



**ORACLE**  
Cloud Infrastructure  
**Developer**  
**Fast Track**

Início 09h 

**Seja  
Bem-vindo!**

## Lembrete

- 1. Crie sua conta trial na OCI**  
[https://bit.ly/DeveloperFastTrack\\_Jan2022](https://bit.ly/DeveloperFastTrack_Jan2022)  
\*Utilize o mesmo e-mail do cadastro para workshop.
- 2. Material de apoio**  
<https://bit.ly/git-devft-jan>
- 3. Dúvidas?**  
Use o Q&A que nós buscaremos responder a todos.

## **Declaração de Porto Seguro (Safe Harbor Statement) - Geral**

O texto a seguir tem como objetivo traçar a orientação dos nossos produtos em geral. É destinado somente a fins informativos e não pode ser incorporado a um contrato. Ele não representa um compromisso de entrega de qualquer tipo de material, código ou funcionalidade e não deve ser considerado em decisões de compra. O desenvolvimento, a liberação, a data de disponibilidade e a precificação de quaisquer funcionalidades ou recursos descritos para produtos da Oracle estão sujeitos a mudanças e são de critério exclusivo da Oracle Corporation.

Esta é a tradução de uma apresentação em inglês preparada para a sede da Oracle nos Estados Unidos. A tradução é realizada como cortesia e não está isenta de erros. Os recursos e funcionalidades podem não estar disponíveis em todos os países e idiomas. Caso tenha dúvidas, entre em contato com o representante de vendas da Oracle.

## **Declaração de Porto Seguro (Safe Harbor Statement) - específica para o Brasil e Portugal**

As informações a seguir foram coletadas pela Oracle a partir de um analista terceirizado do setor e têm como objetivo apresentar destaques da orientação dos nossos produtos em geral. São destinadas somente a fins informativos e não podem ser consideradas para diferenciar produtos da Oracle dos produtos de outras empresas.

A Oracle conduziu a análise de “prova de conceito” com um alto nível de atendimento padrão do setor, mas as informações a seguir não estão isentas de erros. A Oracle não afirma ou garante que os resultados da análise possam ser reproduzidos e/ou demonstrados de maneira lógica. A Oracle não fornecerá nenhuma informação referente à análise, incluindo, mas não se limitando a, método, lógica, ideia, estratégia de análise e política de análise.



# OCI Developer Fast Track

## Agenda:

1

Starts Here  
09h00 – 10h00

- Cloud Native & DevOps on OCI

2

Using Terraform on OCI  
10h00 – 11h00

- What is it
- Start HandsOn 1

3

Deploying a web application on OCI  
11h00 – 12h00

- What is it
- Start HandsOn 2

4

Running a containerized application on OCI  
14h00 – 15h30

- What is it
- Start HandsOn 3

5

Exposing APIs in a secure way  
15h30 – 16h30

- What is it
- Start HandsOn 4

6

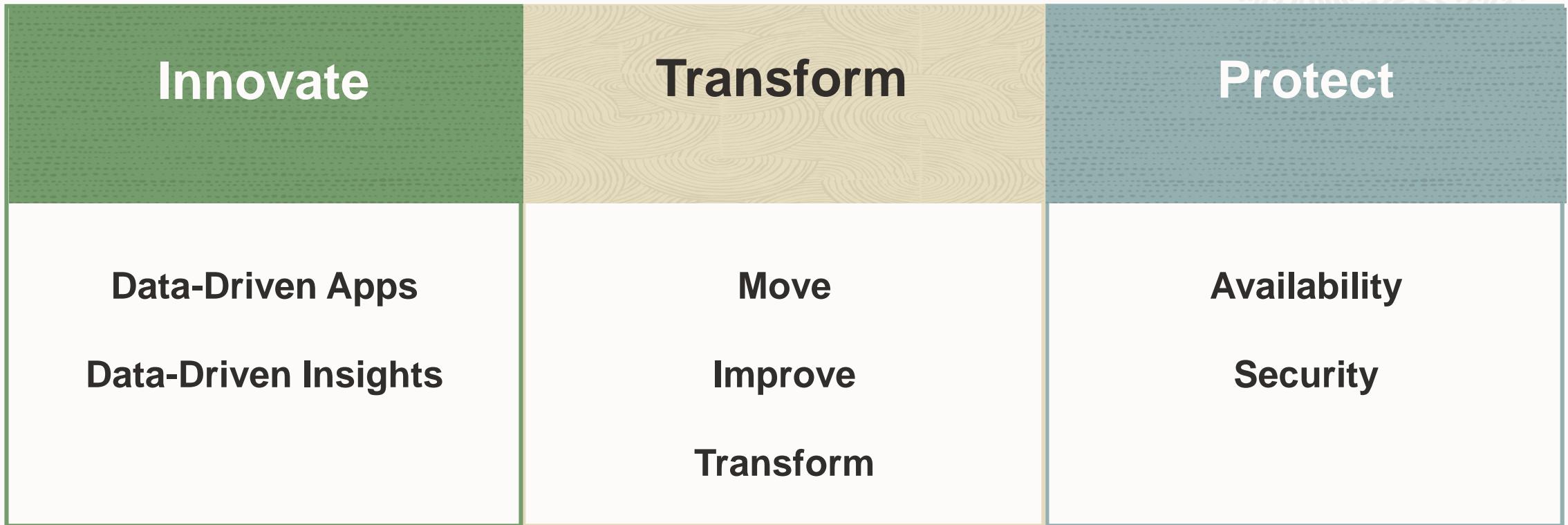
Ends Here  
16h30 – 17h00

- APM
- Menti + Next events



# 1. Starts Here

# Business Goals



## Business Challenges



### Competing Strategies



### Scarcity of Resources



### Legacy Technology Stack



### Gaps in IT security

# Personas Challenges in Cloud Native World



## Senior IT

Responsible for delivering on stakeholder such as developers and LOB users expectations

- ✓ Worries about cost of providing services
- ✓ Worries about lack of data security and system unavailability due to hack,
- ✓ Not confident on disaster recovery preparedness



## IT Architects

Responsible for designing reliable, scalable data platform for various enterprise users

- ✓ Worries about data governance, validity / change propagation across systems
- ✓ Worries about security hacks with disjointed security policy endpoints
- ✓ Lack of comprehensive mechanism that meet RTO / RPO



## Developers

Build and deliver cloud native applications and modernize existing applications with AI / ML capabilities

- ✓ Need instant provisioning and automatic scaling of services without complexity or downtime
- ✓ Need flexibility to use any data model and language of choice without constraints
- ✓ Get transactional consistency, security and continuity without adding complex code



## Operations/DBAs

Deliver scalable, reliable Cloud Services that meet LOB and Enterprise needs

- ✓ Need for comprehensive, unified data management platform
- ✓ Ability to configure and automate data recovery and replication that meet Business SLAs
- ✓ Need comprehensive set of automation tools, best practice guidelines

# Do you know your Developer Page?

The screenshot shows the Oracle Developer Resource Center homepage. At the top, there's a navigation bar with the Oracle logo, a search icon, and links for Getting Started, Learn, Build, Community, and Downloads. To the right of the navigation is a user icon and a "Get Started For Free" button. A large, faint watermark of a brain is visible in the background.

Oracle Developer Resource Center

## High Speed Data: Red Bull Racing Honda hands-on lab

[See the hands-on lab](#)

A large image of a Red Bull Racing Honda Formula 1 driver holding his helmet is centered on the page. Below the image is a navigation control with arrows and a series of five dots, with the third dot being solid black.

Build Arm Apps on Oracle Cloud  
Learn about Ampere A1 Compute  
Build your first Arm app on Kubernetes

Launch a Linux VM  
Explore Terraform with Oracle Linux lab  
Watch a demo (8:32)

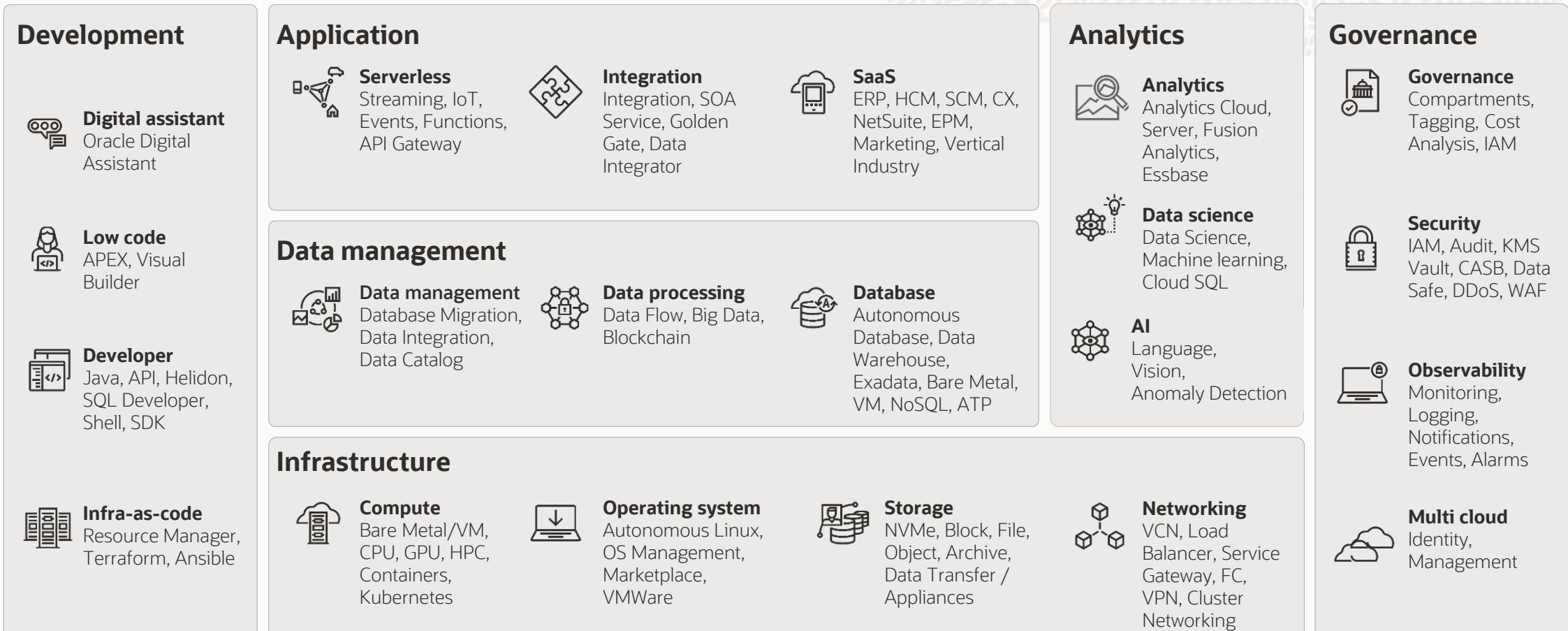
Launch a MySQL Database  
Deploying MySQL databases using the OCI MySQL Service

Deploy a Kubernetes Cluster  
Launch Kubernetes using Cloud Shell

[Downloads](#)

