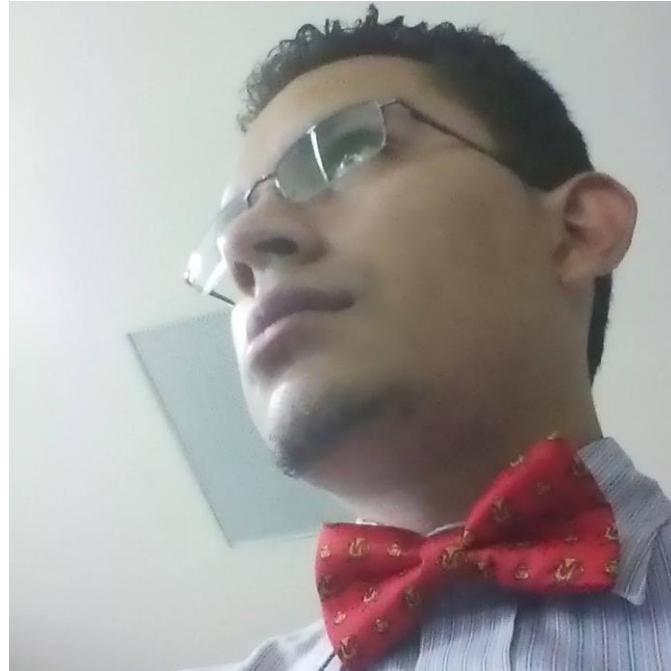


The background of the slide is a solid blue color. Scattered across this background are several stylized, light beige or cream-colored clouds. These clouds are composed of simple, rounded shapes, giving them a soft, cartoonish appearance. They are positioned at various heights and locations, creating a sense of depth and atmosphere.

CLOUD 101

Infraestructura en la nube.

¿ Quien ?



Jorge Alejandro Cajas Mota

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[@cajasmota](#)



¿ Quien ?



Google
Developers



Google



Extended
Guatemala

Java
day17





Contenido

Temas

- ¿Qué es Cloud?
 - Definición
 - Tipos
 - Servicios
- ¿Cómo empiezo?
 - Herramientas
 - Proveedores
 - Infraestructura
 - Seguridad
- Consejos
 - Free Tiers
 - Optimizaciones
 - Less Work > More Cost
- Conclusiones
- Bonus



¿Qué es Cloud?

Definición

- Es un paradigma que permite ofrecer servicios de computación a través de una red, que usualmente es Internet. -- Wikipedia
- Es la entrega bajo demanda de capacidad informática, almacenamiento, BD, aplicaciones, etc. con un sistema de precios basado en el consumo. -- AWS
- Se el suministro de recursos informáticos on-demand, desde aplicaciones hasta centros de datos, a través de Internet y basado en un modelo de pago por uso. -- IBM



¿Qué es Cloud?

Tipos

Publica

- Mantenida y gestionada por terceros.
- Parte de los recursos de el proveedor son compartidos con otras personas.
- Administración remota.
- El proveedor de servicios es el dueño de toda la infraestructura
- El proveedor se encarga de la tolerancia a fallos en la infraestructura.

Híbrida

- Parte es mantenida por terceros y la otra por la empresa.
- Parte de los recursos de el proveedor son compartidos con otras personas
- Administración remota y local.
- La empresa es dueña de parte de la infraestructura.
- La tolerancia a fallos se reparte entre el proveedor y la empresa.

Privada

- Mantenida y gestionada por la empresa.
- Los recursos están en un 100% a disposición de la empresa.
- La administración puede ser remota o local.
- La empresa es el dueño de toda la infraestructura.
- La empresa es la encargada de gestionar y mantener todo lo necesario para la tolerancia a fallos.

¿Qué es Cloud?

