



# Automatización en OCI

Herramientas para agilizar despliegues en OCI

**Francisco Moreno**

LAD Tech Knowledge Cloud – CO

Cloud Architect

14/Dic/2022



## Beneficios de Automatización

- Productividad/Menos tiempo gastado del talento
- Colaboración / Empoderamiento
- Ahorro de Costos (Recurso innecesario)
- Reusabilidad
- Reducir complejidad
- Errores / Confiabilidad
- Simultaneidad, Volumen (Migraciones)
- Continuidad



“Una buena herramienta mejora la forma en que **trabajas**.  
Una gran herramienta mejora la forma en que **piensas**.”  
-Jeff Duntemann

# Agenda

## Prerequisitos

### Acceso a Cuenta

- Creación del perfil
- Generación del keypair

### Acceso a la Nube

- API
- Ansible
- SDK/CLI
- Resource Manager

### Terraform

- Archivos
- Variables
- Componentes
- Avanzados OCI: Backend, Atributos, comandos

### Características de Resource Manager

### Demo usando Terraform Localmente

### Demo usando Resource Manager



ORACLE

# Pre-requisitos

Francisco Moreno



# Prerequisites

---

Cuenta en OCI, por ejemplo, <https://www.oracle.com/cloud/free/>

OCI CLI: <https://docs.oracle.com/en-us/iaas/Content/API/SDKDocs/cliinstall.htm>

JQ, JSON Parser: <https://stedolan.github.io/jq/download/>

Terraform: <https://www.terraform.io/downloads>

SDK, Optional:

Python 3: <https://www.python.org/downloads/>



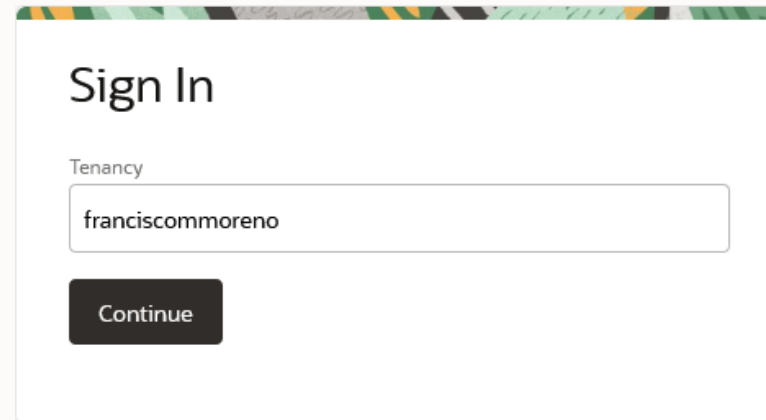
ORACLE

# Acceso a Cuenta

Francisco Moreno



# Perfiles



Sign In

Tenancy

franciscoomoreno

Continue

**Navegadores:** Chrome, Firefox o Safari (Mac)

OCI Always Free Account:

<https://www.oracle.com/cloud/free/>

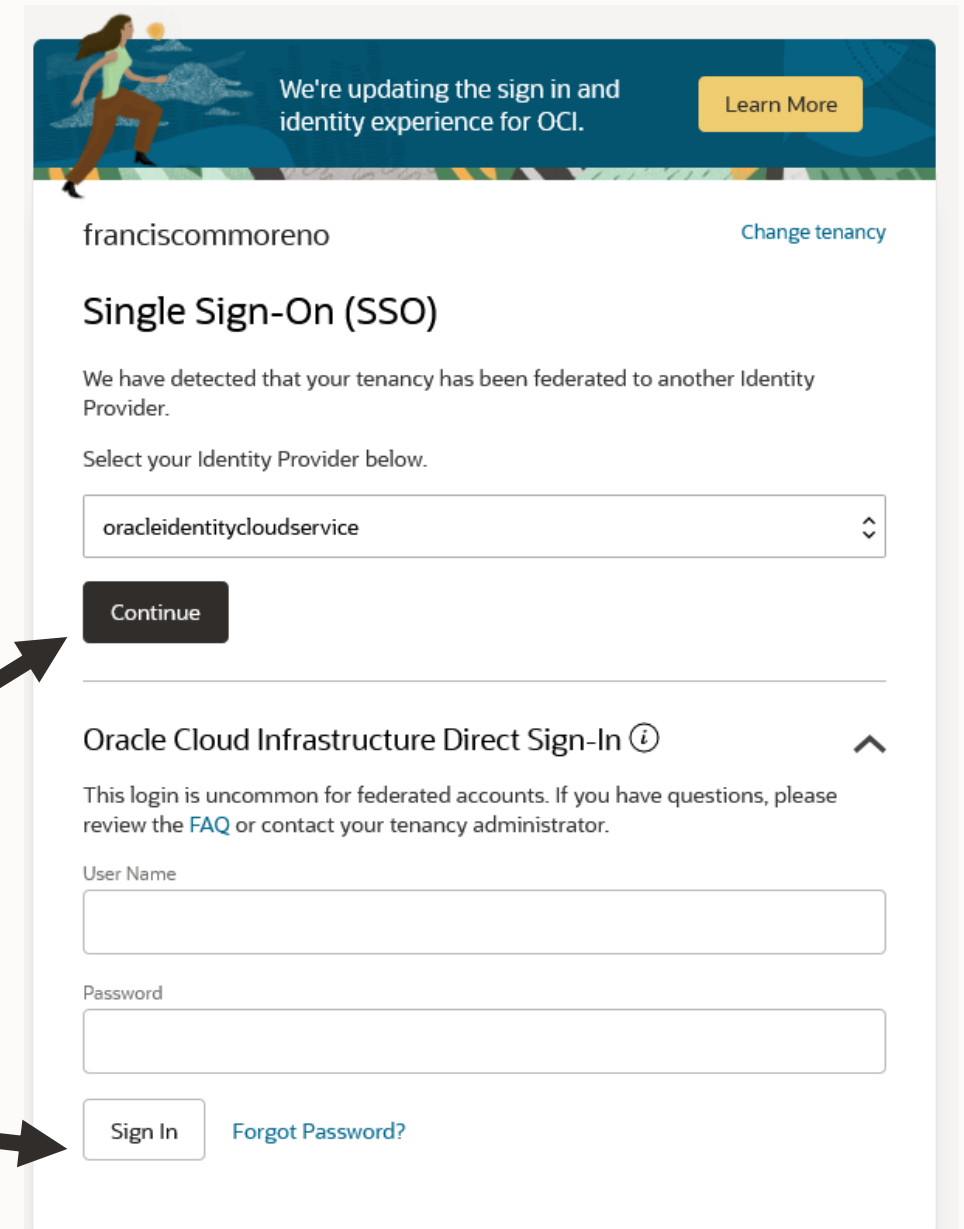
Oracle Account:

<https://cloud.oracle.com>

<https://cloud.oracle.com/?tenant=<Nombre>>

---

Tipos Login: SSO or Direct Sign-In.



We're updating the sign in and identity experience for OCI. [Learn More](#)

franciscoomoreno [Change tenancy](#)

### Single Sign-On (SSO)

We have detected that your tenancy has been federated to another Identity Provider.

Select your Identity Provider below.

oracleidentitycloudservice

Continue

#### Oracle Cloud Infrastructure Direct Sign-In ⓘ

This login is uncommon for federated accounts. If you have questions, please review the [FAQ](#) or contact your tenancy administrator.

User Name

Password






Sign In [Forgot Password?](#)

# Keypair

ORACLE Cloud

Search resources, services, documentation, ;

US East (Ashburn) ▾



ACTIVE

OCID: ...ranjwq [Show](#) [Copy](#)

Created: Fri, Jul 23, 2021, 20:27:03 UTC

Multi-factor authentication: Disabled

Email: -

Capabilities

Local password: No

API keys: Yes

Auth tokens: Yes

Profile

[oracleidentitycloudservice/francisco.m.moreno@oracle.com](#)

Tenancy: [franciscommoreno](#)

1

User Settings

[Console Settings](#)

[Sign Out](#)

Customer secret keys: Yes

OAuth 2.0 Client Credentials: Yes

Database Passwords: Yes

Resources

Groups

2

API Keys

[Auth Tokens](#)

[Customer Secret Keys](#)

[Database Passwords](#)

[OAuth 2.0 Client Credentials](#)


[SMTP Credentials](#)

API Keys

3

Add API Key

Fingerprint	Created
No items found.	
No API Key to display	





# Keypair

## Add API Key

[Help](#)

**Note:** An API key is an RSA key pair in PEM format used for signing API requests. You can generate the key pair here and download the private key. If you already have a key pair, you can choose to **1** load or paste your public key file instead. [Learn more](#)

☒ Generate API Key Pair☐ Choose Public Key File☐ Paste Public Key

Public Key



Download the private key. It will not be shown again. After you download it, [change the file permissions](#) **2** only you can view it.