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

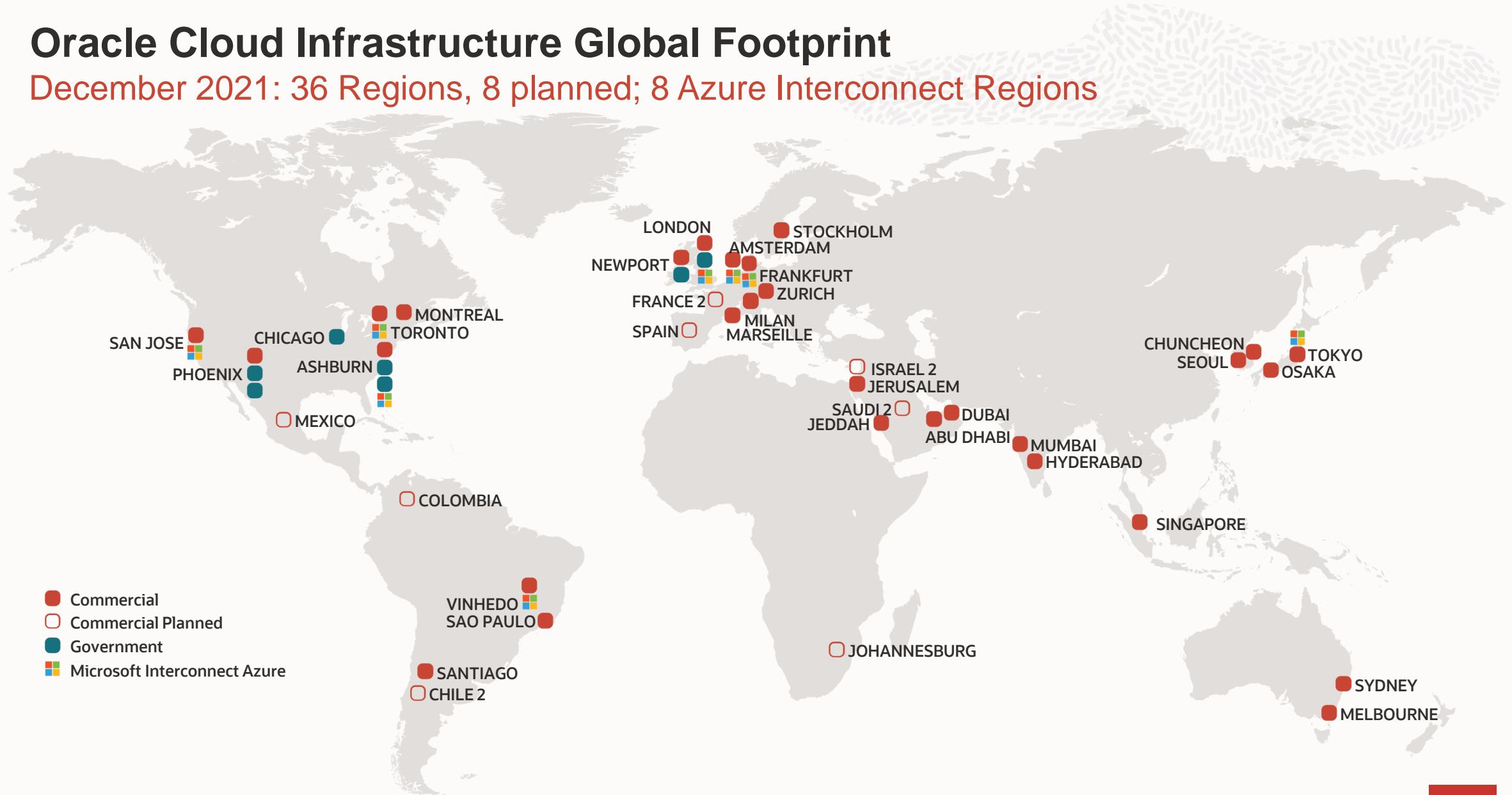
# Complete cloud services



Public/Government cloud and Cloud@Customer

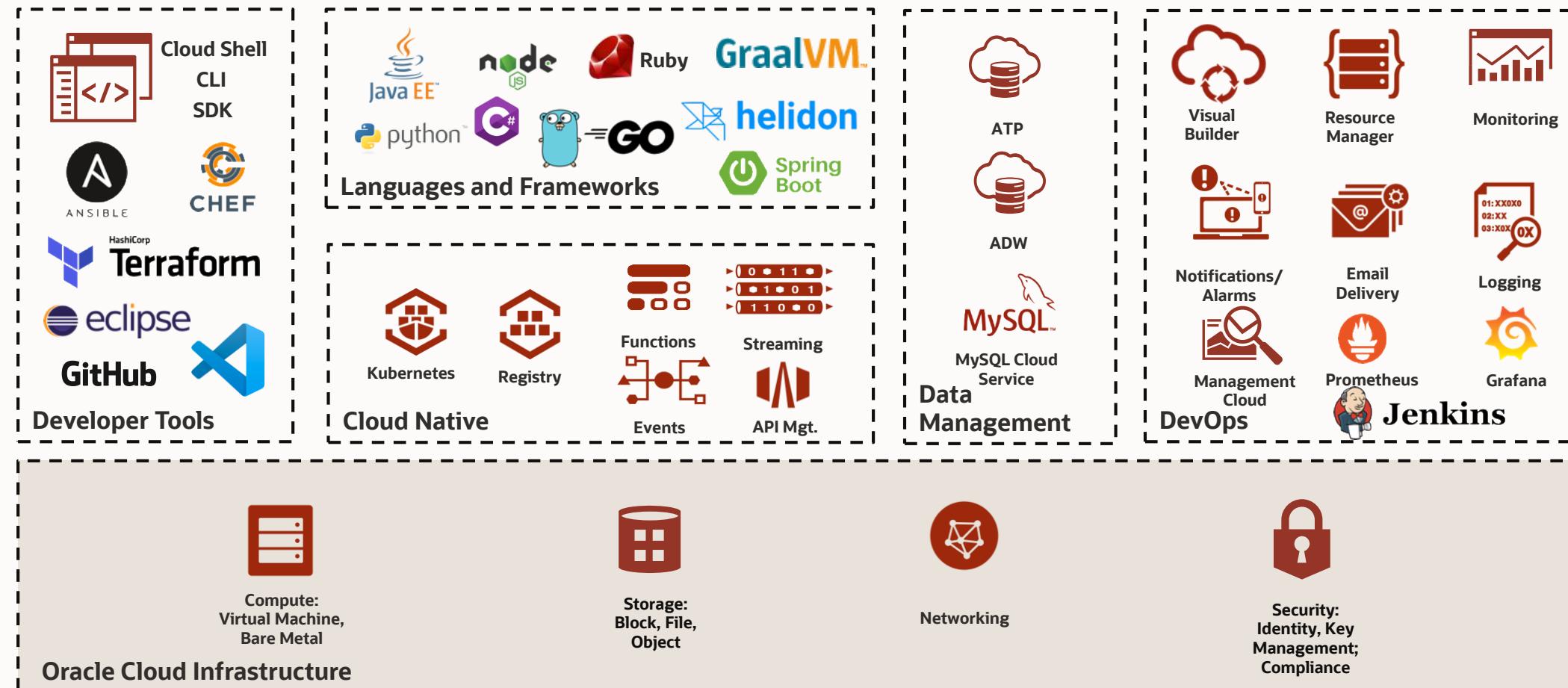
# Oracle Cloud Infrastructure Global Footprint

December 2021: 36 Regions, 8 planned; 8 Azure Interconnect Regions



# Oracle for Cloud Native

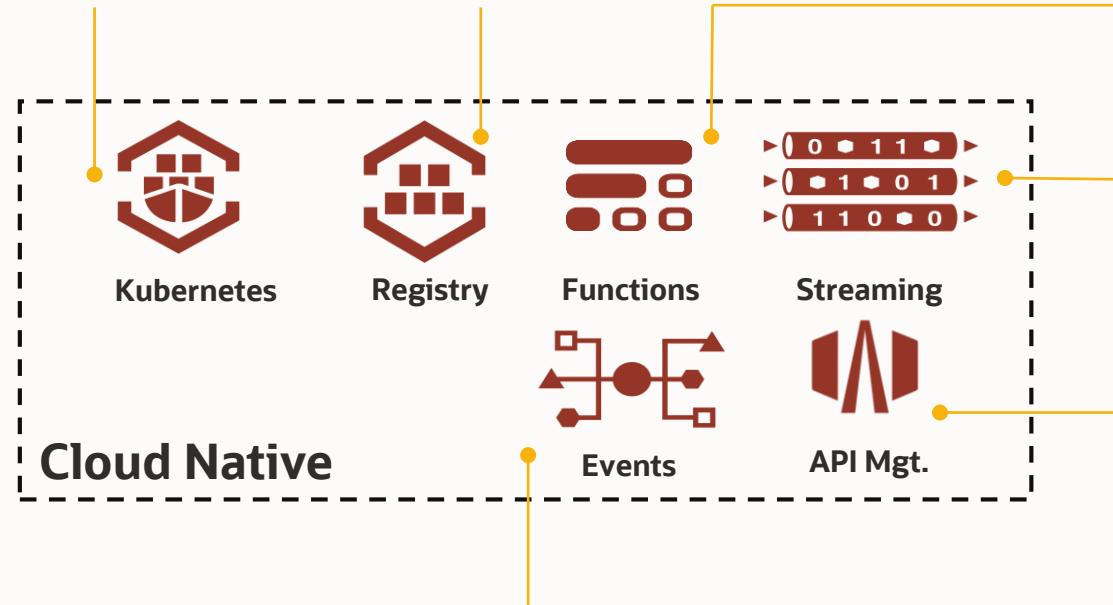
Oracle Cloud for Cloud Native, DevOps, Database, and Infrastructure



# Oracle for Cloud Native

## Oracle Cloud for Cloud Native, DevOps, Database, and Infrastructure

Fully managed, certified, Kubernetes service available in all commercial regions



Enables response to infrastructure changes with Functions, Streaming, and Notifications

Docker standard-based registry to reliably and securely store & share container images

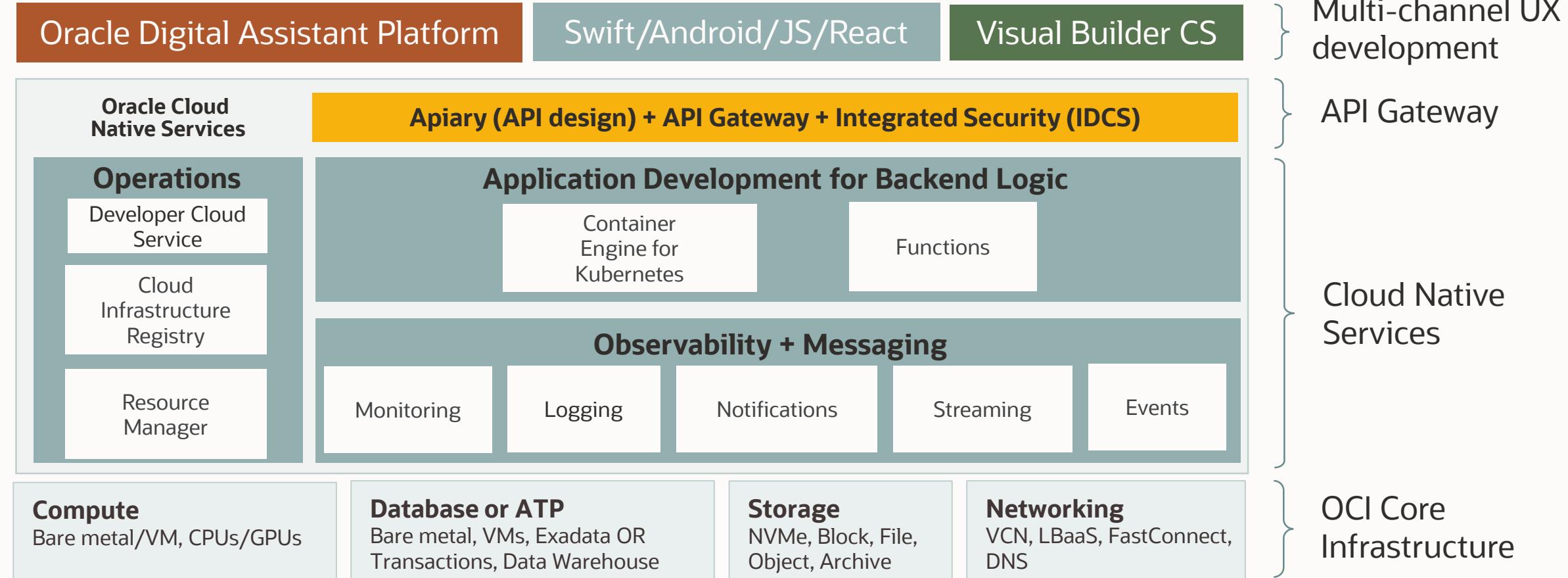
Economical and scalable serverless functions service that supports various languages

Apache Kafka-compatible data flow at-scale for web/mobile, logs, infrastructure/apps, and more

API lifecycle management through three services:

- Apiary for building APIs
- API Gateway for deploying APIs
- API Platform for consuming APIs

# Multi-channel App Dev



# Oracle Cloud Native Environment component versions

Component	Release 1.3	Release 1.2	Release 1.1
Platform API Server, Agent, and CLI	<b>1.3</b>	1.2	1.1
Kubernetes	<b>1.20.6</b>	1.18.18	1.17.9
RunC	<b>1.0</b>	1.0	1.0
CRI-O	<b>1.20.2</b>	1.18.4	1.17.0
Kata Containers	<b>1.12.1</b>	1.11.5	1.7.3
NGINX	<b>1.17.7</b>	1.17.7	1.17.7
Helm	<b>3.5.4</b>	3.3.4	3.1.1
Prometheus	<b>2.21.0</b>	2.21.0	2.13.1
Istio	<b>1.10.2</b>	1.9.6	1.4.10
Grafana	<b>7.2.1</b>	7.2.1	6.7.4
Operator Lifecycle Manager	<b>0.17.0</b>	-	-

# Oracle's participation in open source communities



CNCF Platinum Member



The Cloud Native Computing Foundation manages high-quality projects related to containers and microservices

Open Container Initiative Member



A project to create open industry standards around container formats and runtime

## 2. Using Terraform on OCI

# Agenda



- O que é Infraestrutura como código (IaC)
- Infraestrutura como código (IaC): capacidades e benefícios
- Resource Manager Overview
- Como funciona?
- Recursos



# Infraestrutura como código (IaC) e Oracle Resource Manager

## O que é infraestrutura como código?

Automatiza a implantação de infraestrutura e atualizações com software

- Permite o desenvolvimento ágil e DevOps
- Terraform é um motor de código aberto que processa IaC escrito em HCL (HashiCorp Configuration Language)

