

Qwiklabs Google Next '18

GDG Málaga

Síguenos en el hashtag #Next18Extended

Última actualización: 15 Agosto, 2018

Speaker: Quino Terrasa

Estudio Ing. Informática
Ingeniero de datos *wannabe*



espetro

otherwise, @adoquim

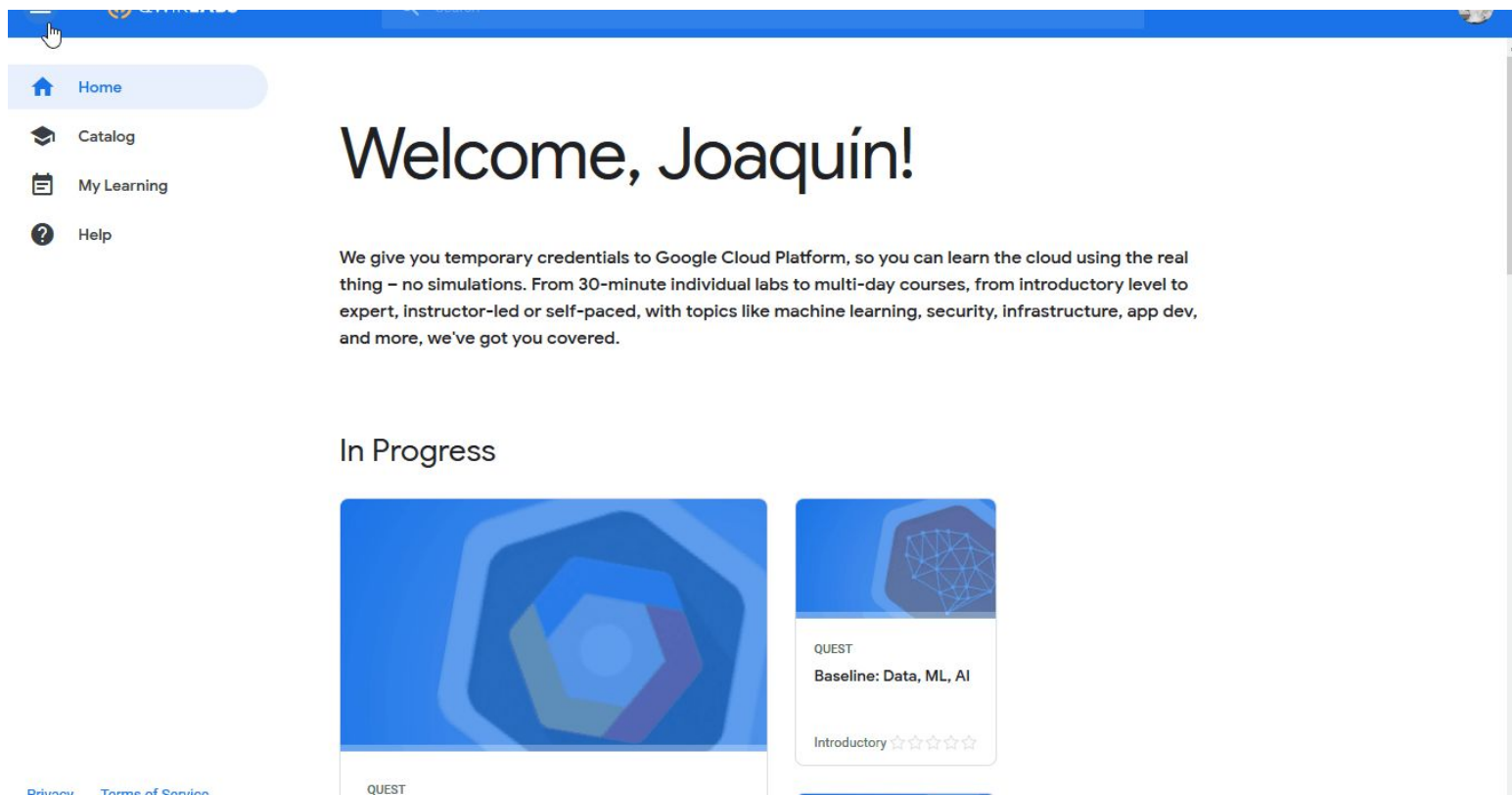


Kubernetes 101 en GCP ó

Cómo aprendí a dejar de preocuparme y amar mi infraestructura



Qwiklab



The image shows a screenshot of the Qwiklab web application. At the top, there is a blue navigation bar with a hand cursor icon on the left and a user profile picture on the right. Below the navigation bar, on the left side, is a sidebar with four menu items: 'Home' (with a house icon), 'Catalog' (with a graduation cap icon), 'My Learning' (with a calendar icon), and 'Help' (with a question mark icon). The main content area has a large heading 'Welcome, Joaquín!' followed by a paragraph: 'We give you temporary credentials to Google Cloud Platform, so you can learn the cloud using the real thing – no simulations. From 30-minute individual labs to multi-day courses, from introductory