Download Private Key



[Download Public Key](#) **3**

**Download both to ~/.oci/**

Add

[Cancel](#)

### Options:

\*Auto

Upload file

Paste file

>Last 2 imply manual activities on your PC

## Resources

Groups

API Keys

Auth Tokens

Customer Secret Keys

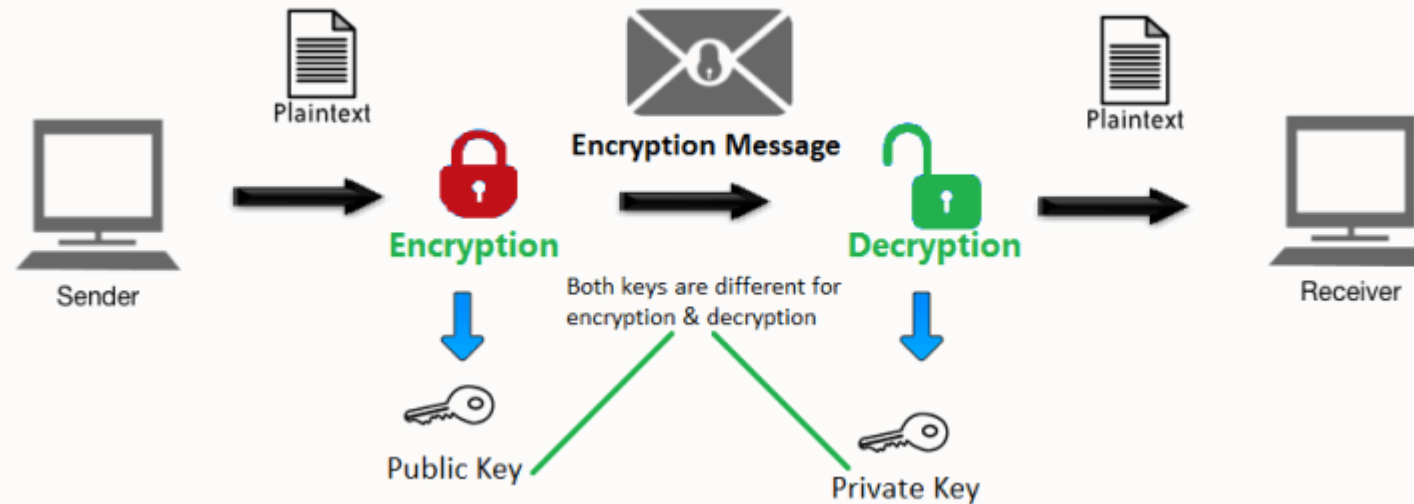
Database Passwords

OAuth 2.0 Client Credentials

SMTP Credentials



# Modo Funcionamiento – Llaves Publicas/Privadas



Mas información:

<https://docs.oracle.com/en-us/iaas/Content/GSG/Tasks/creatingkeys.htm>

# Keypair

## Configuration File Preview

[Help](#)

**Note:** This configuration file snippet includes the basic authentication information you'll need to use the SDK, CLI, or other OCI developer tool. Paste the contents of the text box into your `~/.oci/config` file and update the `key_file` parameter with the file path to your private key. If you already have a **Default** profile in your config profile, you'll need to perform some additional steps. [Learn more](#)

Select API Key Fingerprint

1d:6d:f7:0e:d4:dd:ce:a7:67:00:83:fa:e6:df:ac:76

Configuration File Preview *Read-Only*

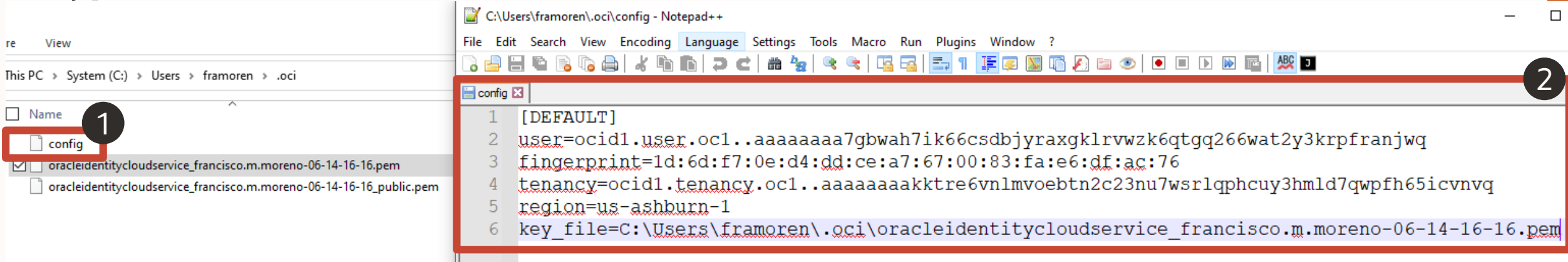
```
[DEFAULT]
user=ocid1.user.oc1..aaaaaaa7gbwah7ik66csdbjyraxgklrwzk6qtgq266wat2y3krp
franjwq
fingerprint=1d:6d:f7:0e:d4:dd:ce:a7:67:00:83:fa:e6:df:ac:76
tenancy=ocid1.tenancy.oc1..aaaaaaaakktre6vnlmvoebtn2c23nu7wsrlqphcuy3hml
7qwpfh65icvnvq
region=us-ashburn-1
key_file=<path to your private keyfile> # TODO
```

Paste the contents of the text box into your `~/.oci/config` file. [Copy](#)

Close



# Keypair



En ~/.oci/, crear un archivo config (sin extension) y pegar de la ventana anterior.  
Es necesario enrutar key\_file con el archivo descargado de Private Key

```
Command Prompt

C:\Users\framoren>oci os ns get
{
  "data": "idpebqr1ceyl"
}
```

En un CLI, escribir  
**oci os ns get**  
Para comprobar acceso

Opciones:

[Autocompletar \(en PS\).](#)  
[Pasos Detallados en Ingles \(Blog\)](#)

Mas information en  
<https://docs.oracle.com/en-us/iaas/Content/API/Concepts/cliconcepts.htm>



ORACLE

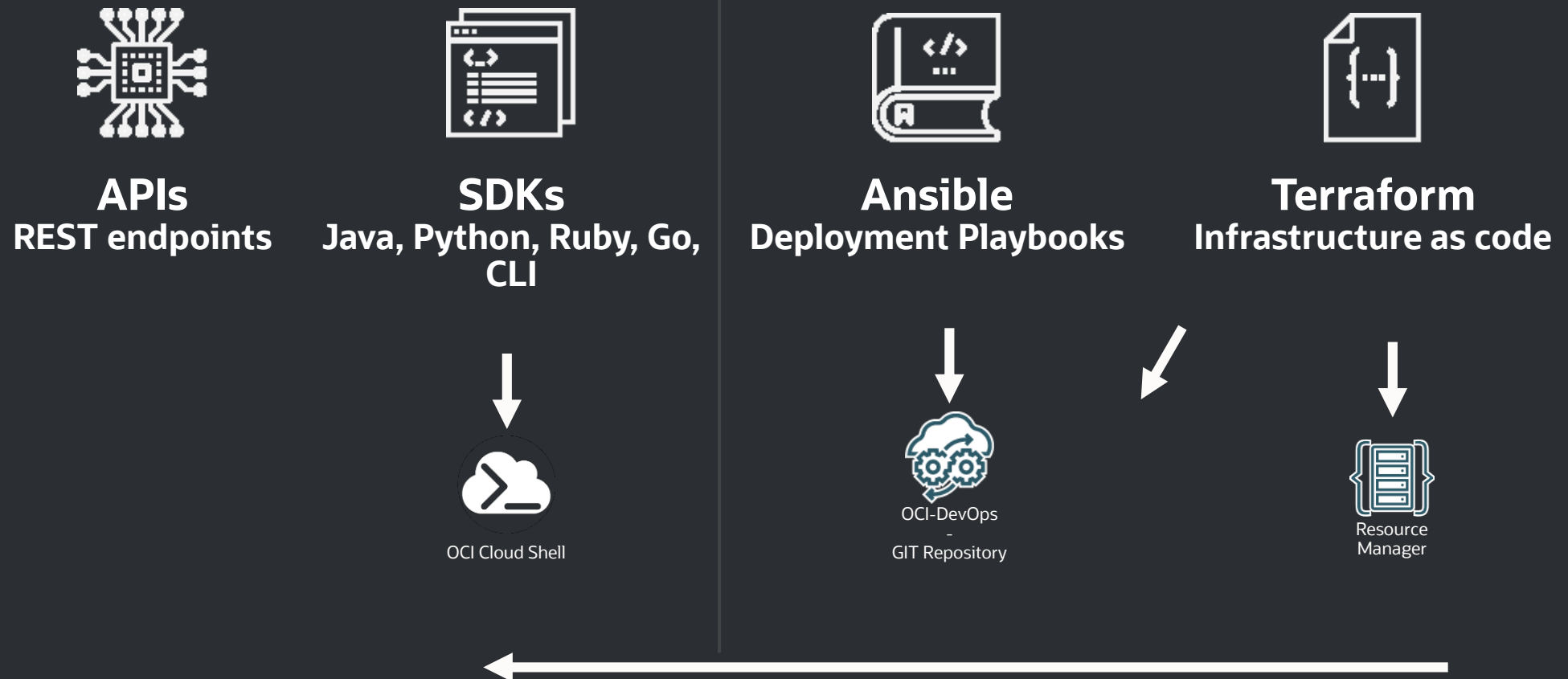
# Acceso a Nube

Francisco Moreno



# Acceso

## Developer Tools and Resources





\_\_\_\_\_

# Consumo REST a endpoints regionales

## Atributos JSON para solicitud y respuesta

Mas información en:

<https://docs.oracle.com/en-us/iaas/api/https://docs.oracle.com/en-us/iaas/api/#/en/iaas/20160918/Vcn/CreateVcn>



Authentication  
Encryption  
Digital Signature



# SDK

Llamadas al API desde diferentes lenguajes, con librerías OCI

Por ejemplo,

<https://docs.oracle.com/en-us/iaas/api/#/en/iaas/20160918/Vcn/CreateVcn>

docs.oracle.com/en-us/iaas/api/#/en/iaas/20160918/NetworkSecurityGroup/CreateNetworkSecurityGroup