## Por que a infraestrutura como código?

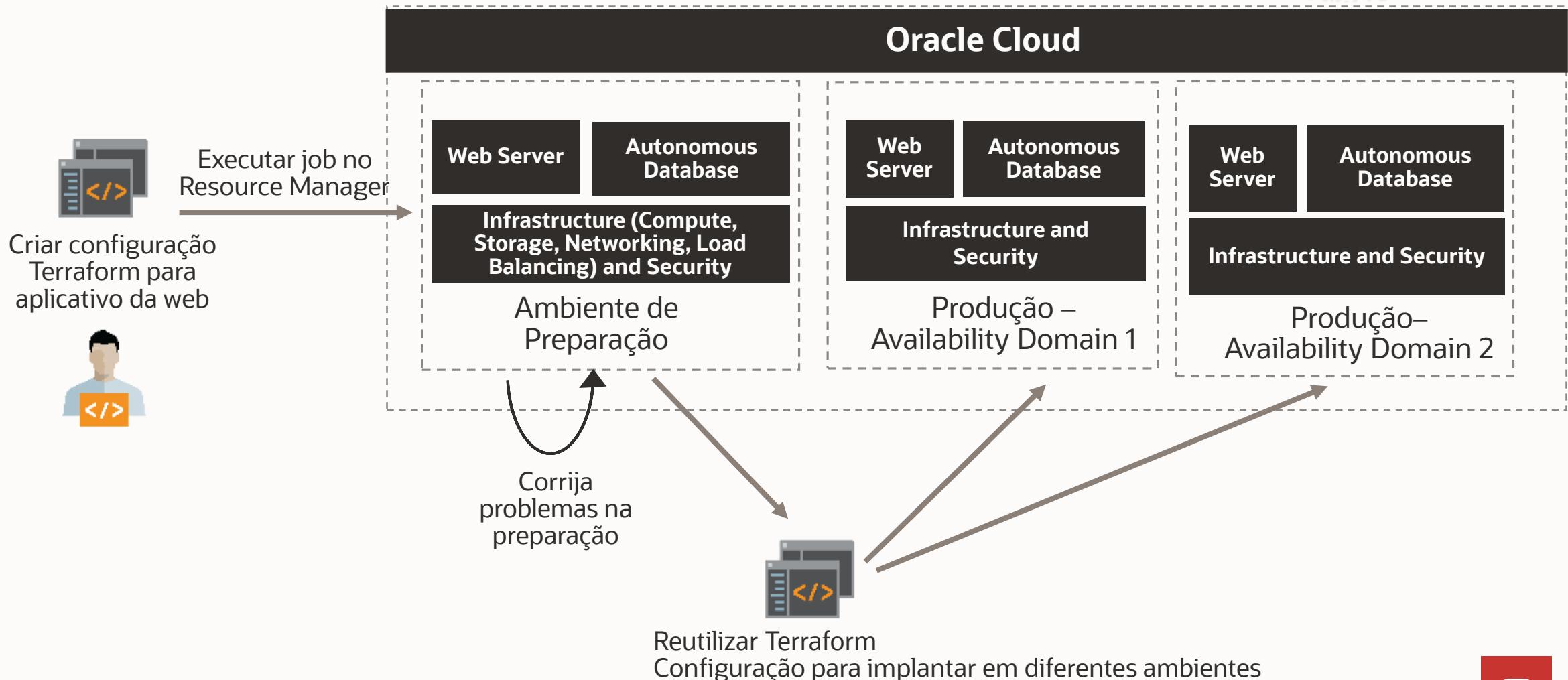
- Os desenvolvedores / engenheiros de DevOps usam um processo rápido + reutilizável para implantar / atualizar a infraestrutura
- A infraestrutura é provisionada e gerenciada automaticamente a partir do código, não manualmente

## Oracle Resource manager

- Resource manager gerencia a infraestrutura usando HashiCorp Terraform
- Use modelos para definir configurações, reutilize esses modelos conforme necessário
- Pague apenas pela infraestrutura, não pelo serviço
- Profundamente integrado com Oracle Cloud Infrastructure: identidade, segurança, medição, monitoramento, marcação, etc.



# Infraestrutura como caso de uso de código: teste / produção



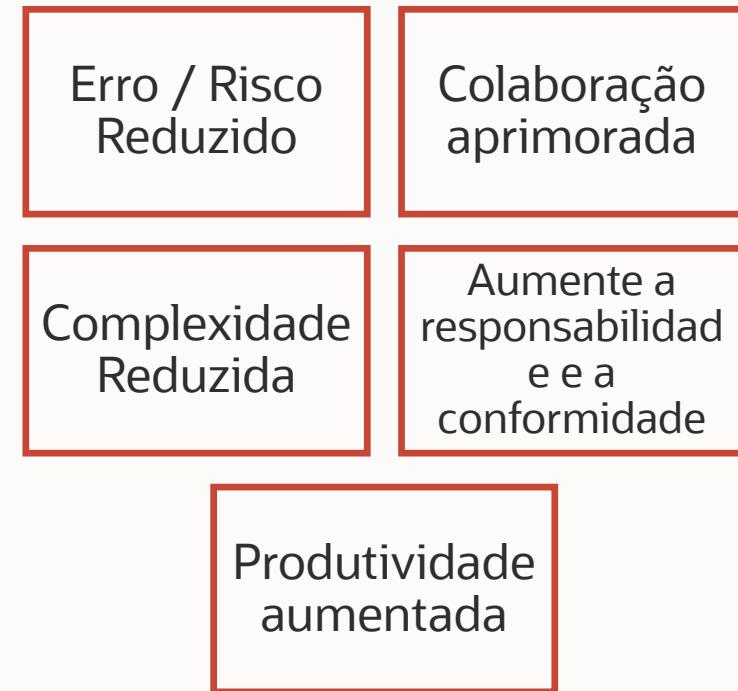
# Infrastructure-as-Code (IaC): Capacidades e Benefícios

*Infraestrutura como código - Abordagem para definir a infraestrutura (computação, rede, LB etc.) por meio de código-fonte que pode ser tratado como qualquer sistema de software*

## IaC Habilita



## Benefícios



## Resultado



# Resource Manager Overview

## O que é isso?

- Terraform como serviço gerenciado
- Use a infraestrutura como código (IaC) para automatizar o provisionamento em todos os recursos de infraestrutura da OCI
- Suporte completo para CLI, SDK e console

## Principais benefícios

- Automatize e padronize sua infraestrutura e replique ambientes facilmente
- Integração profunda com a plataforma OCI (ou seja, identidade, marcação, etc.)
- Gerencie perfeitamente arquivos de estado e melhore a colaboração da equipe

## Diferenciação Oracle

- Sem bloqueio, migrações simples de/para nuvens privadas e de terceiros
- Construído no software de código aberto não modificado Terraform para IaC no Oracle Cloud e no local
- Suporte 100% no primeiro dia para novos serviços e recursos OCI

# Resource Manager Key Terminology

- Uma **stack** representa um conjunto de recursos OCI que você cria em sua locação.
- Cada pilha é mapeada para um arquivo de estado e configuração do Terraform
- Um **job** executa as ações definidas em sua configuração.
- As ações possíveis são **Plan, Apply, Destroy** e **Import state**

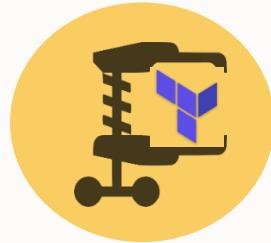
The screenshot shows the 'Create Stack' dialog box from the Oracle Cloud Infrastructure (OCI) console. The dialog is divided into several sections:

- CREATE IN COMPARTMENT:** Fields for 'NAME' and 'DESCRIPTION'.
- UPLOAD ZIP FILE:** A section for choosing a Terraform template file (.zip) from your computer, with a 'Browse' button and a 'Drop Zip file here' area.
- Variable:** A section for defining variables, with a table for 'KEY' and 'VALUE' pairs, and a '+ Add Line' button.
- Optional Tags:** A section for tagging resources, with fields for 'TAG NAMESPACE', 'TAG KEY', 'VALUE', and a '+ Add Tag' button.
- Create:** A blue 'Create' button at the bottom right.

# Como funciona?

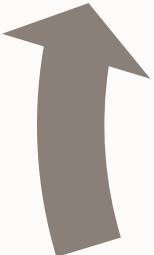
## Autor/Atualização

- Arquivos de configuração do Terraform
- Modelos de amostra
- Modelos particulares
- Importar infraestrutura existente
- Repositório de controle de código-fonte
- Assistente de console

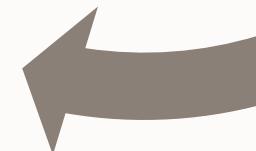


## Criar/Atualizar Resource Manager Stack via

- Console
- SDK
- CLI



- Ver estado gerenciado
- Detectar desvio



## Executar trabalho

- Plan/
- Apply/
- Destroy/
- Import State



# Recursos seleccionados

# Central de soluções



ORACLE Cloud

Create Stack

**1 Stack Information**

Choose the origin of the Terraform configuration. The Terraform resources to provision for this stack. [Learn more](#)

MY CONFIGURATION  
Upload a Terraform configuration (.zip file).

SAMPLE SOLUTION  
Select a pre-built Terraform configuration.

SOURCE CODE CONTROL SYSTEM  
Select a Terraform configuration from GitLab.

EXISTING COMPARTMENT  
Create a stack that captures resources from the selected compartment (regions)

**Stack Configuration *i***

Nothing selected yet

NAME OPTIONAL

DESCRIPTION OPTIONAL

Browse Solutions

Solution Name	Description
<input type="checkbox"/> Autonomous Data Warehouse Database	Provision an Autonomous Data Warehouse database
<input type="checkbox"/> Autonomous Transaction Processing Database	Provision an Autonomous Transaction Processing database
<input type="checkbox"/> Block Volume	Provision a block volume in Oracle Cloud Infrastructure
<input type="checkbox"/> Compute Instance	Provision a Compute instance in Oracle Cloud Infrastructure
<input type="checkbox"/> Data Science	Provision Data Science and its prerequisites
<input type="checkbox"/> Default VCN	Provision a VCN that includes a default route table, DHCP options, and subnets
<input type="checkbox"/> Hub and Spoke	Provision a hub-and-spoke network topology in Oracle Cloud Infrastructure
<input type="checkbox"/> Sample E-Commerce Application	Deploy a sample e-commerce application using Always Free Oracle Cloud resources
<input type="checkbox"/> Subnets	Provision subnets in Oracle Cloud Infrastructure

# Modelo Privado

- Compartilhe as configurações do Terraform com outras pessoas em sua tenancy

## Browse Templates

Service    Architecture    **Private**

A [private template](#) provides a Terraform configuration created by your organization's administrator.

Template Name	Description
---------------	-------------

## Create Private Template

Help

Private templates are Terraform configurations you can share with others in your tenancy. Use private templates in stacks for provisioning and managing your OCI resources. [How do I share a private template in my tenancy?](#)

Configuration [i](#)

Folder     .Zip file

 Drop a folder. [Browse](#)

Name

Description

Details Optional



# Descoberta de recursos para importar recursos existentes

- **Mude** da infraestrutura gerenciada manualmente para a infraestrutura orquestrada pelo Resource Manager
- **Duplique** ou reconstrua infraestrutura existente
- **Comece** a usar o Terraform

Create Stack

1 Stack Information  
2 Configure Variables  
3 Review

Choose the origin of the Terraform configuration. The Terraform configuration outlines the cloud resources to provision for this stack. [Learn more](#)

MY CONFIGURATION  
Upload a Terraform configuration (.zip file).

SAMPLE SOLUTION  
Select a pre-built Terraform configuration.

SOURCE CODE CONTROL SYSTEM  
Select a Terraform configuration from GitLab Enterprise.

EXISTING COMPARTMENT  
Create a stack that captures resources from the selected compartment (resource discovery).

Stack Configuration ⓘ

COMPARTMENT FOR RESOURCE DISCOVERY  
Select a Compartment

REGION FOR RESOURCE DISCOVERY  
us-phoenix-1

Note: Subcompartments are not used in stack creation.

NAME OPTIONAL

DESCRIPTION OPTIONAL

Next Cancel

# Integração GitLab/GitHub/Object Storage para armazenar arquivos de configuração

- Iteração de código mais rápida
- Aproveite as melhores práticas de CI/CD gerenciamento de infraestrutura
- Versionamento, acompanhar alterações restaurar

Create Configuration Source Provider [Help](#)

NAME

DESCRIPTION OPTIONAL

COMPARTMENT

TYPE

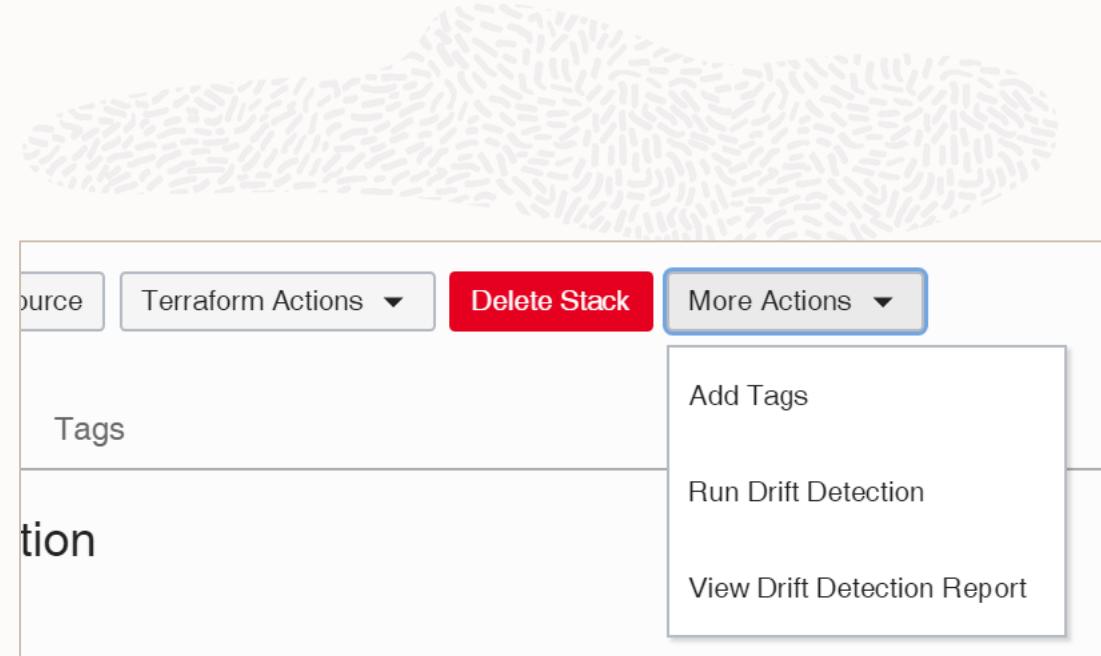
GITLAB URL

PERSONAL ACCESS TOKEN

Ensure 'read\_api' scope for your personal access token (PAT). For security, we recommend excluding the 'write\_repository' scope.