Servicios

SaaS
Software as a Service

- Email
- Juegos
- Google Docs
- Dropbox

BaaS
Backend as a Service

- Firebase
- OpenSignal
- Backendless

PaaS
Platform as a Service

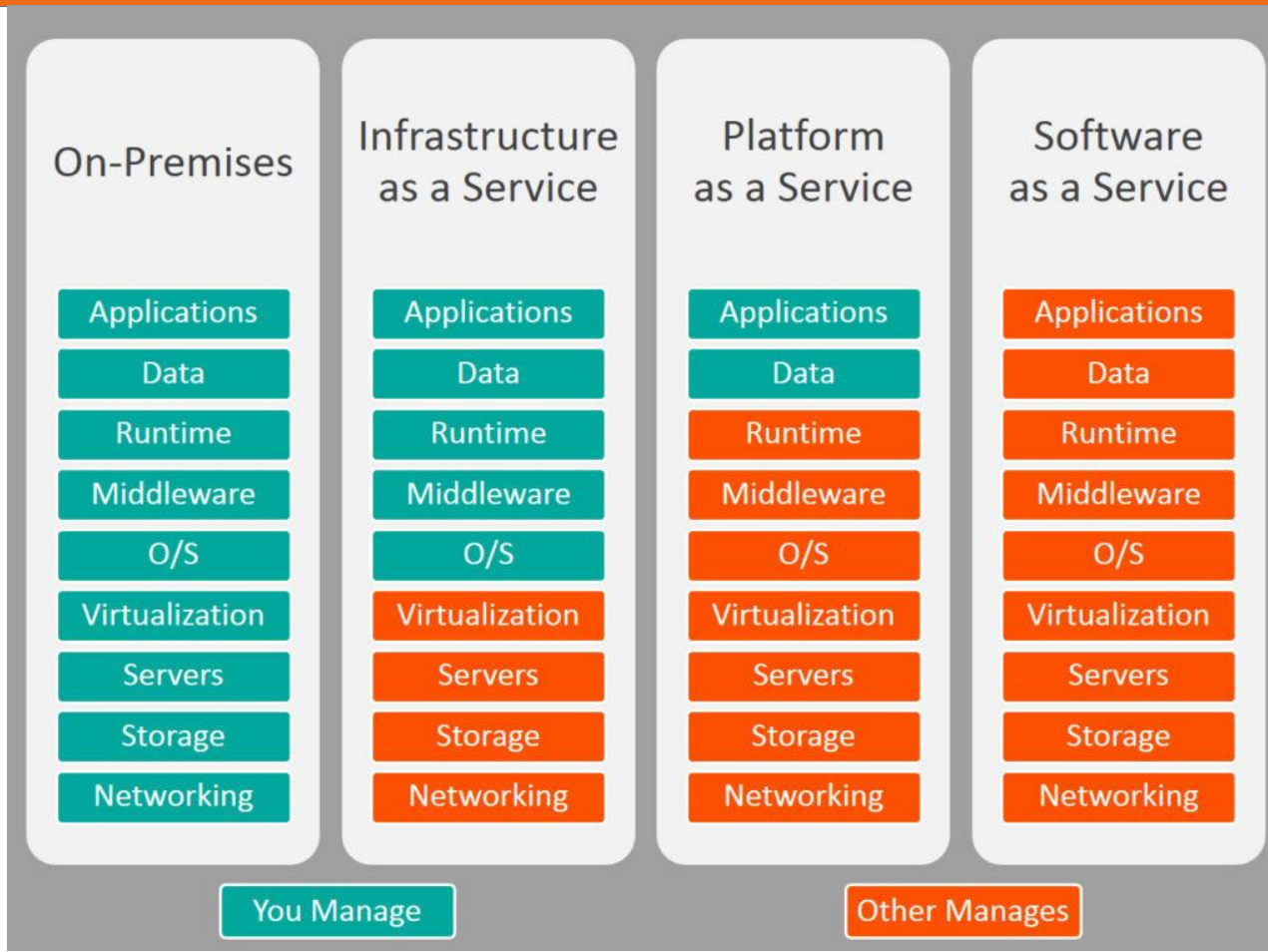
- Bases de Datos
- Servidores Web / Hosting
- Proveedores CD/CI

IaaS
Infrastructure as a Service

- Maquinas Virtuales
- Servidores
- Almacenamiento
- Red / firewalls

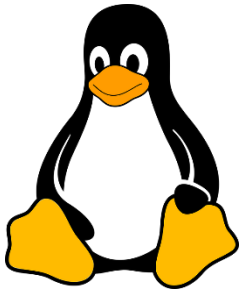
¿Qué es Cloud?