IPSecConnection

IPSecConnectionDeviceConfig

IPSecConnectionDeviceStatus

IPSecConnectionTunnel

IPSecConnectionTunnelErrorDetails

IPSecConnectionTunnelSharedSecret

Ipv6

LetterOfAuthority

LocalPeeringGateway

MeasuredBootReport

NatGateway

NetworkingTopology

NetworkSecurityGroup

NetworkSecurityGroupReference

ChangeNetworkSecurityGroupCompartment

CreateNetworkSecurityGroup

DeleteNetworkSecurityGroup

GetNetworkSecurityGroup

ListNetworkSecurityGroups

UpdateNetworkSecurityGroup

NetworkSecurityGroupVnic

PeerRegionForRemotePeering

PrivateIp

PublicIp

PublicIpPool

RemotePeeringConnection

RouteTable

Java SDK Python SDK Go SDK TypeScript SDK .NET SDK Ruby SDK

```
# This is an automatically generated code sample.
# To make this code sample work in your Oracle Cloud tenancy,
# please replace the values for any parameters whose current values do not fit
# your use case (such as resource IDs, strings containing 'EXAMPLE' or 'unique_id', and
# boolean, number, and enum parameters with values not fitting your use case).

import oci

# Create a default config using DEFAULT profile in default location
# Refer to
# https://docs.cloud.oracle.com/en-us/iaas/Content/API/Concepts/sdkconfig.htm#SDK_and_CLI_Configuration_File
# for more info
config = oci.config.from_file()

# Initialize service client with default config file
core_client = oci.core.VirtualNetworkClient(config)

# Send the request to service, some parameters are not required, see API
# doc for more info
create_network_security_group_response = core_client.create_network_security_group(
    create_network_security_group_details=oci.core.models.CreateNetworkSecurityGroupDetails(
        compartment_id="ocid1.test.oc1..<unique_ID>EXAMPLE-compartmentId-Value",
        vcn_id="ocid1.test.oc1..<unique_ID>EXAMPLE-vcnId-Value",
        defined_tags={
            'EXAMPLE_KEY_1fLJ0': {
                'EXAMPLE_KEY_1xbje': 'EXAMPLE--Value'
            },
            display_name="EXAMPLE-displayName-Value",
            freeform_tags={
                'EXAMPLE_KEY_XduNu': 'EXAMPLE_VALUE_gaE4cvp0ZIQuYb16uxqm'
            },
            opc_retry_token="EXAMPLE-opcRetryToken-Value"
        )
    )

# Get the data from response
print(create_network_security_group_response.data)
```

Responses



# SDK – Ejemplo Python

## Requisitos:

Tener un SDK, ejemplo, Java, Python, Go, etc.  
Tener configurado el Perfil OCI

## Tips:

Existen un cantidad de scripts para ejecutar  
Oficiales:

<https://github.com/oracle/learning-library>

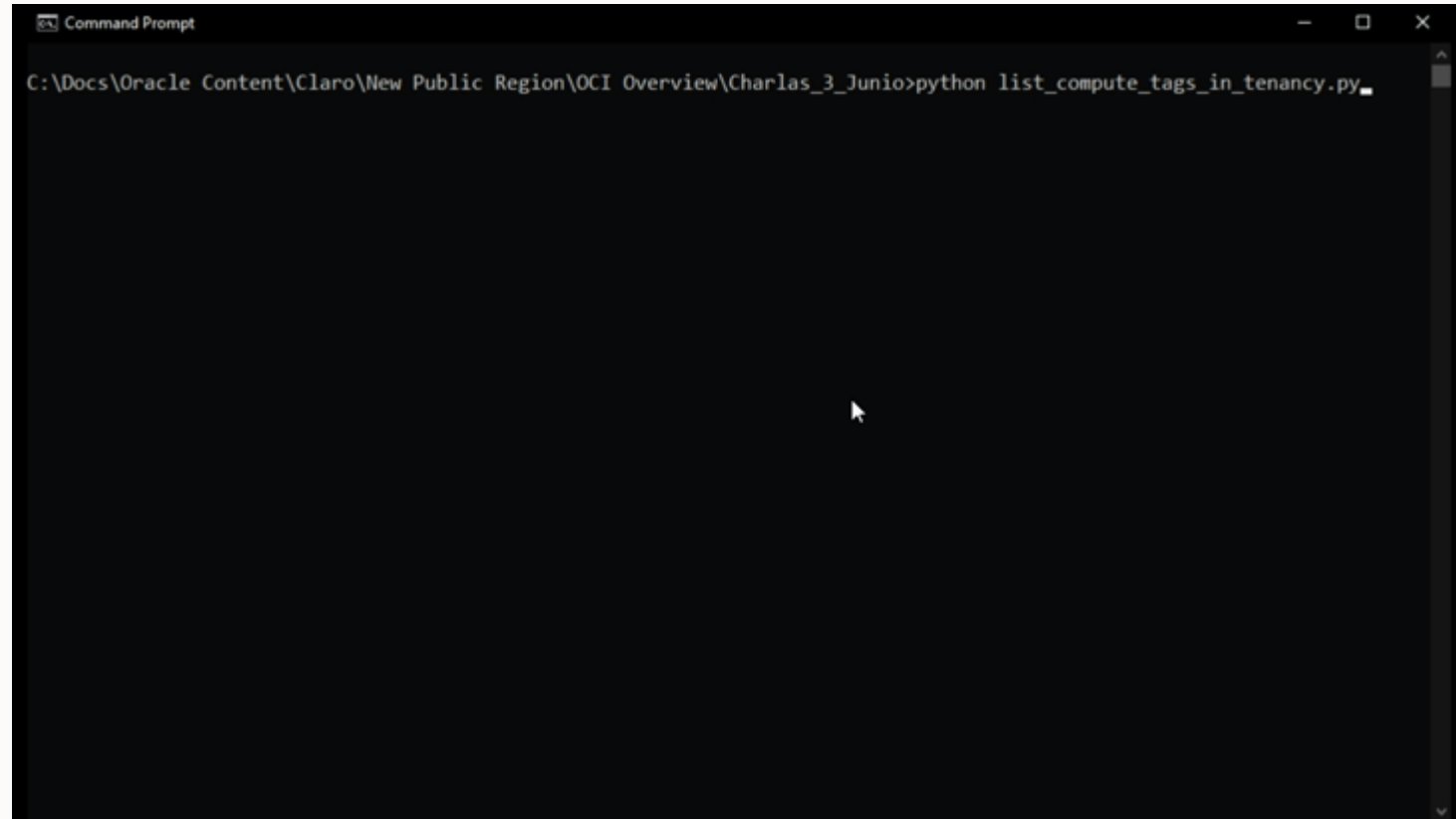
<https://github.com/oracle/oci-python-sdk>

Blogs:

<https://www.oc-blog.com/oci-scripts-and-example-code/>

Este ejemplo es de

[https://github.com/oracle/oci-python-sdk/tree/master/examples/list\\_resources\\_in\\_tenancy](https://github.com/oracle/oci-python-sdk/tree/master/examples/list_resources_in_tenancy)

A screenshot of a Windows Command Prompt window. The title bar reads "Command Prompt". The command prompt shows the current directory as "C:\Docs\Oracle Content\Claro\New Public Region\OCI Overview\Charlas\_3\_Junio" and the command being executed is "python list\_compute\_tags\_in\_tenancy.py". The output of the script is not visible in the screenshot.

```
Command Prompt
C:\Docs\Oracle Content\Claro\New Public Region\OCI Overview\Charlas_3_Junio>python list_compute_tags_in_tenancy.py
```