# Drift Detection

**Drift** - Diferença entre o estado real de sua infraestrutura e a última configuração executada da pilha



A screenshot of the Drift Detection Report. The report header shows the time of the last run (Fri, May 15, 2020, 23:56:47 UTC) and the status (Drifted). The main table lists resources with their expected and actual properties. A specific row for an 'oci\_core\_volume' resource shows a difference in the 'backup\_policy\_id' property. The 'Expected Properties' column shows 'oci\_core\_volume.this' and 'backup\_policy\_id: ...abzjhtn5x5dfra6q'. The 'Actual Properties' column shows 'oci\_core\_volume' and 'backup\_policy\_id: ...swtxf6ctew7e54ja'. Both rows have 'Show' and 'Copy' links. The 'Actual Properties' row is highlighted with a red box.

# Resumo geral



Gerenciador de recursos como habilitador de infraestrutura como código

Os clientes podem dimensionar sua carga de trabalho com facilidade e confiabilidade

Crie seu primeiro código de configuração do Terraform

Descoberta de recursos

Iterar o código de configuração do Terraform do GitLab/GitHub/Object Storage

Garanta a conformidade usando a detecção de desvio

# LAB #1

<https://bit.ly/git-devft-jan>

## 2 - Using Terraform on OCI

- Infra as Code (IaC)
- Resource Manager
- ⏳ ~15 min

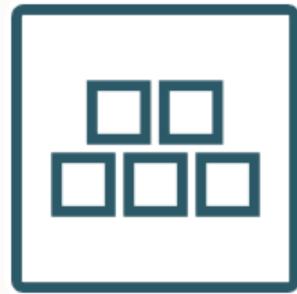
Dúvidas?  
Explique no  
Q&A que te  
ajudaremos!

Terminou  
o LAB?  
Levante  
a mão!



# 3. Deploying a web application on OCI

# Agenda



OCI Registry  
(OCIR)



Oracle Container  
Engine for Kubernetes  
(OKE)

# O que é o OCI Registry?



Conceitos iniciais



## Image:

- Uma *image* é um pacote de software leve, autônomo e executável que **incluso tudo o que é necessário** para executar uma aplicação: código, bibliotecas e configurações.



## Container:

- Um *container* empacota o código e todas as suas dependências para que o aplicativo seja **executado de forma rápida e confiável**.



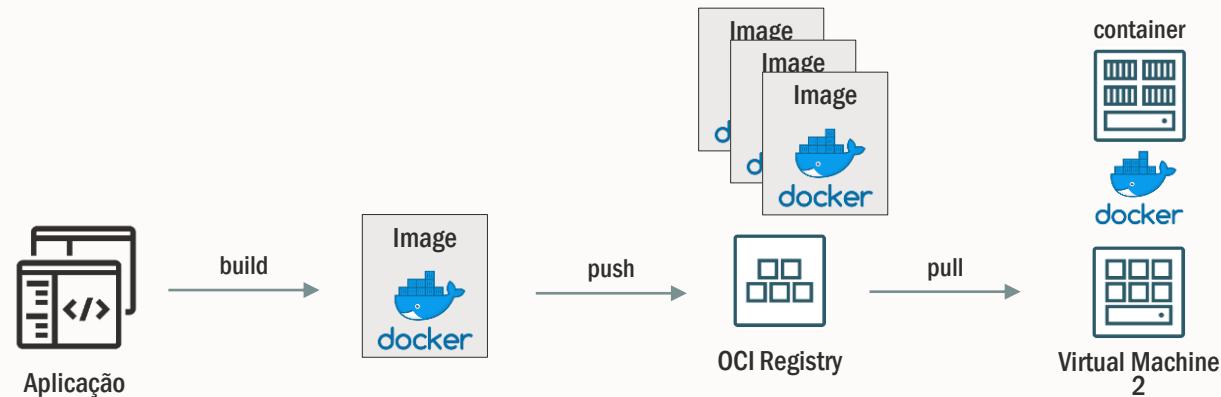
## Registry:

- Um *registry* é um repositório que permite o **armazenamento, compartilhamento e gerenciamento** de *images*.

# O que é o OCI Registry?



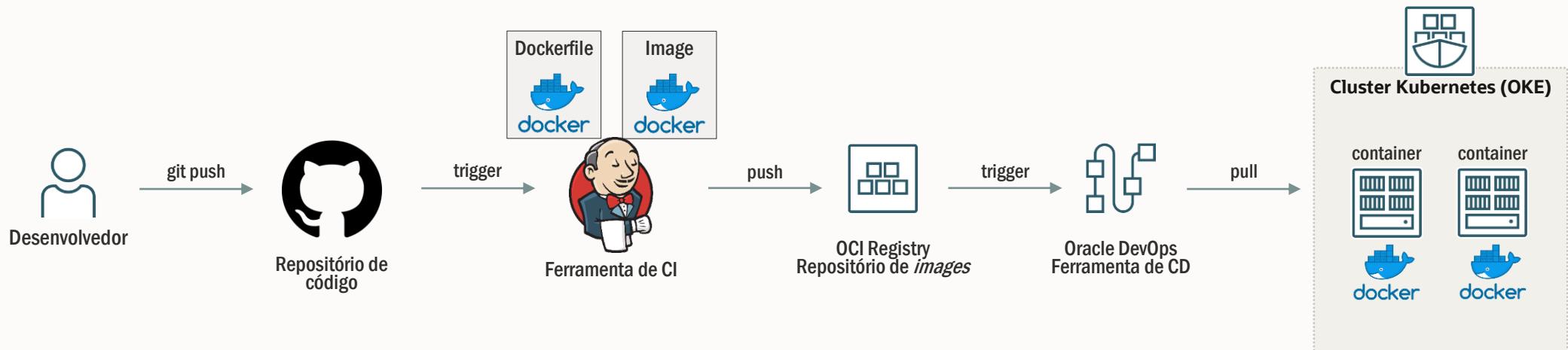
Conceitos iniciais



# O que é o OCI Registry?



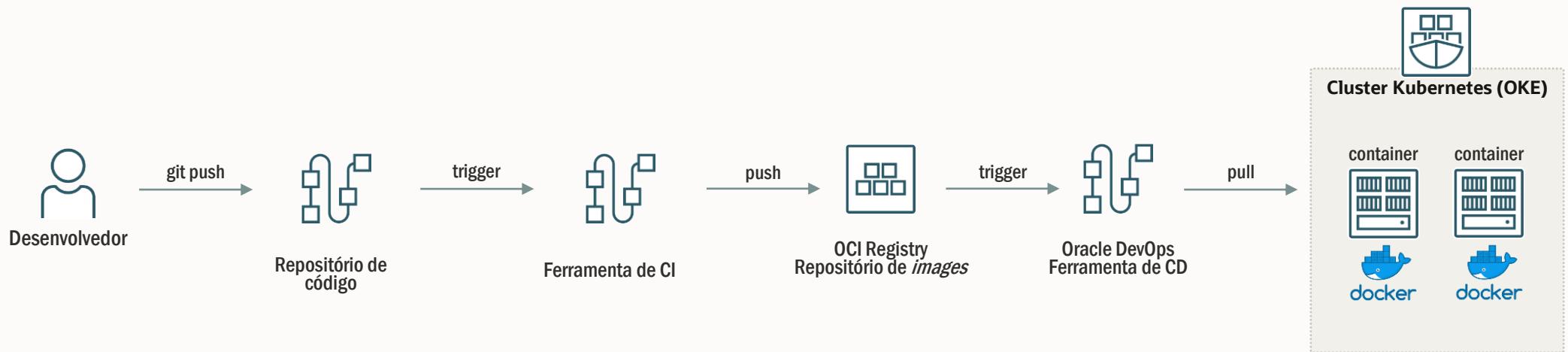
A jornada até os containers no contexto de DevOps



# O que é o OCI Registry?



A jornada até os containers no contexto de DevOps



# Que features o OCIR possui?



DevOps



## 100% compatível com APIs Docker V2

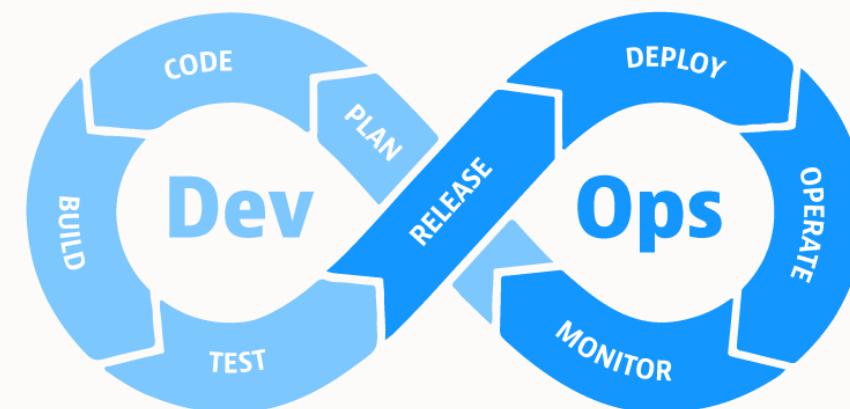
- Trabalhe com *images* e repositórios do Docker usando **comandos CLI do Docker** conhecidos e **HTTP API V2** do Docker.

## Atualizações automáticas

- A Oracle cuida da operação e *patching* do serviço.

## Proteção de dados

- Construído com base no Object Storage, o OCIR provê **durabilidade** e **alta disponibilidade**, com replicação automática em diferentes fault domains.



Fonte da imagem: <https://www.dynatrace.com/news/blog/what-is-devops/>

# Que features o OCIR possui?



## Segurança



### Compartilhamento flexível de images

- Use **repositórios privados e políticas refinadas** para compartilhar *images* dentro das regiões da OCI ou repositórios públicos.

### Segurança e conformidade

- Proteja *images* com **criptografia SSL** de ponta a ponta, **autenticação de token do Docker Registry V2** integrada e conformidade com os principais padrões do setor, como **HIPAA, PCI e SOC 2**.



### Controle de acesso para gerenciabilidade

- Integre o OCIR a **políticas de controle de acesso** do Identity and Access Management (IAM).

# Que features o OCIR possui?



Automação

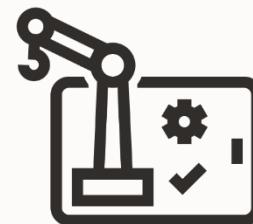


## Implementações rápidas no Kubernetes

- Crie repositórios colocados com o Container Engine for Kubernetes (OKE) em qualquer região comercial para **implementações de *images* de baixa latência.**

## Flexibilidade para CI/CD

- Construa e implemente aplicações utilizando o OCIR integrado ao Oracle DevOps ou a outras ferramentas de CI/CD, como Jenkins e GitLab.



## Gerenciamento de repositório altamente escalável

- Hospede até **500 repositórios**, cada um com **100.000 *images***, por região.

# Que features o OCIR possui?



### Add scanner to repository

Name *Optional*  
Scanner02

Create in compartment  
Study

Description *Optional*

#### Scan configuration

Create new scan configuration    Select existing scan configuration

Name *Optional*

Create in compartment  
Study

**Add scanner** [Cancel](#)

## Scanner:

- Responsável por verificar as *images* em um repositório em busca de **vulnerabilidades de segurança** publicadas no banco de dados Common Vulnerabilities and Exposures (CVE) disponível publicamente.



latest				<a href="#">Actions</a>
Full path: id3kyspkymr/app/latest		Repository: app	Size (MB): 45.25	
Pushed by: ...7yrunyz3yy37bga		Show Copy	Namespace: id3kyspkymr	Total pulls: 5
OCID: ...yurgkow3mp2egg		Show Copy	Date created: 4 months ago	Last pull: 17 hours ago
Digest: ...2a6be7d4ba7123c		Show Copy		
<a href="#">Signatures</a>		<a href="#">Layers</a>	<a href="#">Associated tags</a>	<a href="#">Scan results</a>
Risk level		Issues found	Scan started	Scan completed
None		0	Tue, Nov 30, 2021, 19:39:17 UTC	Tue, Nov 30, 2021, 19:39:18 UTC
None		0	Tue, Nov 30, 2021, 18:45:15 UTC	Tue, Nov 30, 2021, 18:45:15 UTC
Showing 2 Items				<a href="#">Page 1</a>

# Que features o OCIR possui?



Create image retention policy override

Associated repositories are exempt from the global image retention policy.