Servicios



¿Cómo empiezo?

Herramientas



Jenkins



NGINX



fedora^f



kubernetes



Apache



¿Cómo empiezo?

Proveedores



- Es uno de los proveedores más completos y complejos en el mercado
- Cuenta con +90 servicios desde IaaS hasta SaaS.
- Opciones de pago por uso, por demanda o por adelantado.



Google Cloud Platform

- Respaldado por Google es uno de los proveedores con la mayor infraestructura.
- Cuenta con +150 servicios desde IaaS hasta SaaS.
- Opciones de pago por uso, por demanda o por adelantado.



- Es uno de los proveedores más recientes y con mayor crecimiento en el mercado
- Cuenta con +100 servicios, mayormente enfocados en PaaS y SaaS.
- Opciones de pago por uso y por demanda.



- Es de los proveedores más fáciles de utilizar, pero no por ello menos importante.
- Cuenta con servicios de VPS, almacenamiento y Red.
- Opciones de pago muy económicas con servidores desde \$5

¿Cómo empiezo?

Proveedores



TECHNICAL & BUSINESS SUPPORT								
Support	Professional Services	Optimization Guidance	Partner Ecosystem	Training & Certification	Solutions Management	Account Management	Security & Billing Reports	Personalized Dashboard
MARKETPLACE								
Business Apps	Business Intelligence	DevOps Tools	Security	Networking	Databases	Storage		
ANALYTICS		DEV/OPS	MOBILE SERVICES	IoT	AI	ENTERPRISE APPS	HYBRID ARCHITECTURE	MIGRATION
Data Warehousing	Elasticsearch	One-click App Deployment	API Gateway	Rules Engine	Machine Learning	Virtual Desktops	Data Integration	Schema Conversion
Business Intelligence	Data Pipelines	Resource Templates	Single Integrated Console	Device Shadows	Image Recognition	Sharing & Collaboration	Integrated Networking	Exabyte-Scale Data Migration
Hadoop/Spark	Interactive SQL Queries	Build and Test	Identity	Device SDKs	Text to Speech	Corporate Email	Integrated Identity & Access	Application Migration
Streaming Data Analysis	ETL	Application Lifecycle Management	Sync	Device Gateway	Conversational Interface	App Streaming	Integrated Resource & Deployment Management	Database Migration
Streaming Data Collection		DevOps Resource Management	Mobile Analytics	Registry	Deep Learning Frameworks	Communications	Integrated Devices & Edge Systems	Server Migration
APP SERVICES		Triggers	Mobile App Testing	Local Compute				
Queueing & Notifications	Email	Containers	Targeted Push Notifications					
Workflow	Transcoding	Analyze and Debug						
Search								
INFRASTRUCTURE	CORE SERVICES		SECURITY & COMPLIANCE			MANAGEMENT TOOLS		
Regions	Compute	Storage	Identity Management	Access Control	Monitoring & Logs	Manage Resources	Service Catalogue	Configuration Tracking
Availability Zones	VMs, Auto-scaling, Load Balancing, Containers, Virtual Private Servers, Batch Computing, Cloud Functions	Object, Block, File, Archival, Import/Export, Exabyte-scale data transfer	Configuration Compliance	Key Management & Storage	Account Grouping	Monitoring	Server Management	Resource Templates
Points of Presence		Databases			Assessment & Reporting			
		Relational, NoSQL, Caching, Migration, PostgreSQL compatible			Web Application Firewall			
		Networking			DDOS Protection			
		VPN, Direct Connect, CloudFront						
		CDN						

¿Cómo empiezo?