# CLI

## Requisitos:

Tener instalado el OCI CLI

Tener configurado el perfil OCI

## Tips:

Usar variables de entorno

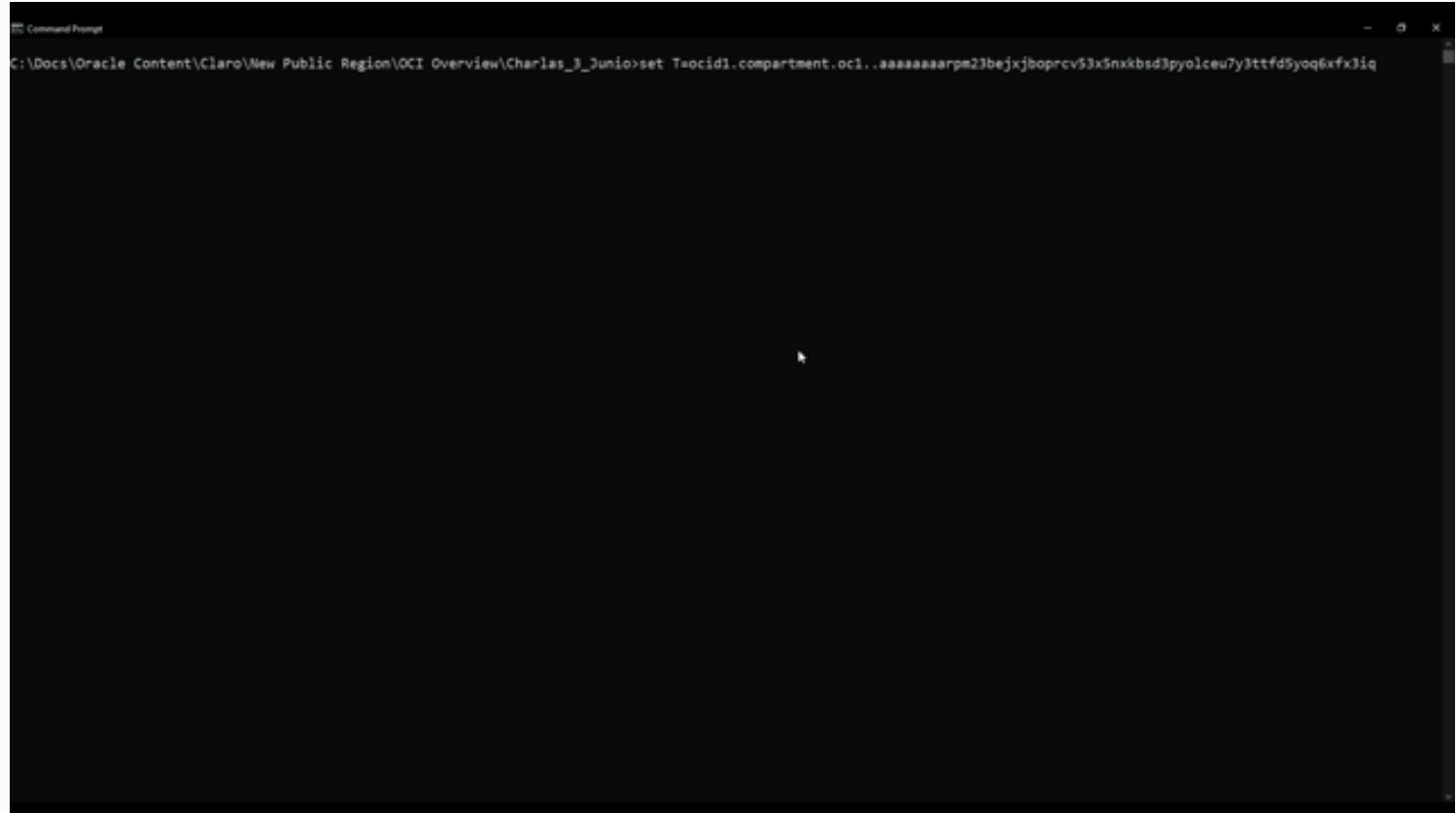
Usar cadenas de ejecución –si aplica–

>> Variables de Entorno

>> Variables parseadas de JSON

## Ejemplo, en Windows (CLI):

```
oci iam compartment list|jq ".data[] | select( .name | contains(\"TestTerraform\"))\"|jq .\"id\" > TempFile
set /p T= < TempFile
oci compute instance list -c %T%
```



# CLI

1. Categoría
2. Componente
3. Comandos
4. Opciones del Comando

Mas información en

[https://docs.oracle.com/en-us/iaas/tools/oci-cli/2.12.11/oci\\_cli\\_docs/index.html](https://docs.oracle.com/en-us/iaas/tools/oci-cli/2.12.11/oci_cli_docs/index.html)

docs.oracle.com/en-us/iaas/tools/oci-cli/2.12.11/oci\_cli\_docs/cmdref/compute/instance.html

Docs » compute » instance

## instance

### Description

A compute host. The image used to launch the instance determines its operating system and other software. The shape specified during the launch process determines the number of CPUs and memory allocated to the instance. For more information, see [Overview of the Compute Service](#).

To use any of the API operations, you must be authorized in an IAM policy. If you're not authorized, talk to an administrator. If you're an administrator who needs to write policies to give users access, see [Getting Started with Policies](#).

**Warning:** Oracle recommends that you avoid using any confidential information when you supply string values using the API.

### Available Commands

- [action](#)
- [attach-vnic](#)
- [change-compartment](#)
- [detach-vnic](#)
- [get](#)
- [get-windows-initial-creds](#)
- [launch](#)
- [list](#)
- [list-vnics](#)
- [terminate](#)
- [update](#)

Previous Next

Docs » compute » instance » get

## get

### Description

Gets information about the specified instance.

### Usage

```
oci compute instance get [OPTIONS]
```

### Required Parameters

**--instance-id [text]**

The OCID of the instance.

### Optional Parameters

**--from-json [text]**

Provide input to this command as a JSON document.

The **--generate-full-command-json-input** option can be used with this command option. The key names are pre-processed names (converted to camelCase format, e.g. compartment-id) of the keys need to be populated by the user before using the command. For any command option that accepts multiple values, the values should be provided as a JSON array.

Options can still be provided on the command line. If both the command line and the command line specification are used, the command line specification takes precedence.





# Cloud Shell

## Requisitos:

Iniciar la Consola Web

## Características:

Oracle Linux – Última Versión

Muchas Dev Tools – Python, Kubectl, etc

IP Pública

5 GB en sesión – Borrado 6 meses

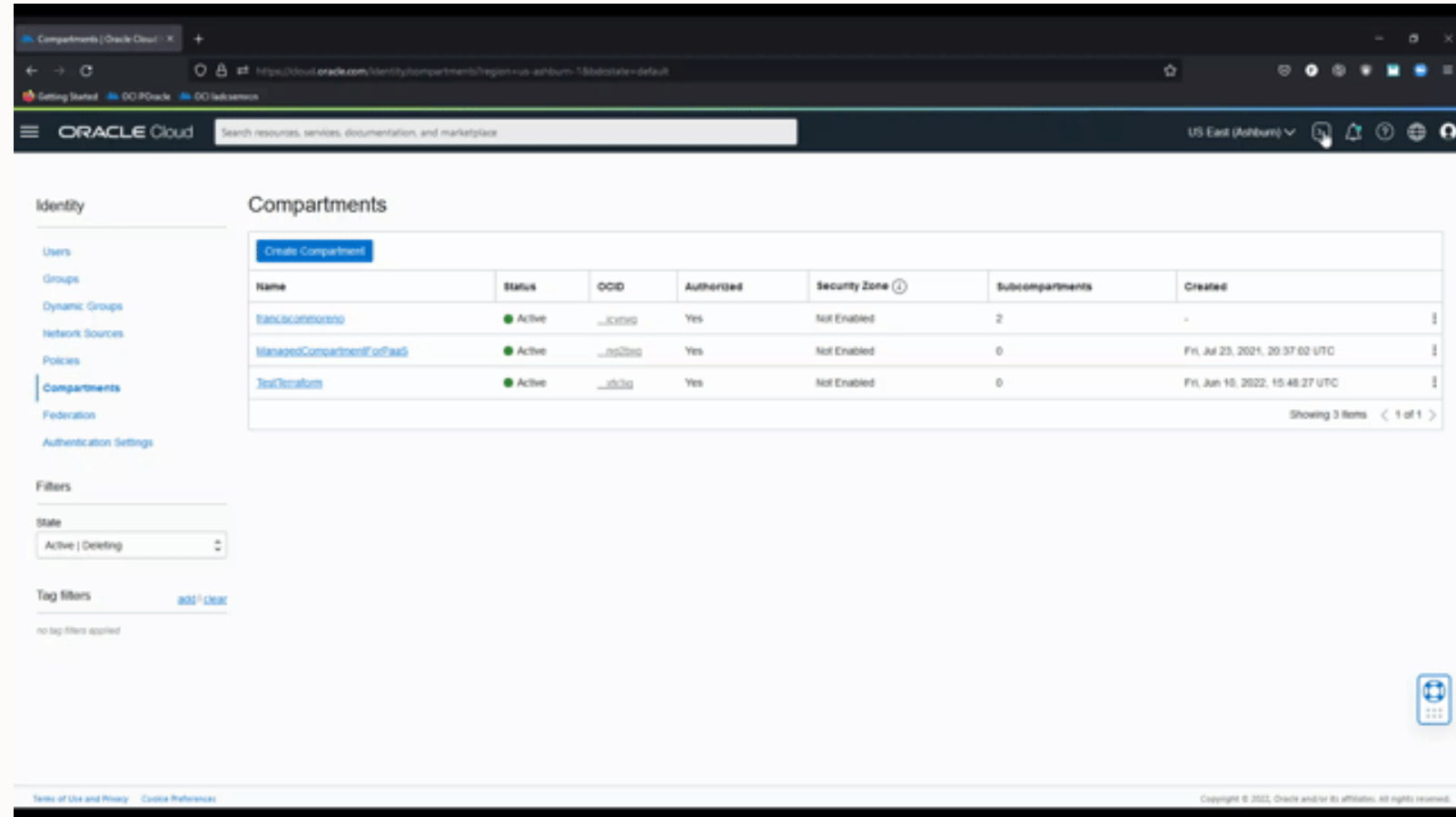
## Tips:

Usar variables de entorno

Usar cadenas de ejecución –si aplica-

>> Variables de Entorno

>> Variables parseadas de JSON



The screenshot shows the Oracle Cloud Identity Compartments console. The left sidebar contains navigation links for Identity, Users, Groups, Dynamic Groups, Network Sources, Policies, Compartments (selected), Federation, and Authentication Settings. The main area displays a table of compartments with columns: Name, Status, OCID, Authorized, Security Zone, Subcompartments, and Created. Three compartments are listed: 'BasicCompartment', 'ManagedCompartmentForPaaS', and 'TestCompartment'. All are 'Active' and 'Authorized'. The 'TestCompartment' was created on June 16, 2022.