Policy name

Delete any images that haven't been pulled in the specified number of days:

Delete any images that haven't been tagged in the specified number of days:

Exempt tags *Optional*

Enter a comma-separated list of tags. You can use asterisk (\*) to match any sequence of characters. Example: latest,\*prod\*

**Save settings** [Cancel](#)



## Retention Policy:

- Permite implementar **deleção automática** de *images* com base no tempo desde o último *pull* ou *tag* de uma *image*.

# Comandos básicos no OCIR



## Comandos básicos:

1. Docker tag
  - Comando: docker tag <image-identifier> <target-tag>
  - Ex: docker tag 8e0506e14874 iad.ocir.io/ansh81vru1zp/project01/acme-web-app:version2.0.test
2. Docker push
  - Comando: docker push <target-tag>
  - Ex: docker push iad.ocir.io/ansh81vru1zp/project01/acme-web-app:version2.0.test
3. Docker pull
  - Comando: docker pull <region-key>.ocir.io/<tenancy-namespace>/<repo-name>:<tag>
  - Ex: docker pull iad.ocir.io/ansh81vru1zp/project01/acme-web-app:version2.0.test
4. Docker run
  - Comando: docker run <target-tag>
  - Ex: docker run iad.ocir.io/ansh81vru1zp/project01/acme-web-app:version2.0.test

# Agenda



1. What is Kubernetes?
2. What is Container Engine for Kubernetes (OKE)
3. OKE key benefits
4. Working with OKE and OCIR on OCI
5. Open standards support and community contributions
6. Learn more
7. Lab - **Deploying a web application on OCI**

# What is Kubernetes?



Kubernetes, also known as K8s, is an open-source system for automating deployment, scaling, and management of containerized applications.

It groups containers that make up an application into logical units for easy management and discovery.

The Kubernetes project originated at Google and now, Kubernetes boasts 35,000 contributors, and over 2,000 contributing companies.

Kubernetes is a Cloud Native Computing Foundation (CNCF) graduated project. Oracle is at the CNCF Governing Board.



# What is Oracle Container Engine for Kubernetes / OKE ?

OKE offers a managed Kubernetes platform for customers to simply and securely deploy and operate their containerized applications at scale.



Container Engine  
For Kubernetes

# What is Oracle Container Engine for Kubernetes / OKE ?

## What is It?

- Managed Kubernetes container service to deploy and run your own container based apps
- Tooling to create, scale, manage & control your own standard Kubernetes clusters instantly

## What Problems Does it Solve?

- Too complex, costly and time consuming to build & maintain Kubernetes environments
- Too hard to integrate Kubernetes with a registry and build process for container lifecycle management
- Too difficult to manage and control team access to production clusters

## Key Benefits

- Enables developers to get started and deploy containers quickly. Gives DevOps teams visibility and control for Kubernetes management.
- Combines production grade container orchestration of open Kubernetes, with control, security, IAM, and high predictable performance of Oracle's next generation cloud infrastructure

# Oracle Container Engine for Kubernetes (OKE)



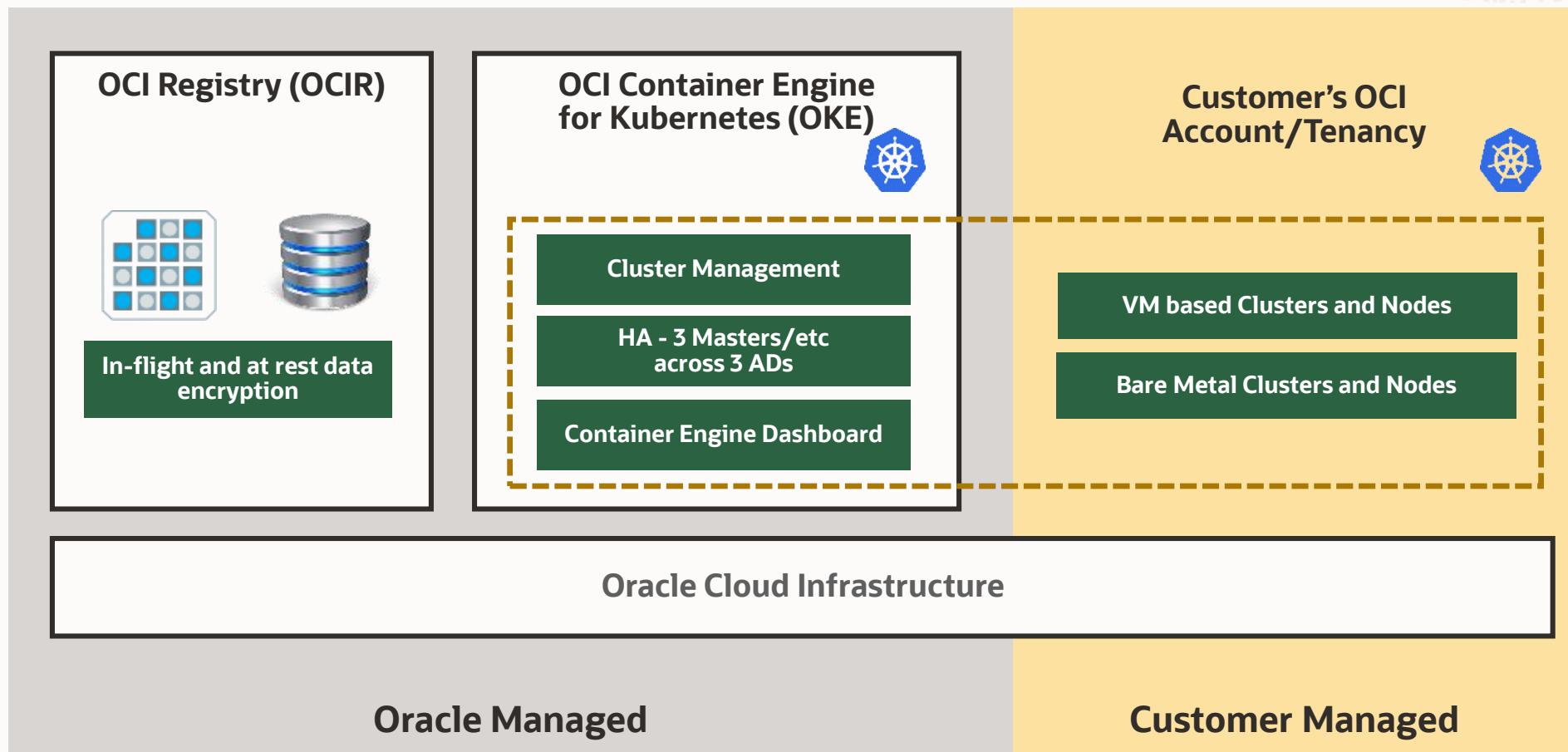
## Key benefits:

- Native integration with cloud services (Load Balancer, Storage, Service Catalog, Logging, etc)
- Large variety of shapes (ARM, x86, GPU)
- Charging only for worker nodes, and no price differentiation by Region.



**kubernetes**

# Working with OKE and OCIR on OCI



# Open standards support and community contributions

First-class  
use of open  
source



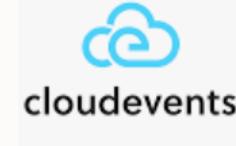
OKE



OCIR



OCI Functions



OCI Events



OCI Streaming



OCI Logging



Oracle  
Resource Manager

Open  
Standards



CLOUD NATIVE  
COMPUTING FOUNDATION



OPEN  
CONTAINER  
INITIATIVE



THE LINUX  
FOUNDATION



CD.FOUNDATION



OPENAPI  
INITIATIVE



ECLIPSE  
FOUNDATION



HYPERLEDGER

Community  
contributions



DevOps  
tool integrations



Linux



Oracle Service  
Operators  
for Kubernetes



kubernetes



fn



helidon.io



MySQL



MICRONAUT<sup>®</sup>



Java<sup>TM</sup>



## Learn more...



- OKE on oracle.com: <https://www.oracle.com/cloud-native/container-engine-kubernetes/>
- OKE documentation: <https://docs.oracle.com/en-us/iaas/Content/ContEng/home.htm>
- OKE PM internal resources: <https://oradocs-prodapp.ocecdn.oraclecloud.com/site/authsite/oci-oke-pm/>
- OCI Architecture Center- Modern App development: <https://www.oracle.com/cloud/architecture-center/modern-app-development/>
- OKE HOL: <https://oracle.github.io/learning-library/oci-library/oci-hol/OKE/workshops/freetier/index.html?lab=pre-register-free-tier-account>

# LAB #2

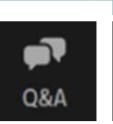
<https://bit.ly/git-devft-jan>

## 3 - Deploying a web application on OCI

- Oracle Container Registry (OCIR)
- Oracle Container Engine for Kubernetes (OKE)
- ⏳ ~30 min

Dúvidas?  
Explique no  
Q&A que te  
ajudaremos!

Terminou  
o LAB?  
Levante  
a mão!



# OCI

## Dev FT

### Lunch Break

#### Voltamos às 14h



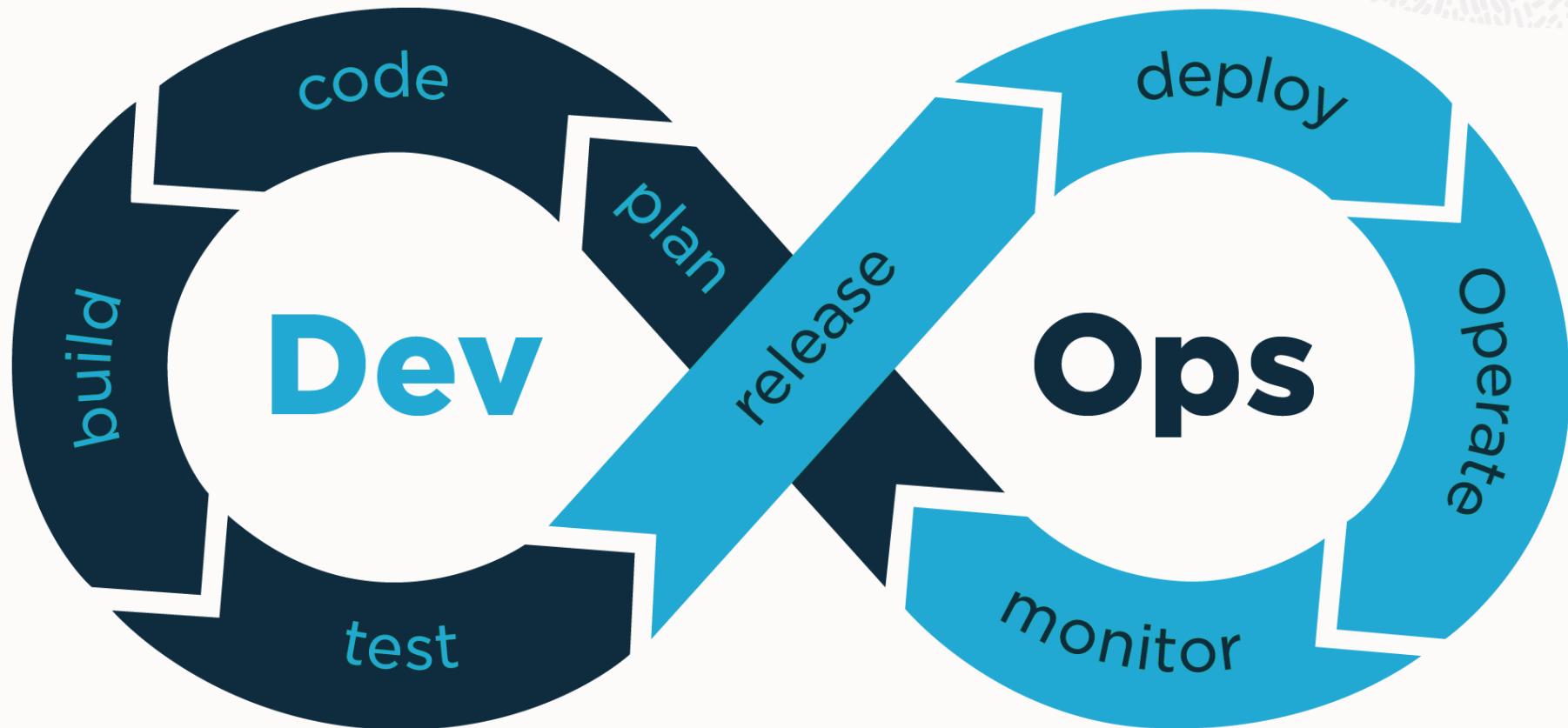
# 4. Running a containerized application on OCI

