URL

• User Name ⓘ

Enter User Name

• Password ⓘ

Enter Password

Domain Name ⓘ

Default

Region ⓘ

RegionOne

Project Name ⓘ

Enter Project Name



# Custom Terraform Providers

[https://www.ibm.com/support/knowledgecenter/en/SS2L37\\_4.2.0.0/cam\\_using\\_BYO\\_terraform.html](https://www.ibm.com/support/knowledgecenter/en/SS2L37_4.2.0.0/cam_using_BYO_terraform.html)