Name	Status	OCID	Authorized	Security Zone	Subcompartments	Created
<a href="#">BasicCompartment</a>	Active	ocid1.compartment...crtg	Yes	Not Enabled	2	-
<a href="#">ManagedCompartmentForPaaS</a>	Active	ocid1.compartment...p2ag	Yes	Not Enabled	0	Fri, Jul 23, 2021, 20:37:02 UTC
<a href="#">TestCompartment</a>	Active	ocid1.compartment...d3ag	Yes	Not Enabled	0	Fri, Jun 16, 2022, 15:48:27 UTC

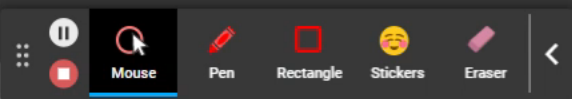


# Conceptos

Herramienta	Hashicorp Terraform	Redhat Ansible	Diferencias
	Infrastructure-as-a-Code IaC	Configuration Management	
Enfoque	Orquestación de despliegue	Enfocado en configuración y parchado	
Objetivo Principal	Despliega y retira provisión de recursos completos de nube	Instala software y despliegue de aplicaciones sin agentes	
Programación	Declarativo	Imperativo	Declarativo: Se especifica el resultado. Imperativo: Secuencia de operaciones.
Infraestructura	Immutable	Mutable	Mutable: Actualiza o modifica Immutable: No permite actualización, se tiene que volver a desplegar.
Idempotencia	Si	Si	No duplica recursos la misma acción.
Ciclo de vida	Si	No	

# ANSIBL

```
francisco_@cloudshell:ansible-example (us-ashburn-1)$ ansible-playbook sample.yaml
```



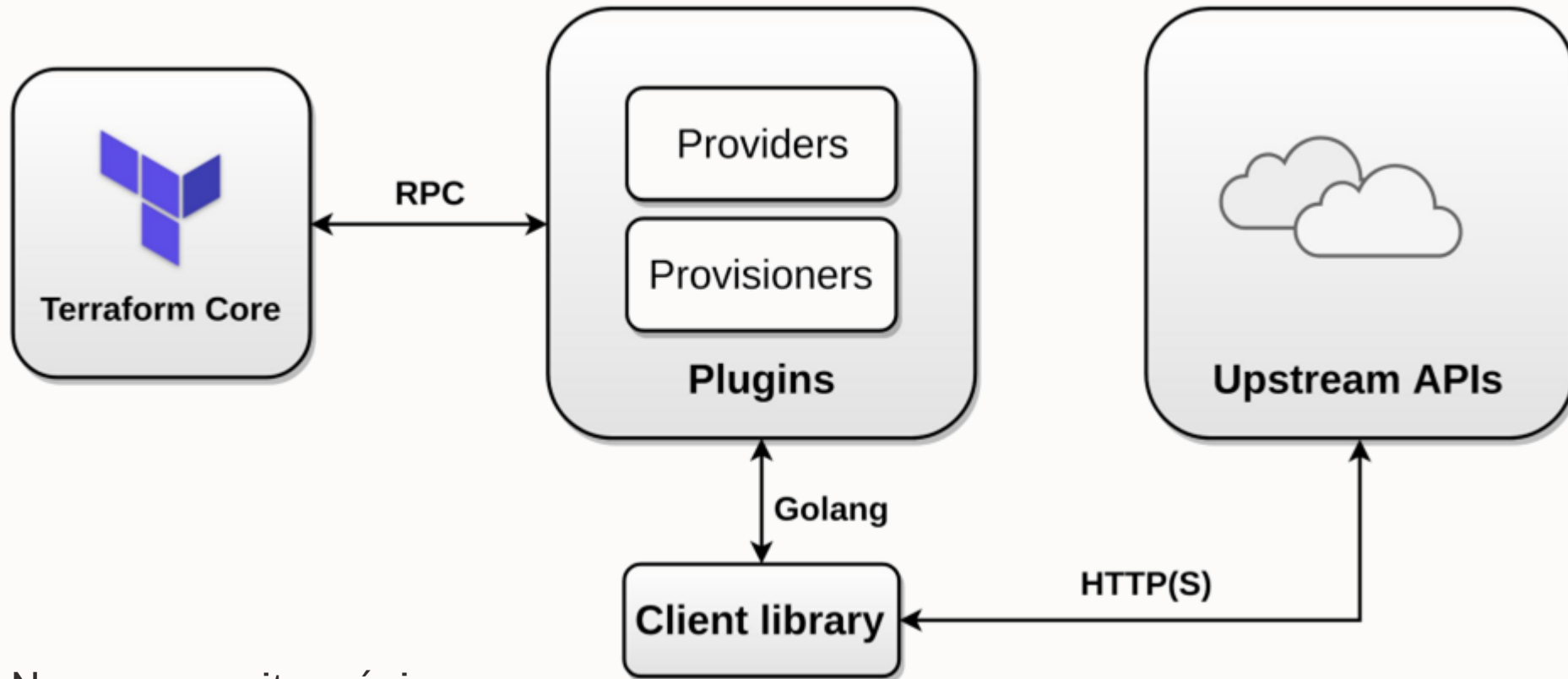
ORACLE

# Terraform

Francisco Moreno



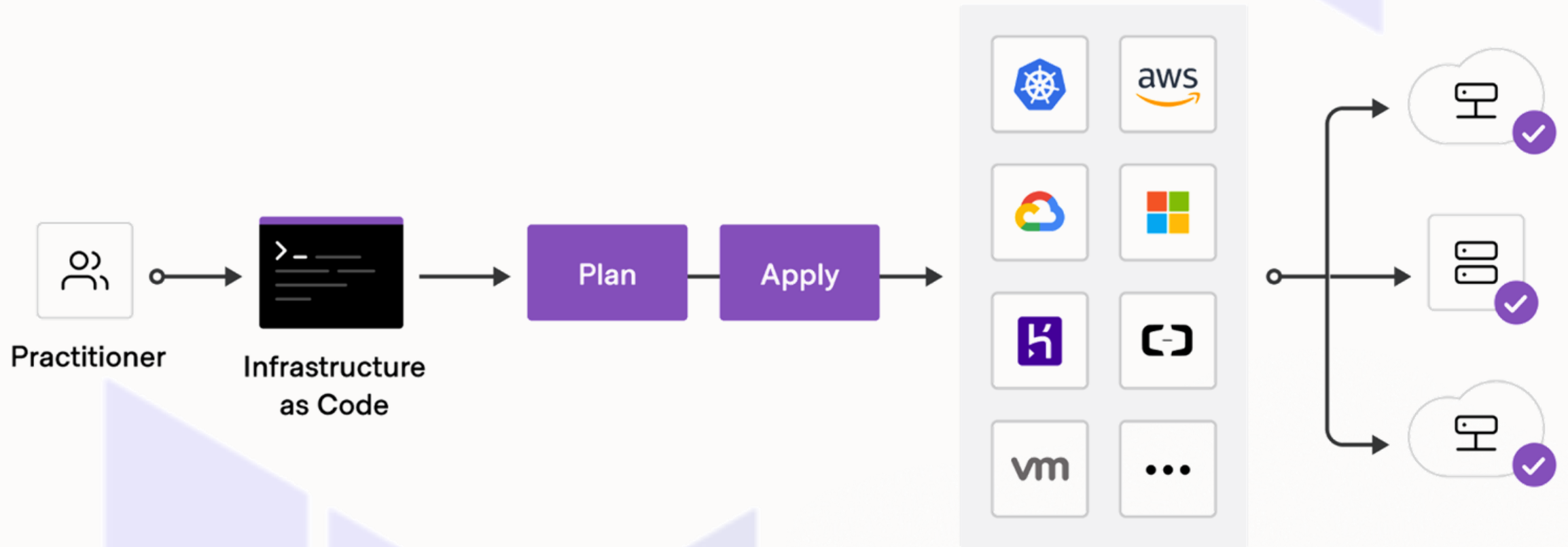
# Terraform – Herramienta Agnóstica de Nube \*



\* No es una varita mágica.  
Provee un lenguaje común para orquestar recursos nube y/o otros proveedores.

HashiCorp

# Terraform



# Archivos

terraform.state  
ARCHIVO ESTADO



VARIABLES  
terraform.tfvars

terraform-provider.tf

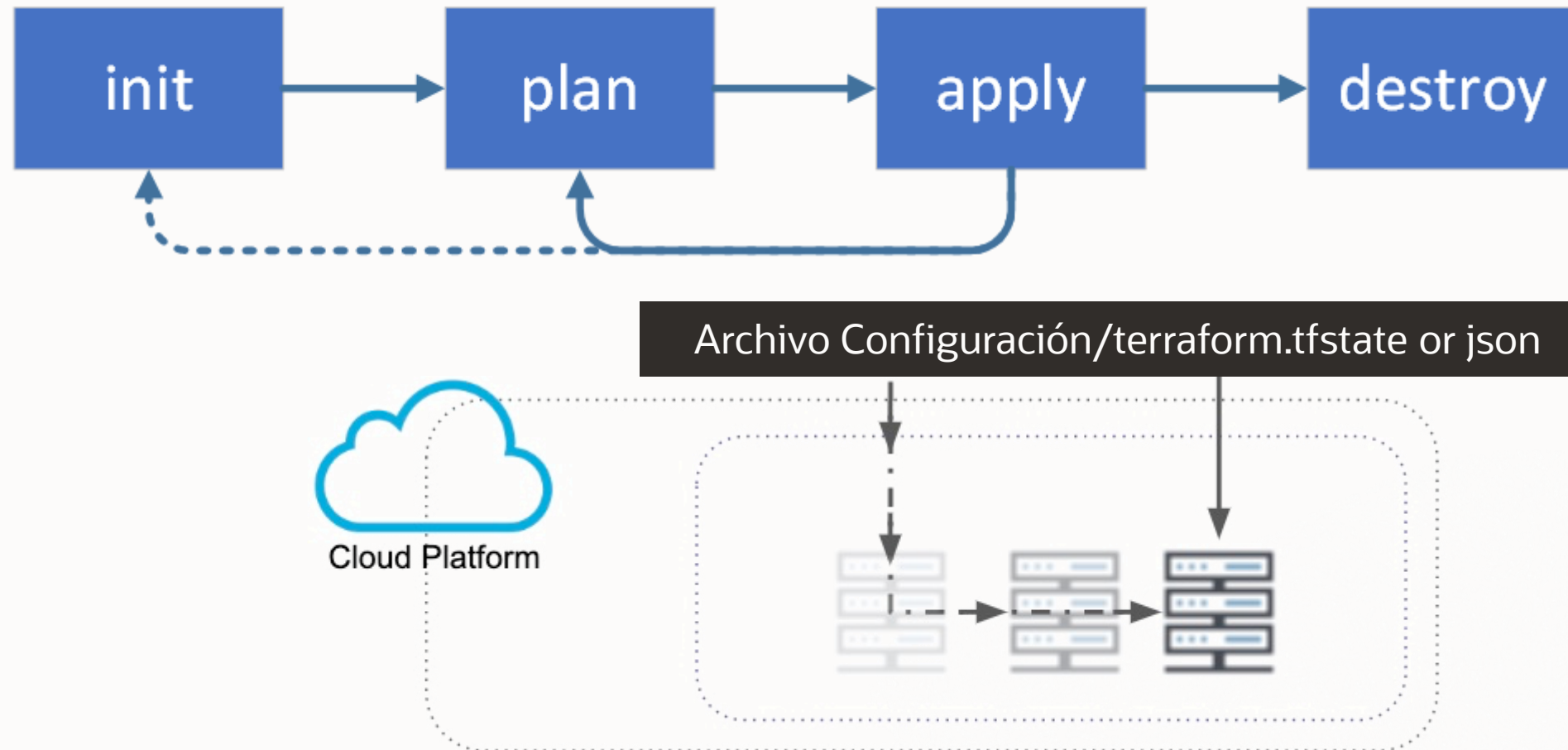
CODIGO

terraform- instances.tf





## Terraform – Simple Flujo de trabajo



# Variables

## ENTRADA

Definición variables: desde el CLI, archivo, variables de entorno.