# OCI DevOps Service

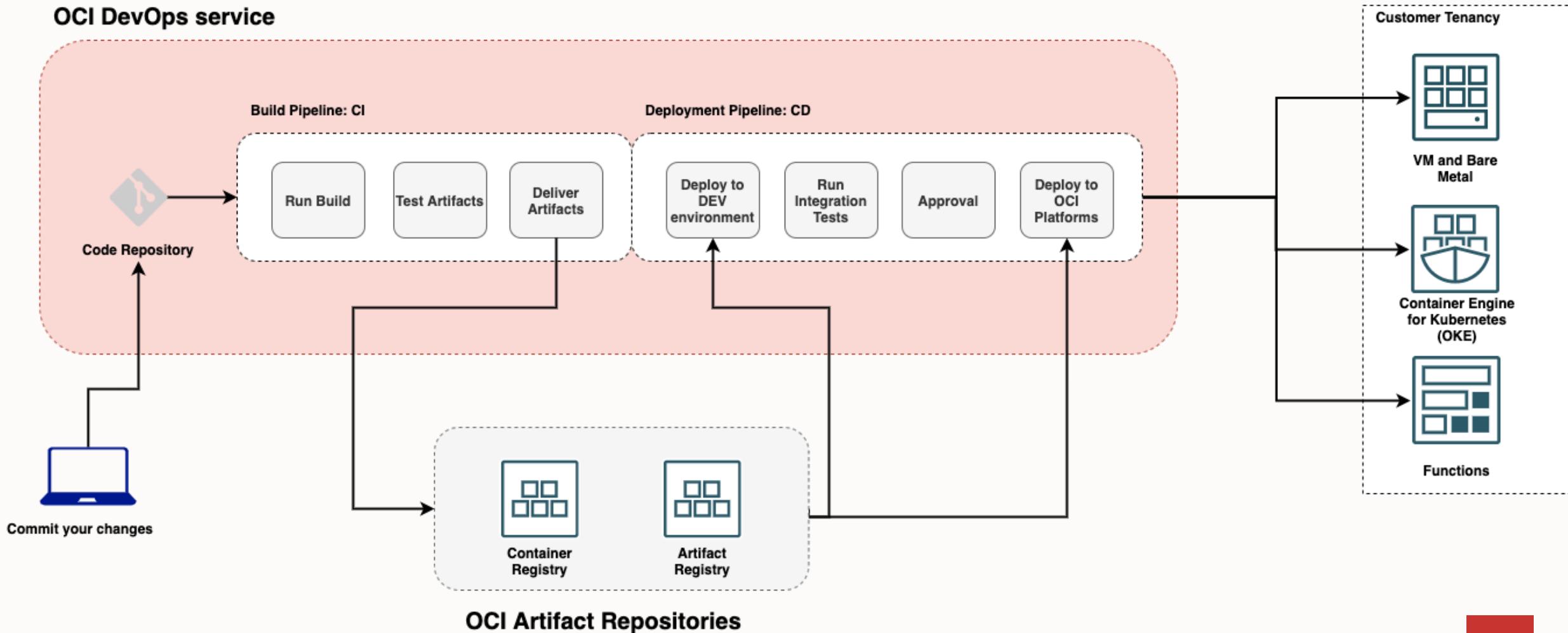
---

Simplifying the OCI developer experience with  
software delivery automation

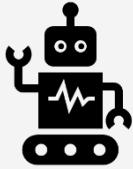
# What do we mean by DevOps? Speed and Reliability



# Complete CI/CD Platform



# OCI DevOps Service



## Automation

Simplify and speed up software development

---

Increase **reliability** and **feature velocity** by automating your entire CI/CD workflow. Fully managed OCI-native CI/CD pipelines.



## Security

Take advantage of Cloud Security

---

Leverage **OCI security** for your CI/CD Pipeline: Container image scanning, signing and deployment validation to OKE.

Control CI/CD pipeline access to resources with **IAM policy**



## Governance

End to end Visibility

---

Fully integrated with OCI **observability, logging, governance**. Track issues in production deployments back to commits.

# DevOps Continuous Integration (CI)

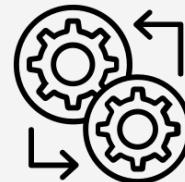


## Serverless, Scalable

No instances to manage

**Serverless pricing**, pay for consumed build memory and compute. Pay for code repositories storage.

Create **concurrent** builds with Dynamic Limits.



## Integrated

Works with your resources

Run a build pipeline with your **Github** or **Gitlab** repositories.

**DevOps Code Repositories** – secure, private Git storage.



## Complete

Native CI/CD Platform

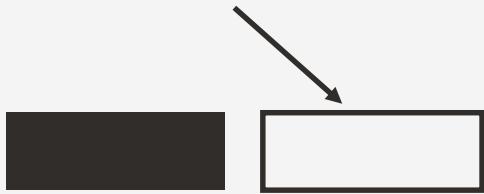
**Connect** deployments from a build pipeline.

**Trigger** build from a commit

**Deliver** to OCI Artifact Repositories

Manage build secrets with OCI Vault

# DevOps Continuous Deployment (CD)



## Release Strategies

Reduce downtime, faster recovery

---

**Blue/Green deployments, Canary stage\*** – minimize downtime and increase confidence in your deployment

Perform **global deployments** across regions.



## Integrated

Connect your workflows

---

**Jenkins plugin** to run a DevOps deployment from your Jenkins pipeline.

Orchestrate **multi-cloud** deployments with Spinnaker



## Rollback

Recover from errors

---

**Automatic or manual** rollback of a deployment stage

\* on our FY22 roadmap

# LAB #3

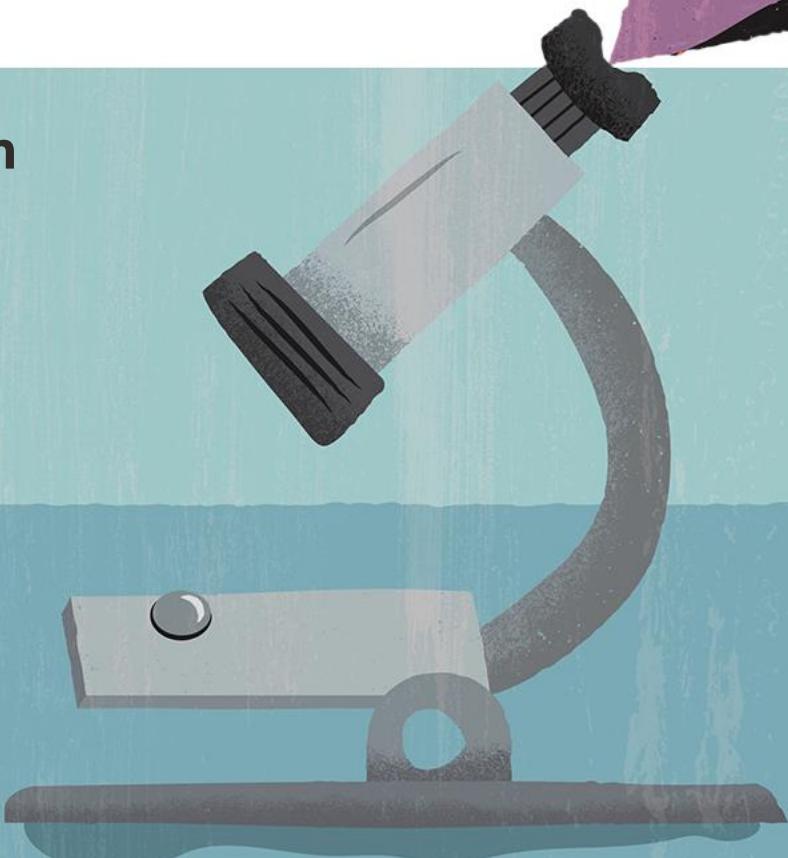
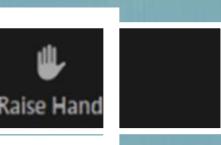
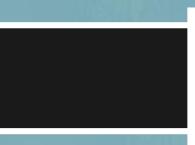
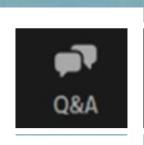
<https://bit.ly/git-devft-jan>

## 4 - Running a containerized application on OCI

- DevOps culture
- Oracle DevOps
- ⏳ ~60 min

Dúvidas?  
Explique no  
Q&A que te  
ajudaremos!

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o LAB?  
Levante  
a mão!



# 5. Exposing APIs in a secure way

# Introducing Oracle API Gateway



## What is it?

- ❖ Allows building REST APIs for OCI Services:
  - ❖ Oracle Functions, K8S
  - ❖ HTTPS Back-ends
- ❖ Integrate application concerns like Rate Limiting, Routing, Cross-Origin Resource Sharing (CORS)
- ❖ Build custom Authorizations

## What benefits does it provide?

- ❖ Easily build API's on Oracle Cloud
- ❖ Fully Oracle Managed Service.

The screenshot shows the Oracle Cloud interface for managing API Gateways. On the left, there is a sidebar with filters for 'List Scope' (set to 'app-mgmt'), 'COMPARTMENT' (set to 'app-mgmt'), and 'Filters' (set to 'Active'). The main area is titled 'Gateways' and contains a table with four items:

Name	State	Type	OCID	Hostname	Updated
rdw-api-gateway-5	Active	Public	...cek6xtegia	Show Copy	Sat, Sep 14, 2019, 12:05:05 AM UTC
rdw-api-gateway-4	Active	Private	...rci6gnyxua	Show Copy	Fri, Sep 13, 2019, 8:35:30 PM UTC
rdw-api-gateway-1	Active	Public	...cnzupbrmcq	Show Copy	Fri, Sep 13, 2019, 9:08:52 PM UTC
mwf-api-gateway-2	Active	Public	...seo2jolcba	Show Copy	Thu, Sep 12, 2019, 4:08:00 PM UTC

At the bottom of the table, it says 'Showing 4 Items < Page 1 >'.



## Policy Enforcement for REST APIs

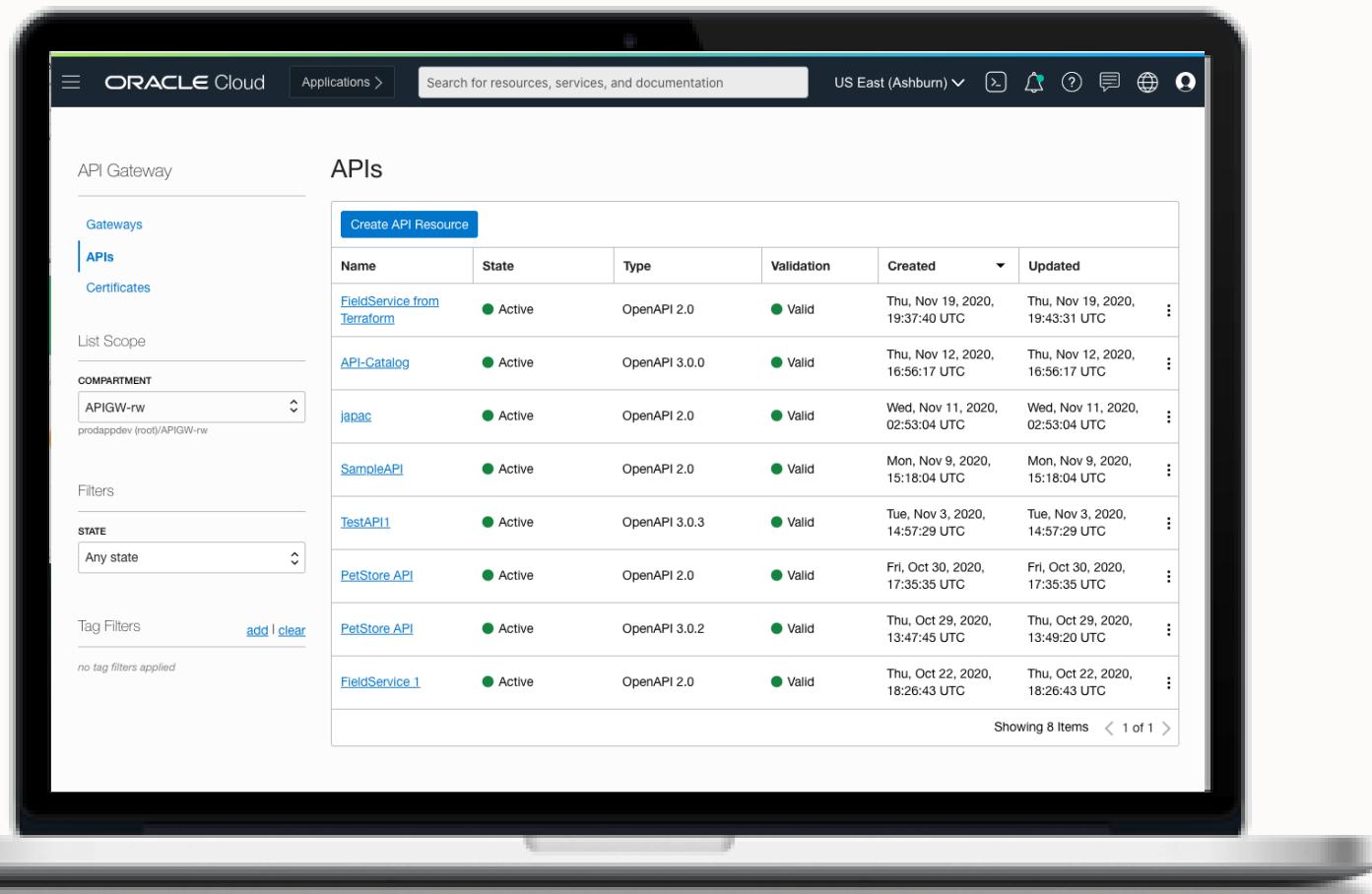
Authorize, throttle and route requests to protect back-end services