level to expert, instructor-led or self-paced, with topics like machine learning, security, infrastructure, app dev, and more, we've got you covered.' Below this, there is a section titled 'In Progress' which contains two cards. The first card is partially visible and shows a blue background with a white geometric pattern. The second card is titled 'QUEST' and 'Baseline: Data, ML, AI', and it has a progress indicator showing 'Introductory' with five stars, where the first star is filled.

Home

Catalog


My Learning

Help


Welcome, Joaquín!

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In Progress



QUEST



QUEST

Baseline: Data, ML, AI

Introductory ☆☆☆☆☆

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Cómo iniciar sesión en el *lab*

1. Regístrate en el itinerario de *Kubernetes* (200 créditos)
📁 @ bit.ly/kubequestnext18 (*quest*)
2. Usaremos dos *labs*
 - a. Introducción a Docker
 - b. Inicio rápido en Kubernetes

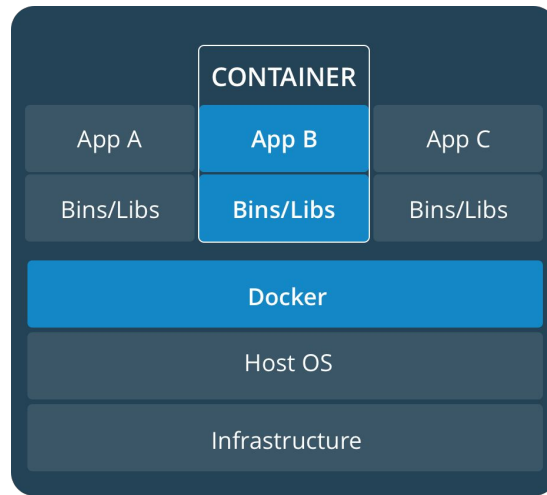
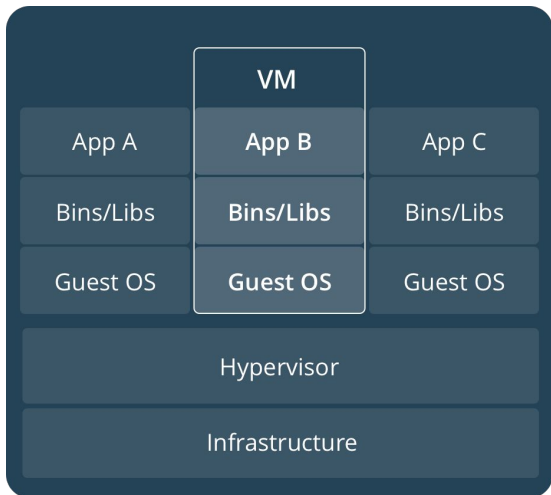
<https://goo.gl/mEJivM>