Tipos de variables:

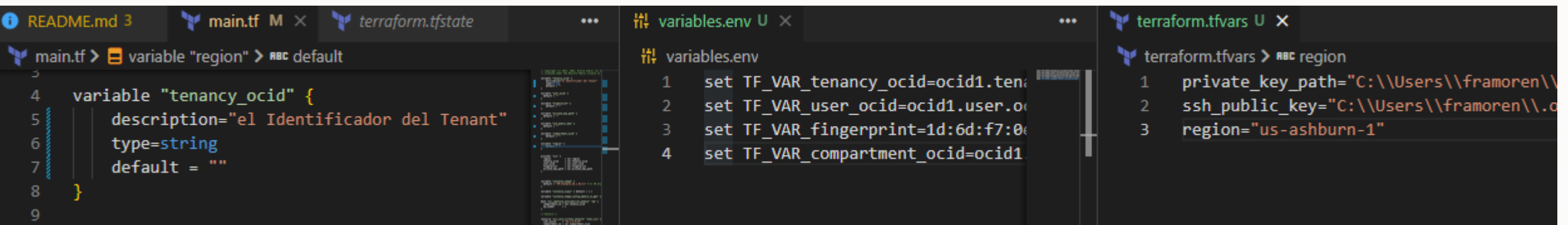
    Simples: string, number, bool

    Construidas: list, set, map, object, tuple.

Validación de ingreso: regexp, nulos,

## SALIDA

Atributos: sensible



The screenshot displays three open files in a code editor:

- main.tf**: Shows a Terraform variable definition for `tenancy_ocid`.

```
variable "tenancy_ocid" {  
  description = "el Identificador del Tenant"  
  type = string  
  default = ""  
}
```
- variables.env**: Shows environment variable assignments for Terraform variables.

```
set TF_VAR_tenancy_ocid=ocid1.ten  
set TF_VAR_user_ocid=ocid1.user.oc  
set TF_VAR_fingerprint=1d:6d:f7:0e  
set TF_VAR_compartment_ocid=ocid1
```
- terraform.tfvars**: Shows specific variable values for a region.

```
private_key_path="C:\\Users\\framoren\\  
ssh_public_key="C:\\Users\\framoren\\  
region="us-ashburn-1"
```



# Componentes

```
provider "oci" {
  region      = var.region
  tenancy_ocid = var.tenancy_ocid
  user_ocid   = var.user_ocid
  fingerprint = var.fingerprint
  private_key_path = var.private_key_path
}
# See https://docs.oracle.com/iaas/images/
data "oci_core_images" "test_images" {
  compartment_id      = var.compartment_ocid
  operating_system    = "Oracle Linux"
  operating_system_version = "8"
  shape               = var.instance_shape
  sort_by             = "TIMECREATED"
  sort_order          = "DESC"
}
/* Network */
resource "oci_core_virtual_network" "test_vcn" {
  cidr_block      = "10.1.0.0/16"
  compartment_id = var.compartment_ocid
  display_name    = "testVCN"
  dns_label       = "testvcn"
}
output "Public_IP_LoadBalancer" {
  value = "http://${oci_load_balancer_load_balancer.free_ip_address}"
}
```

variable  
provider  
data  
resource  
output

## Module

Carpeta con código y tiene entrada y salida similar

Terraform solo accede a los archivos TF de la carpeta actual, no ingresa a los valores internos

# Conceptos Avanzados

Remote Backend

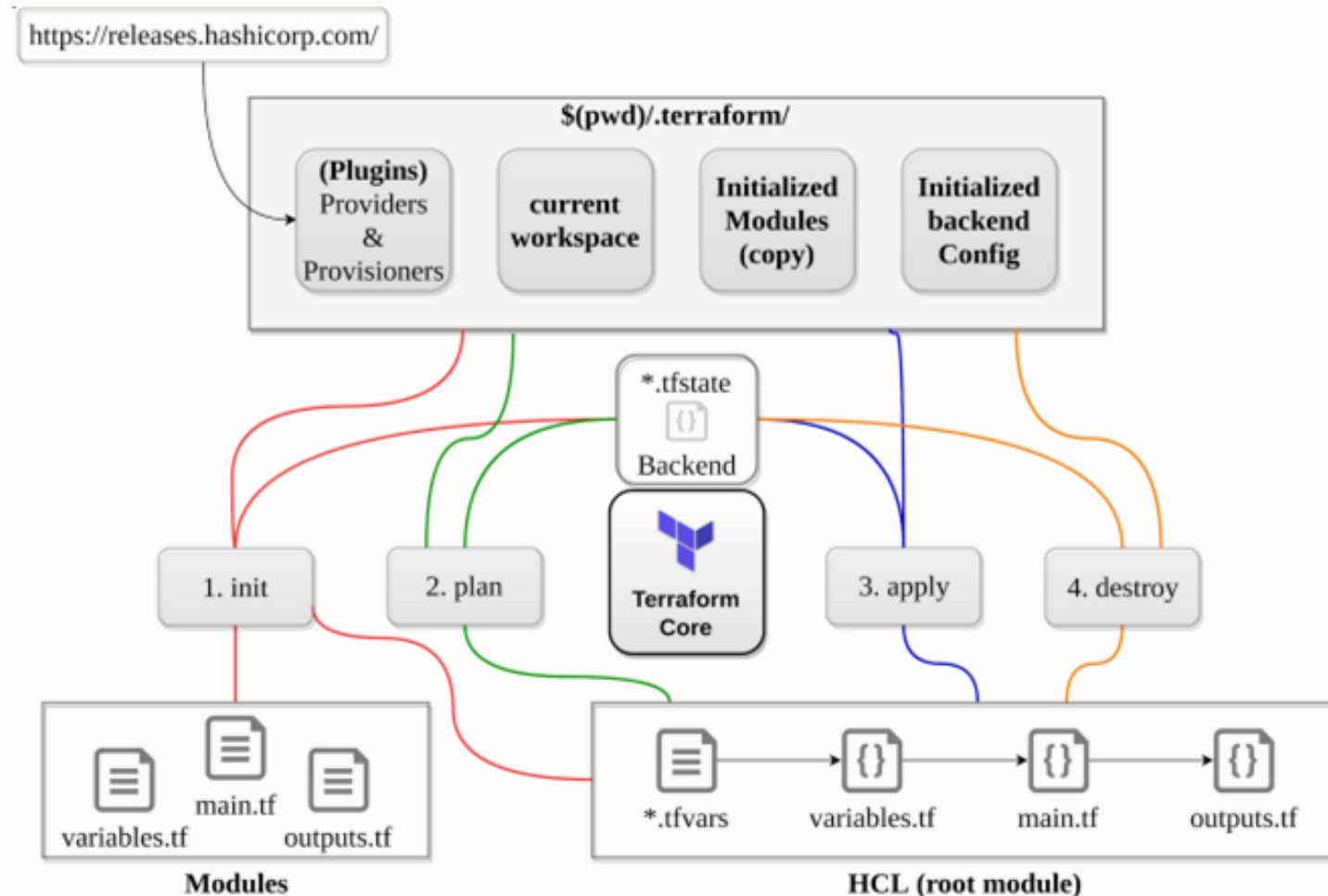
Providers: Local y Remote

Comandos: fmt, validate, taint, import, lock

Opciones: parallelism

Workspaces

Anidación: Export/Import state files



ORACLE

# Resource Manager

Francisco Moreno



# Vista General

## Que es?

- Terraform como Servicio
- Usa IaC para automatizar aprovisionamiento de todos los recursos OCI
- Soporte completo CLI, SDK y Consola

## Que problemas solucionar?

- Administración del estado de la infraestructura
- La ejecución paralela puede conducir a resultados de infraestructura indeseables
- Controles de acceso limitados en torno a la ejecución de comandos Terraform

## Beneficios

- Automatice y estandarice su infraestructura y replique fácilmente los entornos
- Integración profunda con OCI (es decir, identidad, etiquetado, etc.)
- Administre sin problemas los archivos de estado y mejore la colaboración en equipo