## Serverless

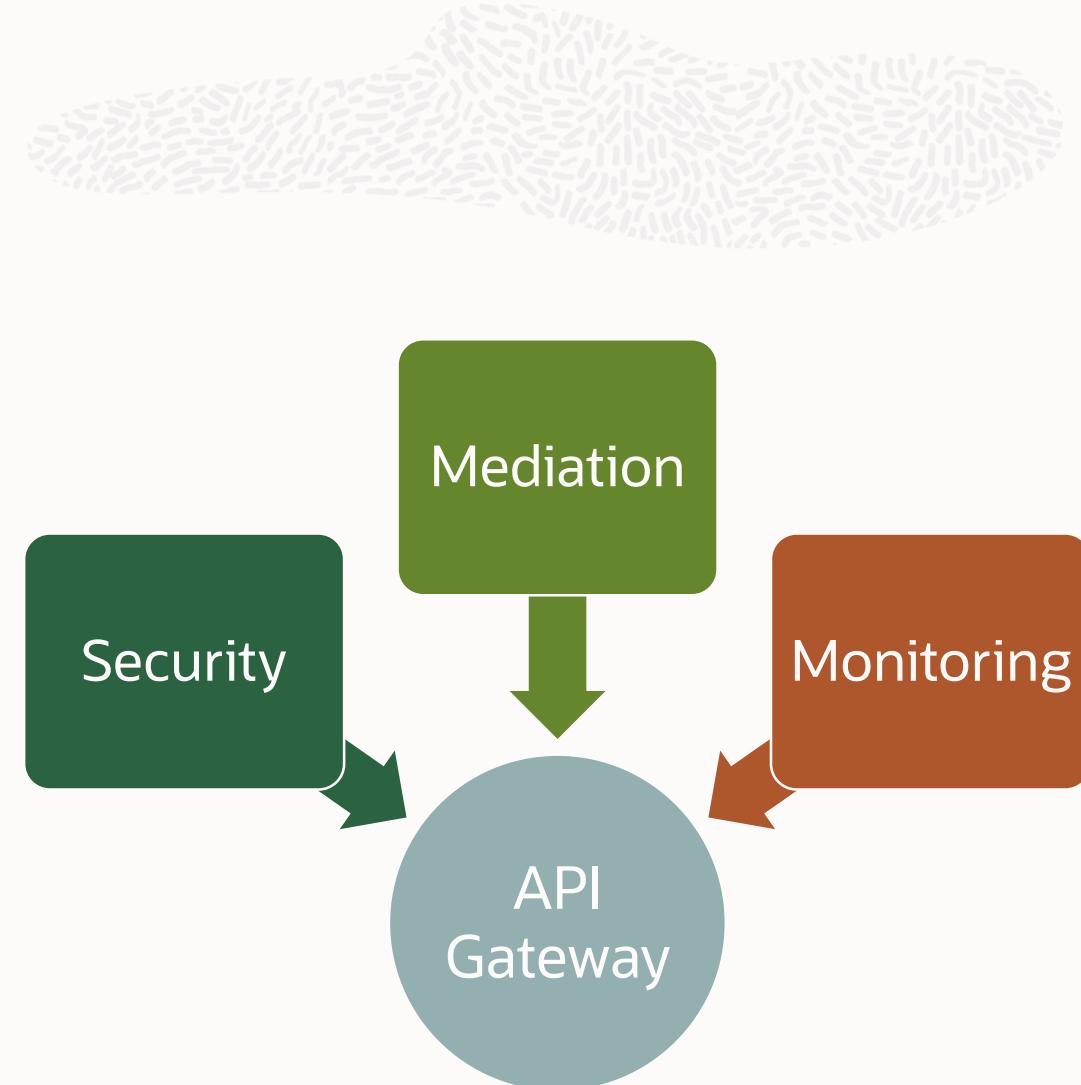
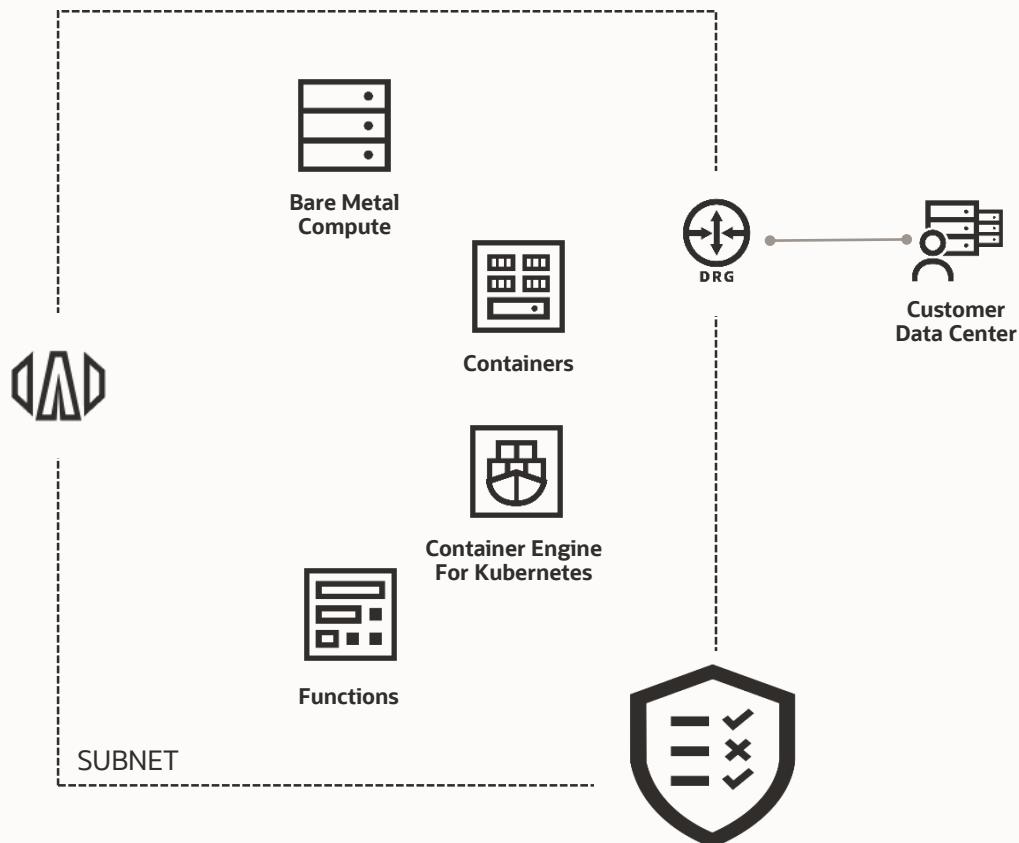
- Network attached device fully managed by Oracle
- Create RESTful, serverless APIs backed by Oracle Functions

## Authorization Server Integration

Use Identity Cloud Service (IDCS) or any other provider capable of generating JSON Web Tokens (JWT)



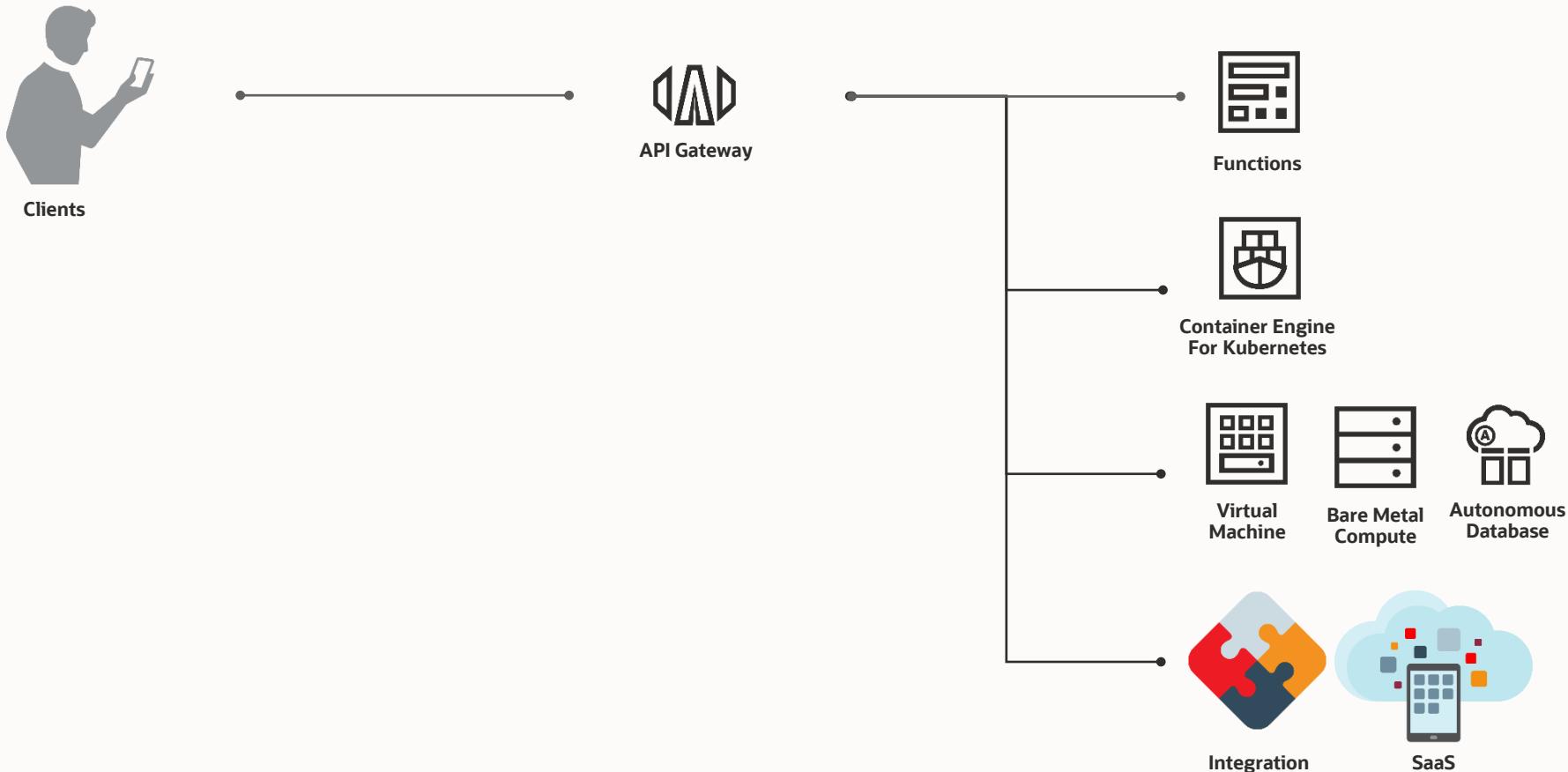
# What is API Gateway?