Conceptos: Contenedor

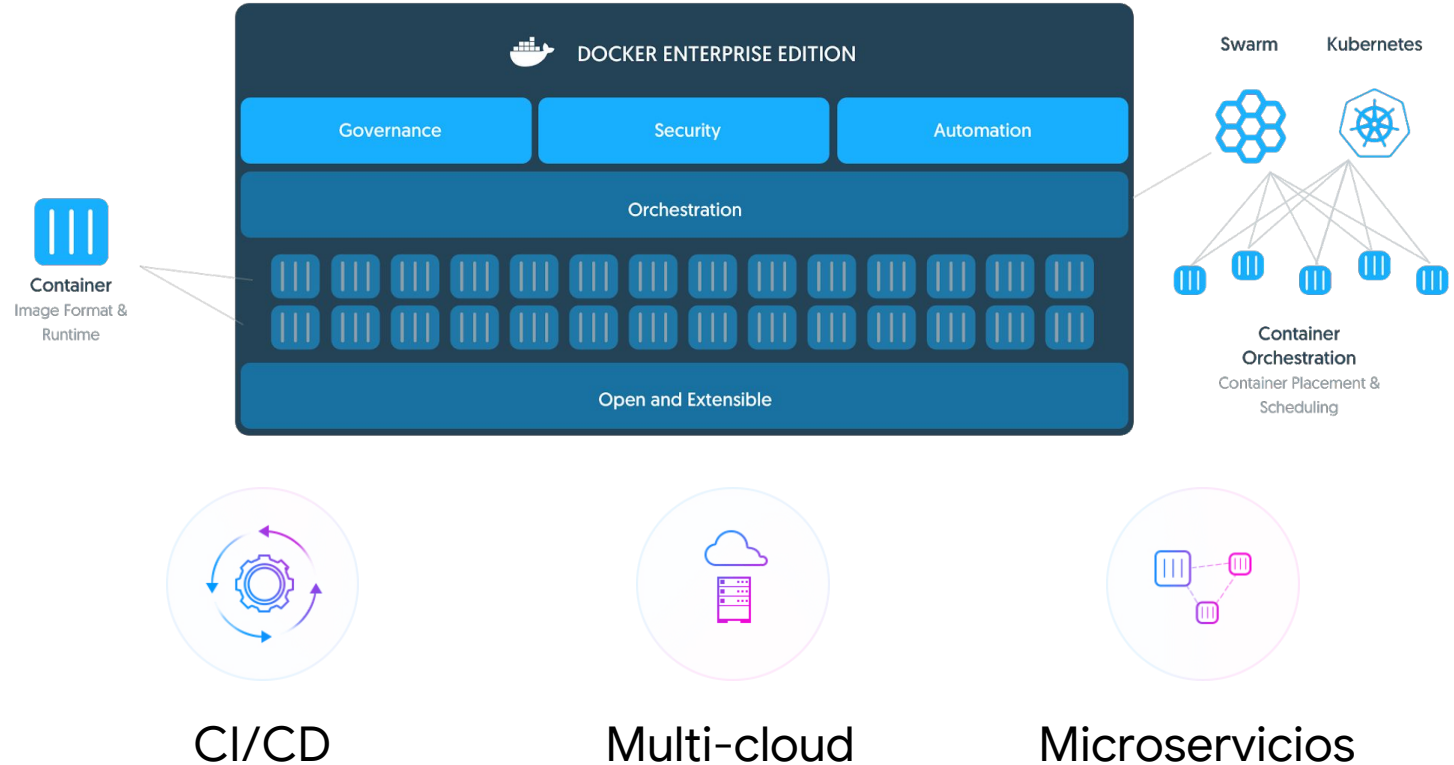


Ventajas

1. App independiente del entorno
2. Mayor granularidad en rendimiento
3. Mejor administración, seguridad



Conceptos: Docker



Conceptos: Docker

```
docker-starter
app.py
Dockerfile
requirements.txt
```

```
# Use an official Python runtime as a parent image
FROM python:2.7-slim

# Set the working directory to /app
WORKDIR /app

# Copy the current directory contents into the container at /app
ADD . /app

# Install any needed packages specified in requirements.txt
RUN pip install --trusted-host pypi.python.org -r requirements.txt

# Make port 80 available to the world outside this container
EXPOSE 80

# Define environment variable
ENV NAME World

# Run app.py when the container launches
CMD ["python", "app.py"]
```


Conceptos: Docker

Referencia

```
docker run --name=hello -p 8080:80 -d hello-world:latest
```

```
docker [images | ps] --all
```

```
docker [stop | start] hello
```

```
docker build -t my-app:my-tag .
```