Proveedores



Google Cloud Platform

Compute



Identity & Security



Networking



Big Data



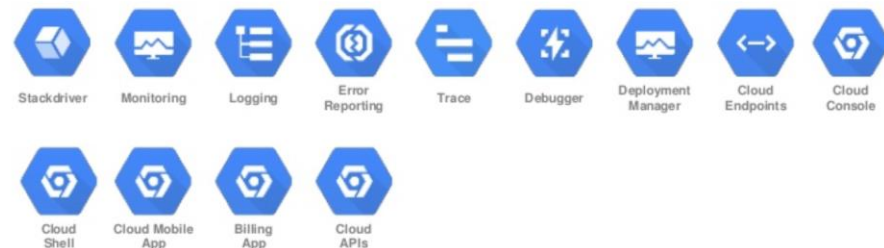
Storage and Databases



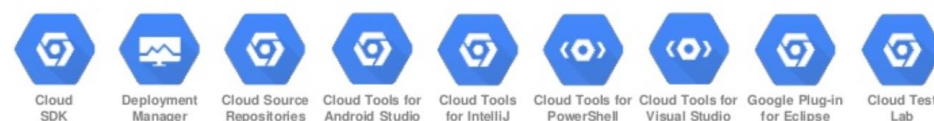
Machine Learning



Management Tools

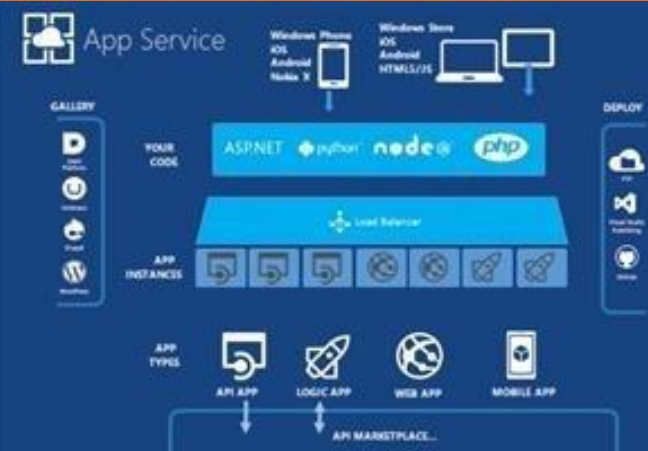
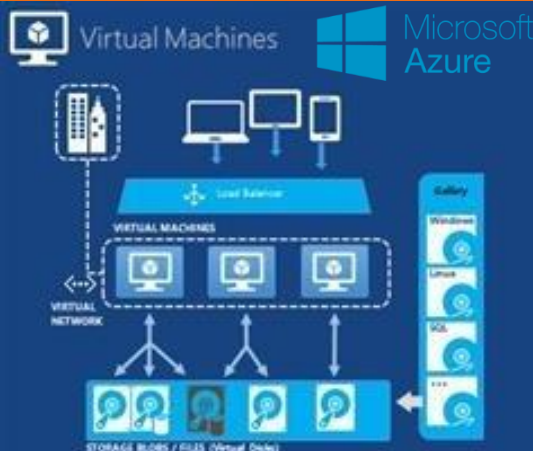


Developer Tools



¿Cómo empiezo?