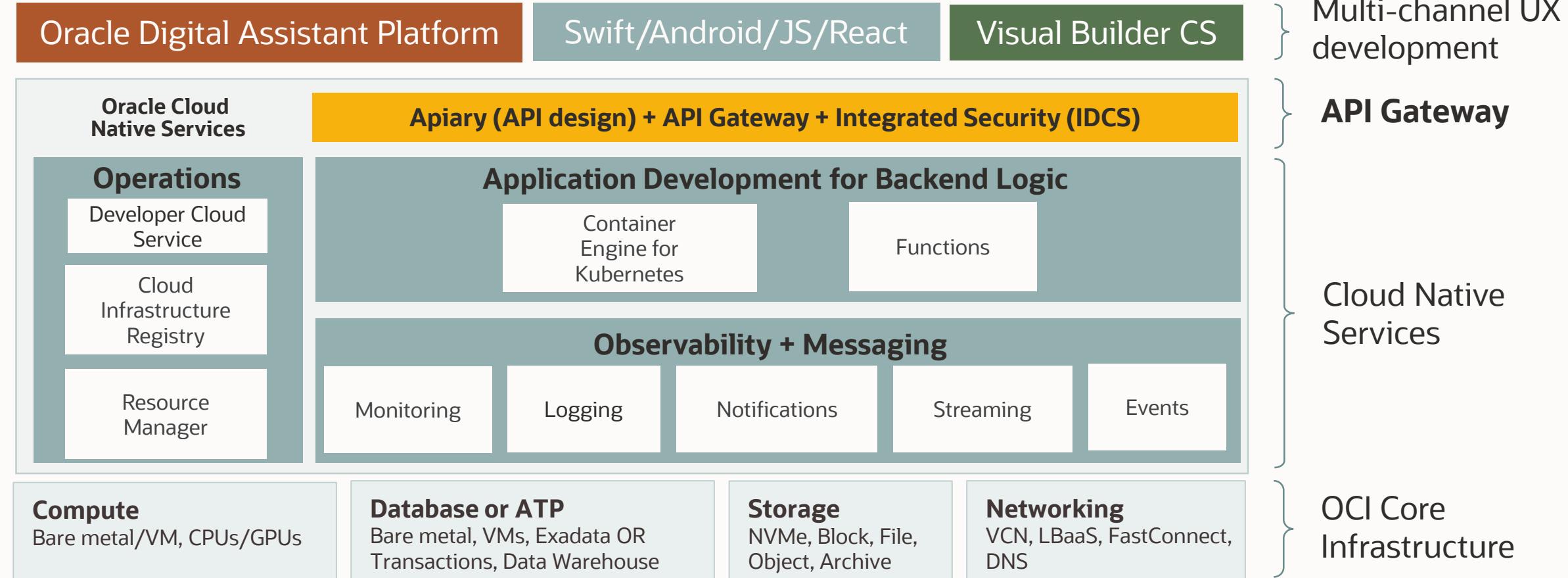
# Oracle Functions as a RESTful API



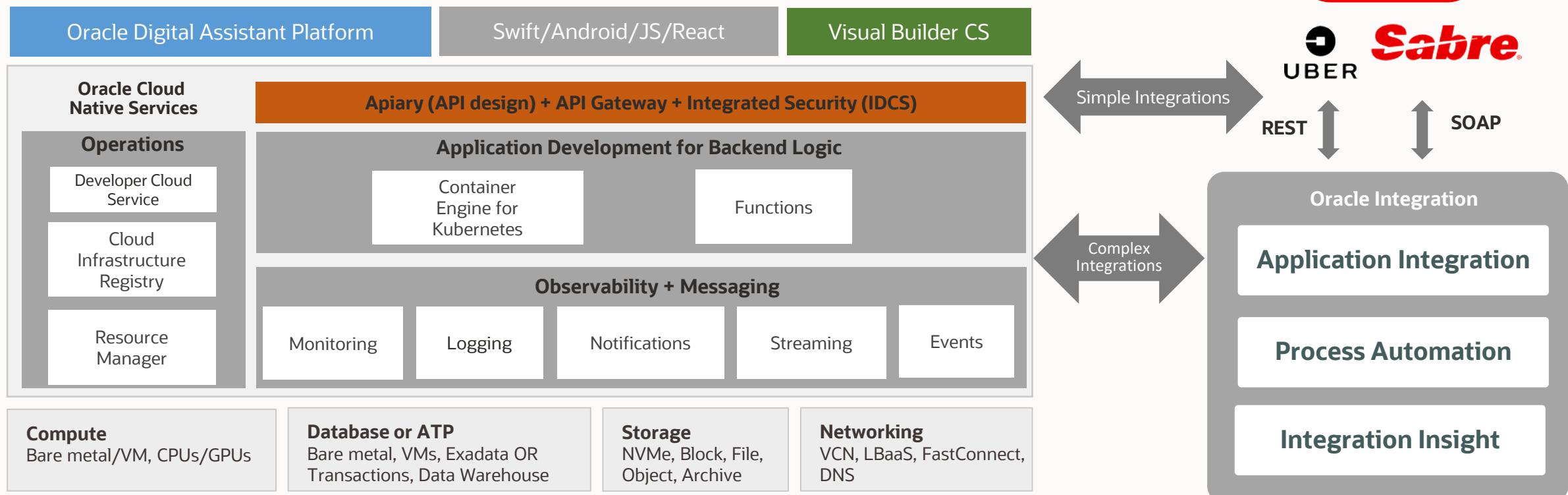
# RESTful API Façade Pattern



# Multi-channel App Dev



# Easy SaaS integrations



# API Management for Cloud-native and Cloud-hybrid

## Cloud-native

- Are you using Oracle Cloud Infrastructure Compute, Kubernetes Engine, or Functions?
- Are you creating RESTful services?
- How are you protecting your services?
- Do you need both API and WAF level protection?
- Are you unlocking your SaaS' Restful Layer and needing to protect your services?

Apiary

API Gateway

## Enterprise

- Do you have workloads where both the clients and the RESTful service implementations are on-premises?
- Are you integrating with enterprise applications (SAP, Ebusiness Suite, etc)?
- Are you integrating with SaaS that does not have a RESTful API?

Apiary

API Gateway

Oracle  
Integration

# Oracle Cloud Infrastructure API Gateway

## Serverless API Gateway

- Network device on customer VCN
- Regional with automatic failover across Availability Domains
- Private and public
- Custom domains supported.

## Policy Enforcement

- Authorization, rate-limiting and routing
- Transformation
- Validation

## Integrated metrics and logging

- Supports OpenAPI 2 and 3
- Generates client SDKs for APIs
- Built-in Mock-Testing



# LAB #4

<https://bit.ly/git-devft-jan>

## 5 - Exposing APIs in a secure way

- APIs
- Oracle API Gateway
- ⏳ ~20 min

Dúvidas?  
Explique no  
Q&A que te  
ajudaremos!

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a mão!



# 6. Ends Here

# DEMO

## APM Demo

- OCI Application Performance Monitoring (APM)
- Review APM metrics
- ⏳ ~15 min

Dúvidas?  
Explique no  
Q&A que te  
ajudaremos!



# Quiz para ganhar sua Badge! 🏅

🔗 <https://bit.ly/DevFastTrack-Quiz-Jan2022>

DEV GYM

## Developer Fast Track 2022 - Janeiro

Neste workshop, você aprendeu habilidades práticas sobre alguns dos vários serviços da pilha Cloud Native & DevOps da OCI, como: OKE, API Gateway, Cont...

Gostaríamos que você testasse seus conhecimentos sobre o que aprendeu. Ao completar várias perguntas do quiz corretamente, você obterá um social badge.

 Instructor Oracle Developer Team LAD	 Estimated Time 10 Minutes	
---	--	---

**Take Workout** ←

You need an Oracle Account to take a workout. Click [here](#) to sign up.  
Already a member of the Oracle Dev Gym? Click [here](#) to get back to work.

### Exercises

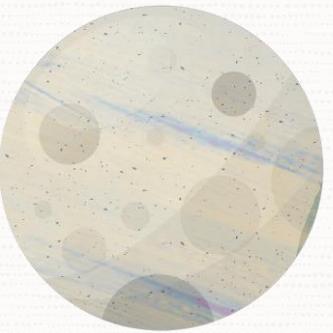
	Exercise	Difficulty	Time
	Pergunta 1 - Tópico 1 - Starts Here	Intermediate	2
	Pergunta 2 - Tópico 2 - Using Terraform on OCI	Intermediate	2
	Pergunta - Tópico 3 - Deploying a web application on OCI	Intermediate	2

# Acesse o nosso menti



menti.com

5592 4673





## O seu feedback é importante para nós!

Agradecemos que nos disponibilize mais alguns minutos do seu tempo para responder a esta questão, e assim nos ajudar a tornar este programa mais útil para outros.

Numa escala de 0 a 10, sendo 10 a classificação mais elevada,  
recomendaria este programa a um amigo, ou colega. \*

0  1  2  3  4  5  6  7  8  9  10

Por favor indique qualquer feedback adicional.

Submeter

 <https://bit.ly/devft-nps>



# PLATAFORMAS DE CONHECIMENTO



## Oracle LiveLabs

Welcome to Oracle LiveLabs!

About LiveLabs: Oracle LiveLabs gives you access to Oracle's tools and technologies to run a wide variety of labs and workshops. Experience Oracle's best technology, live!

Shortcuts: View All Workshops | Try an Always Free Workshop

Featured Workshops:

- Autonomous Database Quick Start (Featured)
- Get Started with Oracle Database (Featured)
- DB Security Basics (Featured)
- Converged Database for Developers (Featured)
- Migrate WebLogic Server to OCI with Autonomous Database (Featured)

Technology workshops: Database | Analytics | OCI | Security | AI/ML

Site: <https://apexapps.oracle.com/pls/apex/dbpm/r/livelabs/home>

## Oracle Learning Explorer: Free Training & Accreditation

Free Training Content: Get started with free Oracle Cloud training in our most popular areas. Develop in-demand skills employers need.

Learn for free

Start learning for free

Software as a Service (SaaS):

- Human Capital Management
- Talent Management
- Supply Chain Management
- Procurement
- CX Configure, Price, and Quote
- CX Marketing
- Customer Experience

Oracle Cloud Infrastructure (OCI):

- OCI

Platform as a Service (PaaS):

- Database Management
- Application Development
- Java
- MySQL

Site: <https://education.oracle.com/learning-explorer>



# Certificação e Treinamento da OCI gratuitos!\*

The screenshot shows the Oracle University website with a banner for free OCI training and certification offers. The banner includes a call-to-action button 'Comece a aprender já'.

**Certificação e treinamento da OCI gratuitos até 31 de dezembro de 2021.**

**Ganhe conhecimento. Aumente as oportunidades.**

A Oracle Cloud Infrastructure (OCI) ajuda inúmeras empresas e usuários a executar na nuvem todo o portfólio de aplicativos e cargas de trabalho de missão de que dispõem. A OCI é uma das plataformas em nuvem crescendo cada vez mais, aumentando a demanda por conhecimento na OCI em todo o mundo. Avance e prepare sua carreira para o futuro aprendendo a OCI gratuitamente com o nosso treinamento criado por especialistas e programa de certificação reconhecido globalmente.

**Comece com o treinamento em destaque**

OCI	OCI	OCI
<b>Oracle Cloud Infrastructure Foundation</b> <ul style="list-style-type: none"><li>• Aprenda os princípios básicos da OCI</li><li>• Obtenha a certificação</li><li>• Laboratórios no Modo Gratuito da OCI</li></ul> <a href="#">Comece a aprender ▾</a>	<b>Oracle Cloud Infrastructure Architect Associate</b> <ul style="list-style-type: none"><li>• Saiba como administrar os principais serviços da OCI</li><li>• Obtenha a certificação</li><li>• Laboratórios no Modo Gratuito da OCI</li></ul> <a href="#">Comece a aprender ▾</a>	<b>Oracle Cloud Infrastructure Architect Professional</b> <ul style="list-style-type: none"><li>• Saiba como gerenciar cargas de trabalho na Cloud</li><li>• Obtenha a certificação</li><li>• Laboratórios no Modo Gratuito da OCI</li></ul> <a href="#">Comece a aprender ▾</a>
<b>OCI</b> <b>Oracle Cloud Infrastructure Operations</b> <ul style="list-style-type: none"><li>• Saiba como automatizar tarefas administrativas</li><li>• Obtenha a certificação</li><li>• Laboratórios no Modo Gratuito da OCI</li></ul> <a href="#">Comece a aprender ▾</a>	<b>OCI</b> <b>Autonomous Database Specialist</b> <ul style="list-style-type: none"><li>• Learn to deploy and administer Autonomous databases</li><li>• Obtenha a certificação</li><li>• Laboratórios no Modo Gratuito da OCI</li></ul> <a href="#">Comece a aprender ▾</a>	<b>OCI</b> <b>CyberSecurity and Oracle Cloud</b> <p>Be a part of Oracle Cyber Security Awareness Month</p> <ul style="list-style-type: none"><li>• Learn basic concepts of CyberSecurity</li><li>• Key Terminology, Types of Cyber Attacks and CyberSecurity Tools</li><li>• Earn a Badge</li></ul> <a href="#">Comece a aprender ▾</a>

**🔗 <https://bit.ly/freeocicertification>**

\*Certificação OCI gratuita até o dia **28 de fevereiro de 2022!**

# Quer mais conteúdo Dev?

## Nova trilha de Innovation & Dev

- Sessões recorrentes sobre o assunto
- OCI in Lab

Inscreva-se



<https://bit.ly/serie-innovationdev>

The screenshot shows the Ask Tom website interface. At the top, there's a navigation bar with links for 'Questions', 'Office Hours' (which is currently selected), 'Videos', 'Resources', and 'Classes'. Below the navigation, a banner for 'OCI Brazil - Innovation & Dev' is displayed, stating 'Dicas e treinamento grátis todos os meses! Inscreva-se para receber lembretes e muito mais do Horário comercial. FAQ'. A green 'Inscriver' button is visible. The main content area features a section titled '1 Sessions Scheduled!' with a message about a series of free labs. Below this, a table lists two sessions: 'OCI In Lab - Oracle Apps (9h BRT)' on 'Janeiro 28 2022 09:00:00 UTC' and 'OCI In Lab - Arquitetura orientada a eventos na OCI (9h BRT)' on 'Dezembro 17 2021'. Underneath the sessions, a section titled 'Seus especialistas' lists three profiles: Lucas de Almeida, Débora Silva, and Gustavo Sant'ana, each with a small profile picture.

ORACLE Video Hub

TEMOS UM CANAL DE VÍDEOS COM A GRAVAÇÃO DOS EVENTOS!

<https://bit.ly/oci-brazil-channel>

Janeiro 2022

# Oracle Cloud Infrastructure Série Innovation & Dev

OCI Fast Track Dev  
Imersão



OCI in Pocket  
Pílula de Conhecimento



OCI in Lab  
Laboratório interativo



## Workshop ao vivo – Fast Track Dev

Innovation & Dev Team  
24/01/2022 – 9h às 17h

Inscreva-se:  
[bit.ly/devft-jan](https://bit.ly/devft-jan)

## OCI News – Innovation & Dev: Conheça mais sobre os novos serviços e features em Cloud Native na OCI!

Alaydes Morais – Cloud Manager  
27/01/2022 – 9h às 9h30

Inscreva-se:  
[bit.ly/inpocket-innovationdev-jan](https://bit.ly/inpocket-innovationdev-jan)

## Oracle Apps – Aplicações prontas para uso na Oracle Cloud em apenas alguns cliques!

Patricia Teixeira – Cloud Engineer  
28/01/2022 – 9h às 11h

Inscreva-se:  
[bit.ly/serie-innovationdev](https://bit.ly/serie-innovationdev)



# Obrigado!



ORACLE