Lab 1: Docker



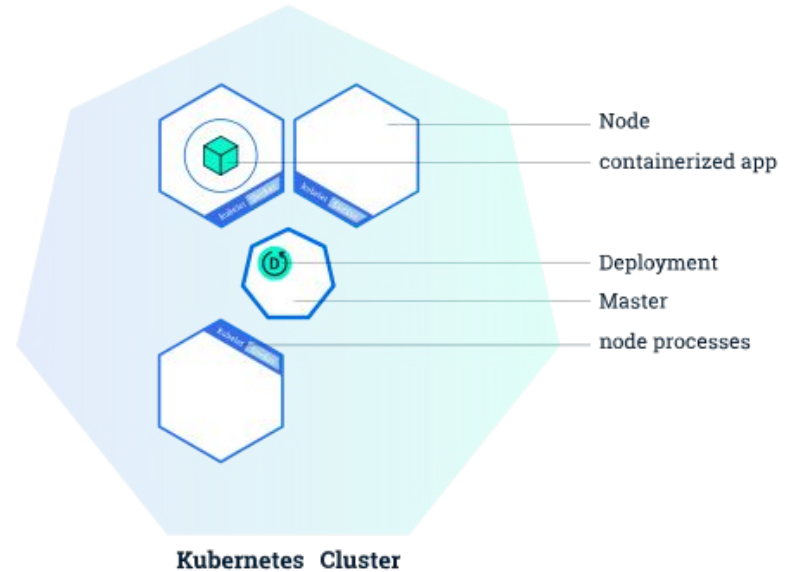
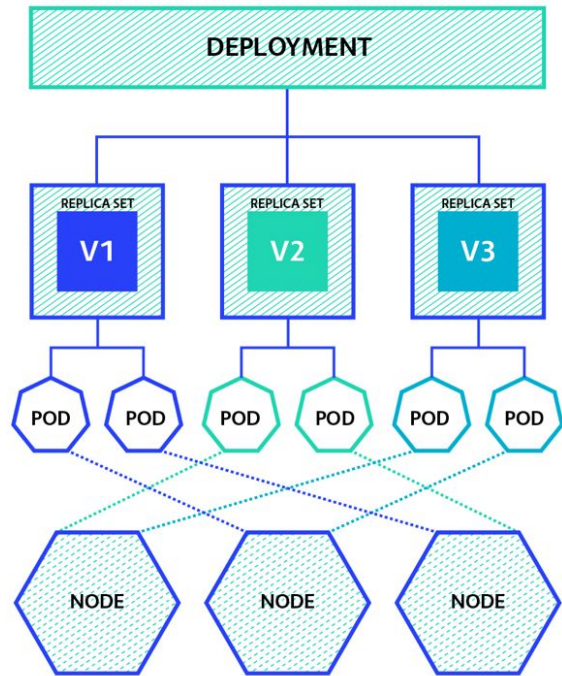
bit.ly/dockerlabnext18ex

Conceptos: Kubernetes

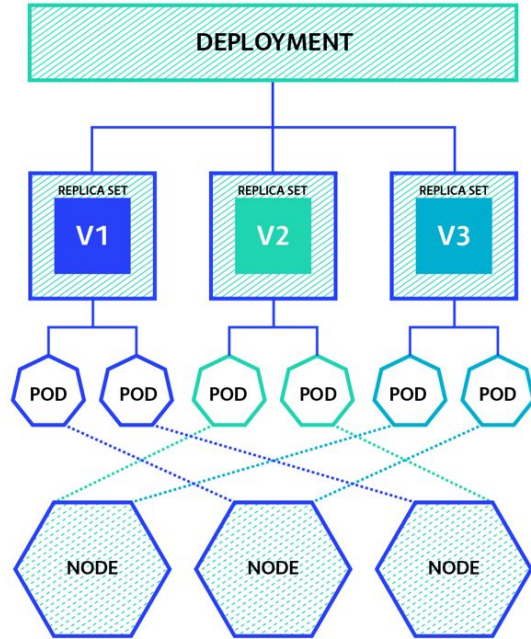
Ventajas

- Administración de recursos (CPU, RAM, ..)
- Sencilla organización de (micro)servicios
- Poderosa habilidad de planificación (*scaling*, actualizaciones, resurrección, ..)