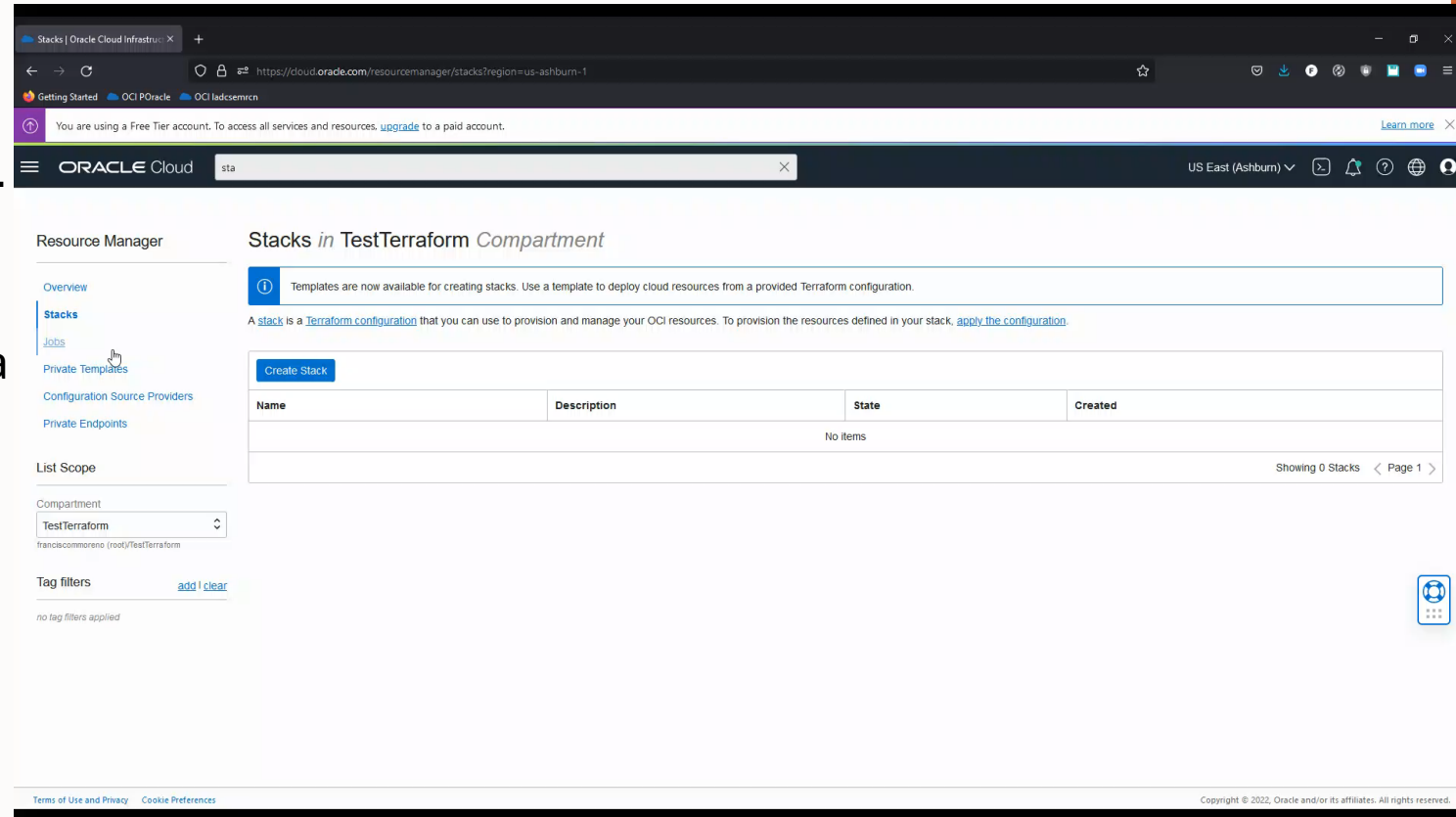
## Diferenciador Oracle

- Sin bloqueo, migraciones simples desde y hacia nubes privadas y de terceros
- Construido sobre software de código abierto sin modificar de Terraform para IaC en Oracle Cloud y On Premises
- Soporte local 100% - 1 día para los nuevos servicios y características de OCI



# Términos Resource Manager

- Un **stack** representa un conjunto de recursos de OCI que se crean en el tenant.
- Cada stack se asigna a un **configuration** de Terraform y un **state file**.
- Un **job** realiza las acciones definidas en la configuración.
- Las posibles acciones son **Plan**, **Apply**, **Destroy** e **Import State**

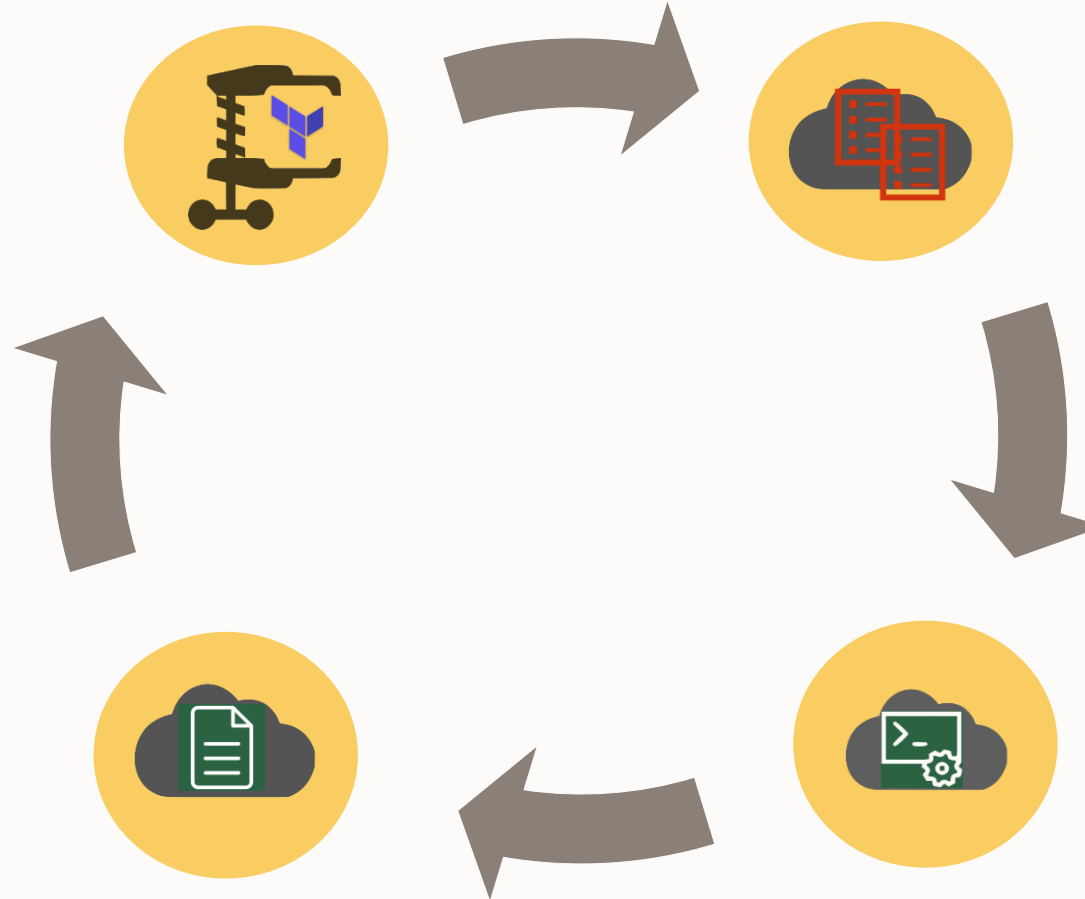


# Como funciona?

## Codifica/Actualiza

- Archivos Terraform (Zip)
- Sample templates
- Private templates
- Importar infraestructura
- Repositorio Código Fuente
- Asistente (Wizard)

- Visualiza estado  
manejado y recursos  
aprovisionados
- Detect Drift



Crea/Actualiza Stack  
usando

- Console Web
- SDK
- CLI

Ejecuta Job

- Plan/
  - Apply/
  - Destroy/
  - Import State
- Para aprovisiona y  
manejar recursos



ORACLE

# Demos

**Francisco Moreno**

[https://github.com/fmorenod81/OCI\\_TF](https://github.com/fmorenod81/OCI_TF)



# Dos opciones de prueba gratuitas

## Always Free

Servicios que  
puedes usar por  
tiempo ilimitado

+

## Free Trial

Créditos gratis por  
30 días U\$300

## Aprenda, explore y cree gratis

## Always Free – Productos Incluidos



### Autonomous Database

*2 x Databases  
20 GB each  
APEX, Oracle Machine  
Learning, ORDS (REST  
API)*