Proveedores



COMPUTE	NETWORKING	IDENTITY & ACCESS	MEDIA & CON
Virtual Machines Scalable compute platform in the cloud and managed by your favorite OSes.	Virtual Networks Provision and manage virtual networks and subnets in the cloud.	Active Directory Identity and access management for your applications and services in the cloud.	Media Services Range of services that support video processing and live streaming workflows.
Cloud Services Scalable, reliable, and easy-to-use services for your applications.	Express Route Connect your on-premise data center to the cloud over a private network.	Multi-Factor Authentication Additional layer of security for your applications and services.	Content Delivery Network (CDN) Deliver content to your users at the edge of the network for faster access.
Batch Run your applications in the cloud at scale.	Remote App Host your applications in the cloud and run them on your devices.	Stream Analytics Process data streams in real-time to discover and react to trends.	Event Hubs Ingest, process, and store millions of events per second from millions of devices.
Scheduler Tasks that run reliably on a schedule or in response to events.	Notification Hubs Send notifications to your mobile apps from any application, anywhere.	Data Factory Ingest data from multiple sources to transform it into a rich, reusable data lake.	Mobile Engagement Ingest, process, and store millions of events per second from millions of devices.
Storage Blobs / Files (Virtual Disks) Store your data in the cloud.	API Management Automate and manage APIs for your applications and services.	Machine Learning Build intelligent applications that learn from data.	Mobile Studio Build, test, and deploy mobile applications in the cloud.
Storage Blobs & Files Store your application data and content in the cloud.	SQL Database Scalable, reliable, and easy-to-use database service.	Search Manage and search your content in the cloud.	Visual Studio Online Build, test, and deploy your applications in the cloud.
Backup Protect your data in the cloud.	DocumentDB Build scalable, reliable, and easy-to-use database service.	Tablets Build, test, and deploy your applications in the cloud.	Application Insights Monitor and troubleshoot your applications in the cloud.
Import/Export Move data in and out of the cloud.	Redis Cache In-memory cache service for your applications.	Operational Insights Monitor and troubleshoot your applications in the cloud.	VM Depot Build, test, and deploy your applications in the cloud.
Site Recovery Automate your disaster recovery in the cloud.	Key Vault Store and manage your secrets in the cloud.	Commerce Build, test, and deploy your applications in the cloud.	
Hybrid Integration Connect your on-premise applications to the cloud.	Automation Automate your tasks in the cloud.		
Storage Queues Store and manage your messages in the cloud.	Portal Manage your resources in the cloud.		
Service Bus Connect your applications in the cloud.	Key Vault Store and manage your secrets in the cloud.		
Hybrid Connections Connect your on-premise applications to the cloud.	Operational Insights Monitor and troubleshoot your applications in the cloud.		
Service Bus Connect your applications in the cloud.	Commerce Build, test, and deploy your applications in the cloud.		

¿Cómo empiezo?

Proveedores



Simple, predictable pricing.

Always know what you'll pay with monthly caps and flat pricing across all global data centers.



Droplets

Virtual machines with add-ons



Storage

Object & Block



Tools & Services

Networking, monitoring & more

Standard Droplets

Balanced virtual machines with a healthy amount of memory tuned to host and scale applications like blogs, web applications, testing / staging environments, in-memory caching and databases.

MEMORY	VCPUS	SSD DISK	TRANSFER	PRICE
1 GB	1 vCPU	25 GB	1 TB	\$5/mo \$0.007/hr
2 GB	1 vCPU	50 GB	2 TB	\$10/mo \$0.015/hr
3 GB	1 vCPU	60 GB	3 TB	\$15/mo \$0.022/hr
2 GB	2 vCPUs	60 GB	3 TB	\$15/mo \$0.022/hr

CPU Optimized Droplets

Compute optimized virtual machines with dedicated hyper-threads from best in class Intel CPUs for CPU intensive applications like CI/CD, video encoding, machine learning, ad serving, batch processing and active front-end web servers.

MEMORY	DEDICATED VCPUS	SSD DISK	TRANSFER	PRICE
4 GB	2 vCPUs	25 GB	4 TB	\$40/mo \$0.060/hr
8 GB	4 vCPUs	50 GB	5 TB	\$80/mo \$0.119/hr
16 GB	8 vCPUs	100 GB	6 TB	\$160/mo \$0.238/hr

¿Cómo empiezo?

Proveedores

Public Cloud Leadership by Region – Q1 2018

Rank	Worldwide	North America	EMEA Region	APAC Region	Latin America
Leader	AWS	AWS	AWS	AWS	AWS
#2	Microsoft	Microsoft	Microsoft	Alibaba	Microsoft
#3	Google	Google	Google	Microsoft	Google
#4	Alibaba	IBM	IBM	Google	Salesforce
#5	IBM	Salesforce	Salesforce	Tencent	IBM

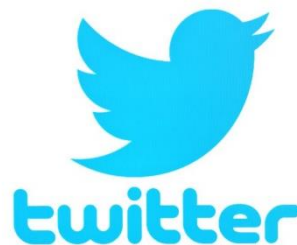
Source: Synergy Research Group

¿Cómo empiezo?