Conceptos: Kubernetes



Conceptos: Kubernetes



1. **Pod**
2. Service
3. **Deployment**
4. Replica Set

Asegura que el servicio X usa N réplicas de su *pod* en todo momento

Conceptos: Kubernetes

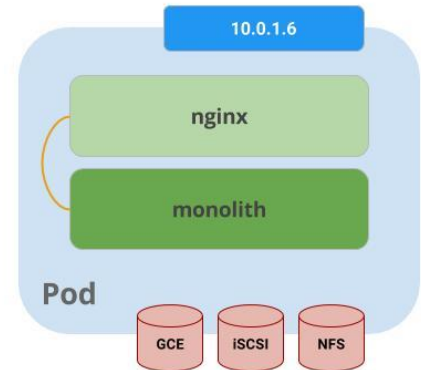
Pod

Encapsula un contenedor o un sistema de contenedores de microservicios

Pods

Logical Application

- One or more containers and volumes
- Shared namespaces
- One IP per pod



Conceptos: Kubernetes

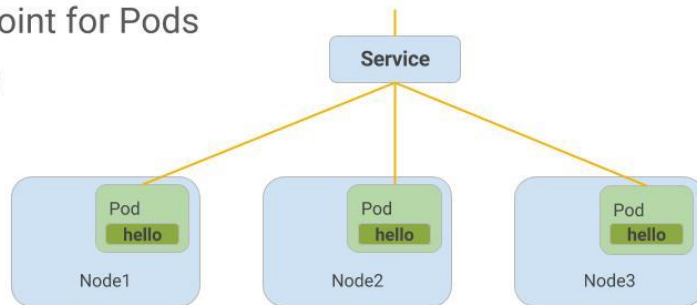
Service

Sirve como IP router externo para 1+ pods. Clasifica por etiquetas.

Services

Persistent Endpoint for Pods

- Use Labels to Select Pods
- Internal or External IPs



Conceptos: Kubernetes

Deployments

Asegura que el cluster mantenga un *estado deseado*
(como un *master*)

Deployments

Drive current state towards desired state

app: hello
replicas: 3

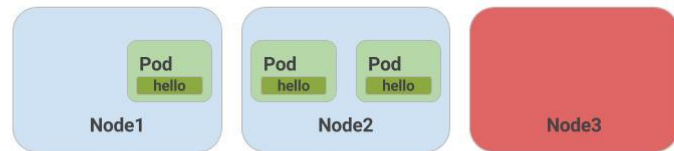


Deployments

Drive current state towards desired state

app: hello
replicas: 3

*Pod
redistribuido* *Nodo caído*



Conceptos: Kubernetes

Referencia

Pod

```
kubectl run hello-server  
--image=gcr.io/google-samples/hello-app:1.0 --port 8080
```

Service

```
kubectl expose deployment hello-server --type="LoadBalancer"
```

Deployment

```
kubectl scale deployment hello-server --replicas=4
```

Lab 1: Kubernetes



bit.ly/kubelabnext18ex

¿Qué es GCP?

🏆 bit.ly/gcpnext18extended (quest)

- Instancias VM
- Almacenamiento persistente
- Marketplace
- Stackdriver (status)
- LoadBalancer



Google Cloud Platform

What's Next?



1. Completa todos los *labs* en el programa y gana un pin. Termina en un mes y gana otra mes gratuito de Qwiklabs.
2. Publica tu insignia GCP en tu CV o perfil de LinkedIn

Si quieres ir aún más allá, obtén el curso de *Cloud Architecture Quest* con certificación



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In Progress



QUEST

Baseline: Infrastructure



QUEST

Cloud Architecture

Oferta Coursera Gratuita

1 mes gratis en *Especializaciones en Google Cloud* en Coursera



1

Visita coursera.org/NEXTExtended

2

Elige una de las especializaciones en Google Cloud que se muestran

3

Completa la compra. El descuento (en este caso, 1 mes gratis) se aplica automáticamente a la cesta. Se necesita una tarjeta de crédito para la compra, pero ésta no será cargada durante el primer mes. La suscripción puede ser cancelada en cualquier momento.

* Terms of promotion: 100% off your first month on select Google Cloud Specializations on Coursera. Limit one use per user. **Valid from 22/7/18 to 31/10/18.** While supplies last.

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Especialización

LINK

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Architecting with Google Cloud Platform

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Developing Applications with Google Cloud Platform

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From Data to Insights with Google Cloud Platform

[SDP](#)