### Compute

*2 x VMs  
1 GB Memory each*



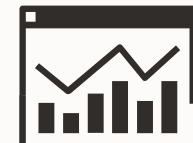
### Storage

*100 GB Block  
10 GB Object  
10 GB Archive*



### Networking/ Load Balancing

*10 Mbps LB  
10 TB Outbound  
Data Transfer*

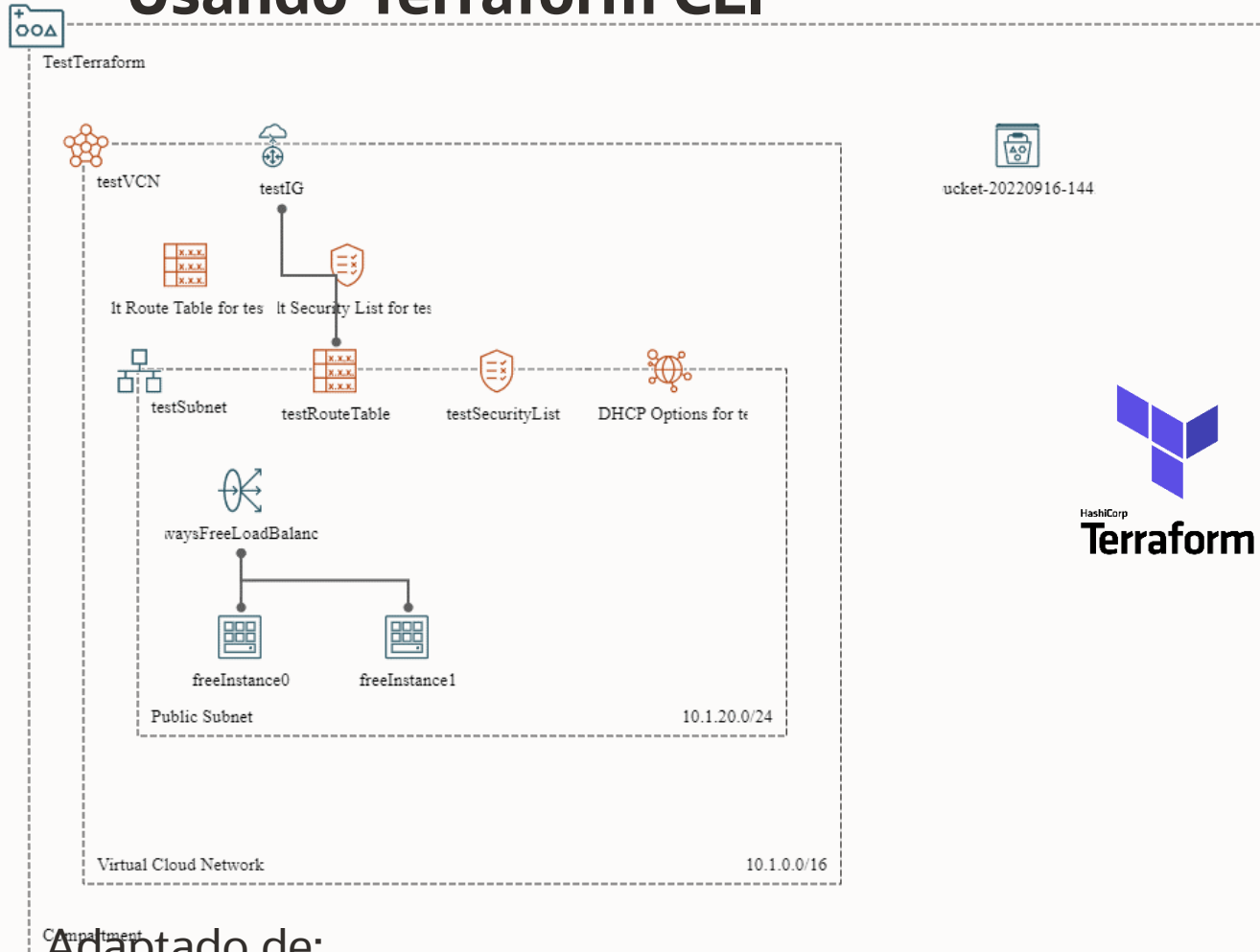


### Monitoring / Notifications

*500M Metrics Ingestion  
1B Metrics Retrieval  
Notifications:  
1M HTTP, 1K Email*

**Disponible para todas las cuentas en la nube nuevas y existentes**

# Usando Terraform CLI



## Pasos

(Solo Local)

1. Configurar OCI CLI
  2. Configurar Terraform
- (Todos)

3. Descargar código
4. Cambiar a Desde\_CLI
5. Desplegar desde Terraform

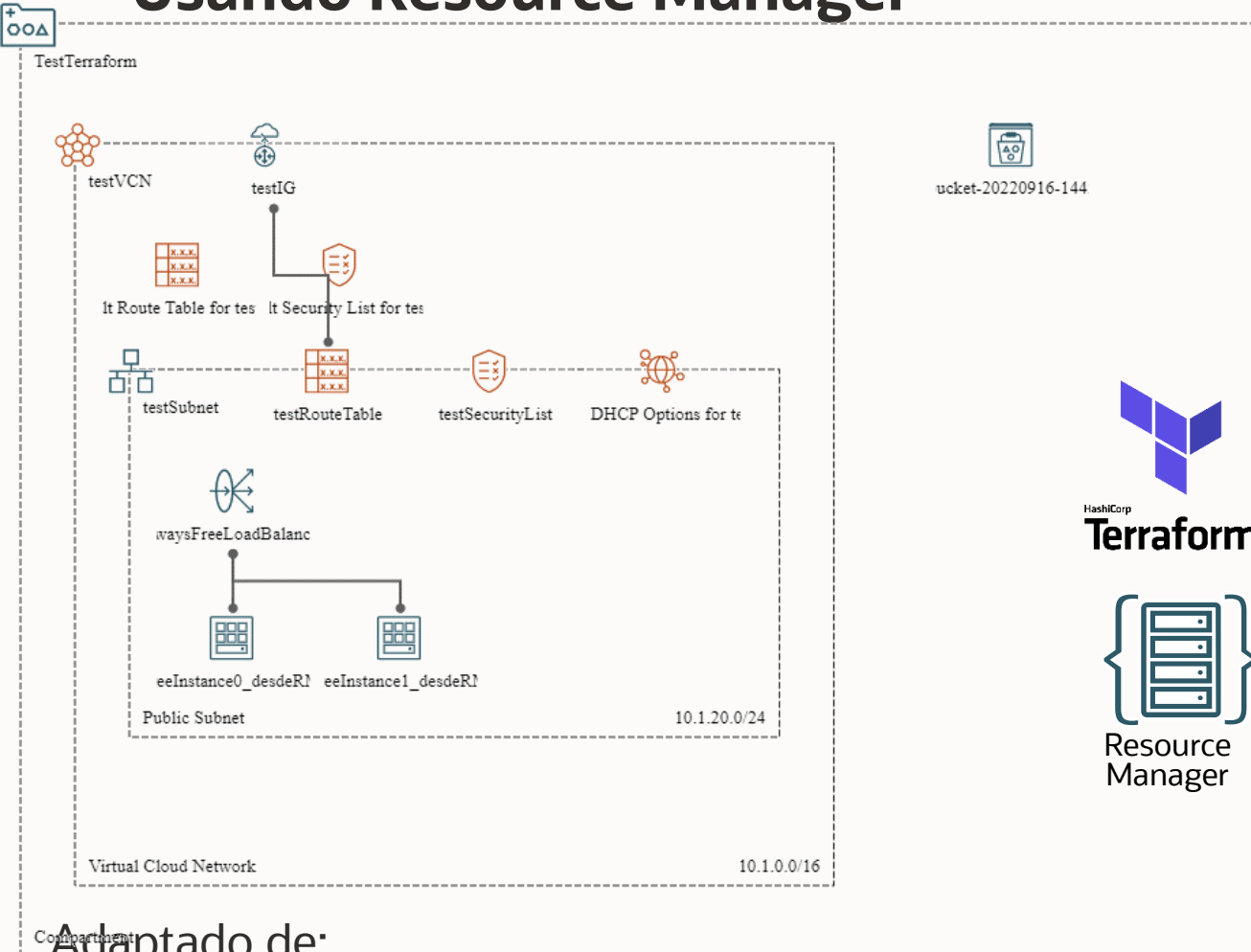
Adaptado de:

[https://github.com/oracle/terraform-provider-oci/blob/master/examples/always\\_free/main.tf](https://github.com/oracle/terraform-provider-oci/blob/master/examples/always_free/main.tf)

y de:

<http://www.brokedba.com/2020/07/terraform-for-dummies-launch-instance.html>

# Usando Resource Manager



## Pasos

1. Descargar ZIP
2. Copiar el cloud-init
3. Asignar la llave publica
4. Ejecutar el Resource Manager



Adaptado de:

[https://github.com/oracle/terraform-provider-oci/blob/master/examples/always\\_free/main.tf](https://github.com/oracle/terraform-provider-oci/blob/master/examples/always_free/main.tf)

y de:

<http://www.brokedba.com/2020/07/terraform-for-dummies-launch-instance.html>




# Recursos Oficiales



 MyLearn | Oracle University

**coursera**

 | A-Team Chronicles

 | LAD Cloud Experts Spanish Blog

## Recursos No Oficiales



Oracle Cloud Blog

My personal take on Oracle's Infrastructure and Platform Coolness!!

# Referencias Oficiales

---

## Generales:

<https://education.oracle.com/es/>

<https://mylearn.oracle.com/>

<https://www.ateam-oracle.com/>

<https://blogs.oracle.com/lad-cloud-experts-es/>

## Especificas:

<https://docs.oracle.com/en-us/iaas/Content/API/Concepts/cliconcepts.htm>

<https://docs.oracle.com/en-us/iaas/Content/GSG/Tasks/creatingkeys.htm>

<https://learn.hashicorp.com/tutorials/terraform/oci-build?in=terraform/oci-get-started>

<https://blogs.oracle.com/cloud-infrastructure/getting-started-with-the-resource-manager-on-oracle-cloud-infrastructure>

<https://blogs.oracle.com/cloud-infrastructure/two-tools-to-bring-your-existing-infrastructure-under-terraform>

<https://blogs.oracle.com/cloud-infrastructure/drift-detection-for-infrastructure-resources-using-resource-manager>

<https://blogs.oracle.com/cloud-infrastructure/create-resource-manager-configuration-and-state-files-by-discovering-existing-compartment-resources>

<https://docs.cloud.oracle.com/en-us/iaas/Content/ResourceManager/Reference/solutions.htm>

<https://oracle.github.io/learning-library/oci-library/>

# Referencias Externas

---

## Generales:

<https://www.oc-blog.com>

<https://technology.amis.nl>

<https://k21academy.com>

<https://app.pluralsight.com/library/>

<https://www.udemy.com/>

## Especificas:

[https://terraformbook.com/TheTerraformBook\\_sample.pdf](https://terraformbook.com/TheTerraformBook_sample.pdf)

<https://learn.hashicorp.com/tutorials/terraform/associate-study>

<https://k21academy.com/terraform-iac/terraform-beginners-guide/>

<https://events19.linuxfoundation.org/wp-content/uploads/2017/12/Hashicorp-Terraform-Deep-Dive-with-no-Fear-Victor-Turbinsky-TeXuna.pdf>

(Consumo desde Postman)

[https://github.com/ashishksingh/postman\\_collection\\_for\\_oci\\_rest](https://github.com/ashishksingh/postman_collection_for_oci_rest)

ORACLE