Infraestructura

La infraestructura de nuestro servicio no es estática, es como un ser viviente que va evolucionando en el tiempo.

NETFLIX



¿Cómo empiezo?

Seguridad



Consejos

Free Tiers



ITS FREE



Consejos



Optimizaciones



Nicolas Contreras V

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Entrepreneur committed to make the internet builds a transparent, fair and equitable system. -

@ThePappCorn - @Vaki_co - @Neocratia

Jul 27 · 6 min read

How we spent 30k USD in Firebase in less than 72 hours

[#UnaVacaPorDeLaCalle](#) became the largest crowdfunding campaign in Colombia, collecting 3 times more than the previous record so far in only two days! It also became one of the biggest political crowdfunding campaign in history.

Quora

Search for questions, people, and topics

Fraud Amazon Web Services Amazon.com (product) Hackers Computer Hacking (security)

Legal Issues and Law in Everyday Life Personal Question

My AWS account was hacked and I have a \$50,000 bill, how can I reduce the amount I need to pay?



Firebase

Don't Get Service Trapped!

Firebase Costs Increased by 7,000%!

Summary

Due to a change in how they report data usage, our monthly costs for Firebase, a SaaS provided by Google, has increased from \$25 a month to what is now moving towards the \$2,000 mark—with no changes to our actual data use. This change was made without warning.

Consejos

Less Work > More Cost





Conclusiones



Ya casi terminamos...

- Cloud Computing es una alternativa de bajo costo para ejecutar nuestras aplicaciones y tener alta disponibilidad sin necesidad de hacer una inversión inicial grande en la infraestructura.
- Al tener una nube pública o híbrida nos despreocupamos de muchos factores de tolerancia a fallos como conexiones redundantes, replicaciones, seguridad física, etc. Pero la infraestructura deja de pertenecernos y en la mayoría de los casos se comparte con otros clientes del proveedor.
- Si bien la infraestructura de nuestra aplicación tarde o temprano cambiará en el tiempo si debemos de tomar en cuenta desde un inicio factores de seguridad como un firewall o VPN para conectarnos a los servicios internos de nuestro software, además de tener sumo cuidado con los modelos de facturación del proveedor.



Bonus



@Jetbrains

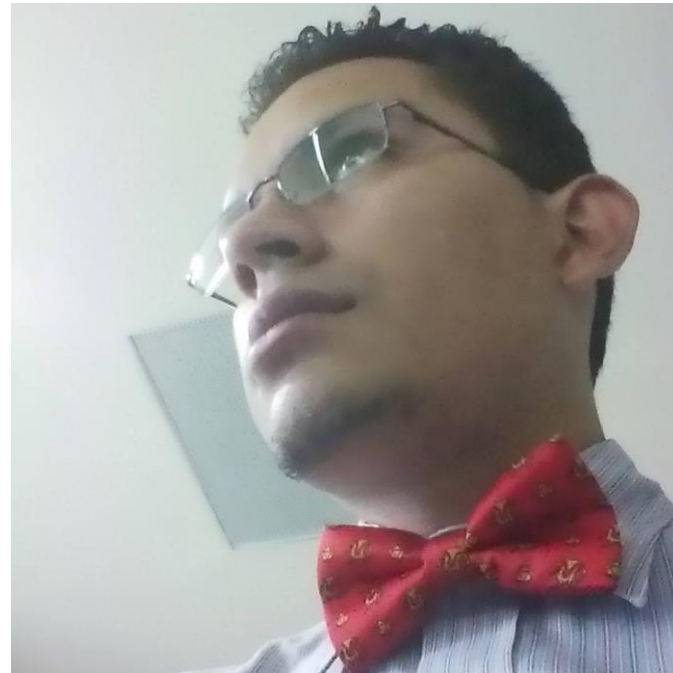


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CLOUD 101

¿Preguntas?

¡ Muchas Gracias !



Jorge Alejandro Cajas Mota

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