Google Cloud

Architecting with Google Compute Engine

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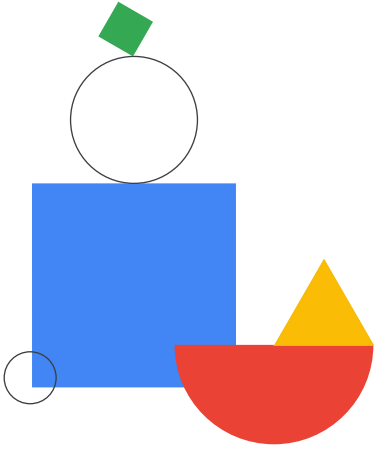
Mylene Biddle



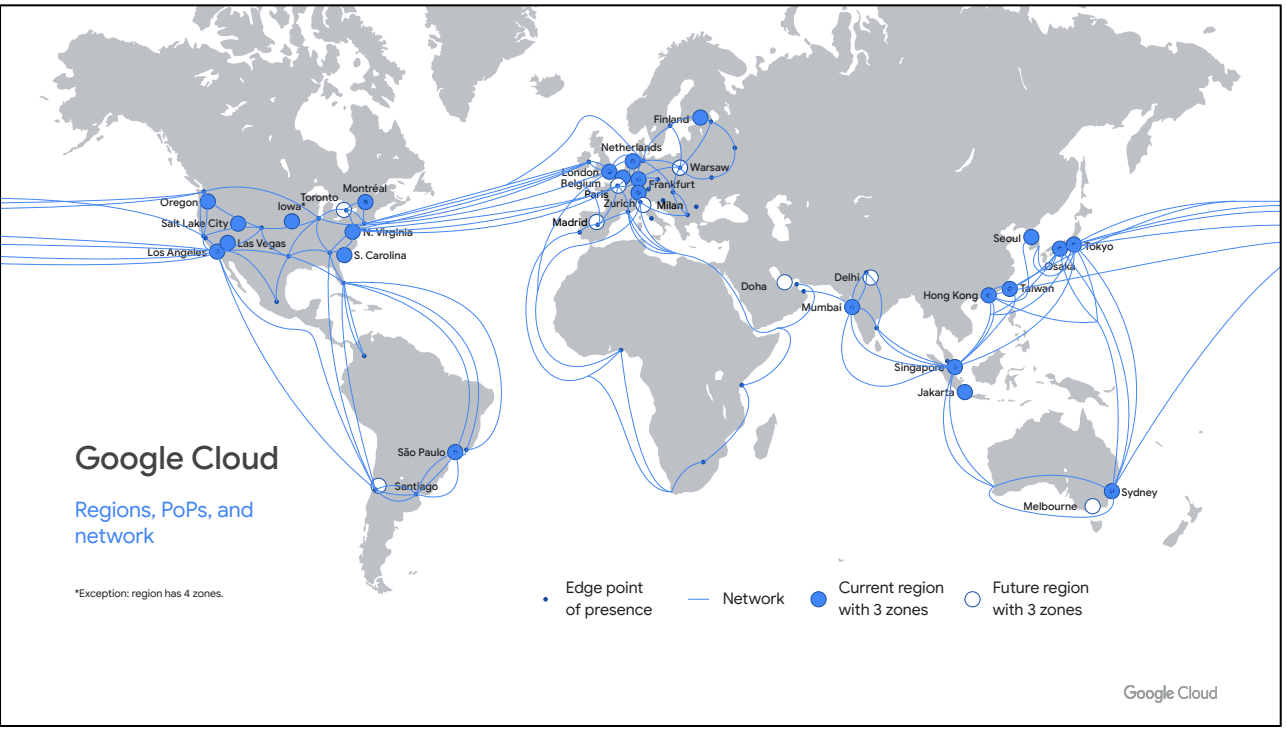
Google Cloud Ecosystem

- Open-source software
- Providers
- Developers
- Partners
- Other cloud providers
- Third-party software

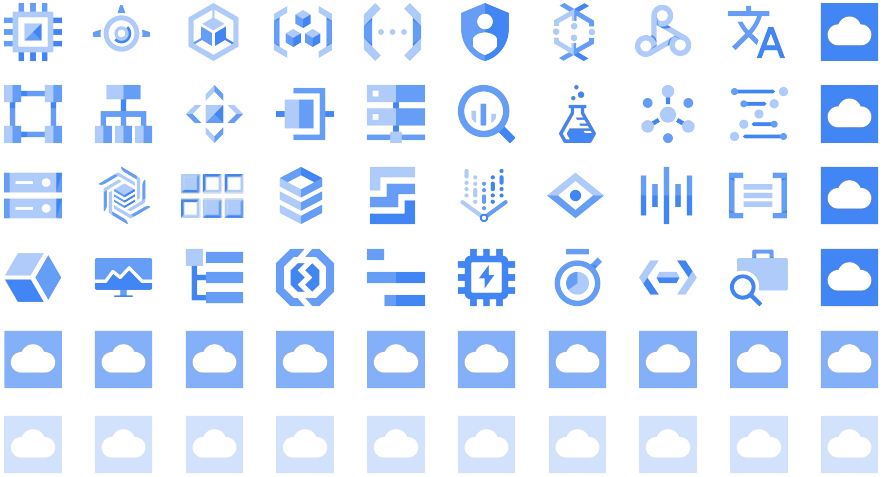
Google Cloud

- Chrome
- Google devices
- Google Maps
- Google Analytics
- Gmail
- Google Search
- Google Workspace (previously G Suite)

Google Cloud


Google Cloud
Regions, PoPs, and network
*Exception: region has 4 zones.
Oregon
Salt Lake City
Los Angeles
Las Vegas
Iowa
Toronto
Montréal
N. Virginia
S. Carolina
São Paulo
Santiago
Finland
Netherlands
London
Belgium
Paris
Frankfurt
Zurich
Milan
Warsaw
Madrid
Doha
Delhi
Mumbai
Hong Kong
Taiwan
Singapore
Jakarta
Seoul
Tokyo
Osaka
Sydney
Melbourne
Edge point of presence
Network
Current region with 3 zones
Future region with 3 zones
Google Cloud

Google Cloud is...



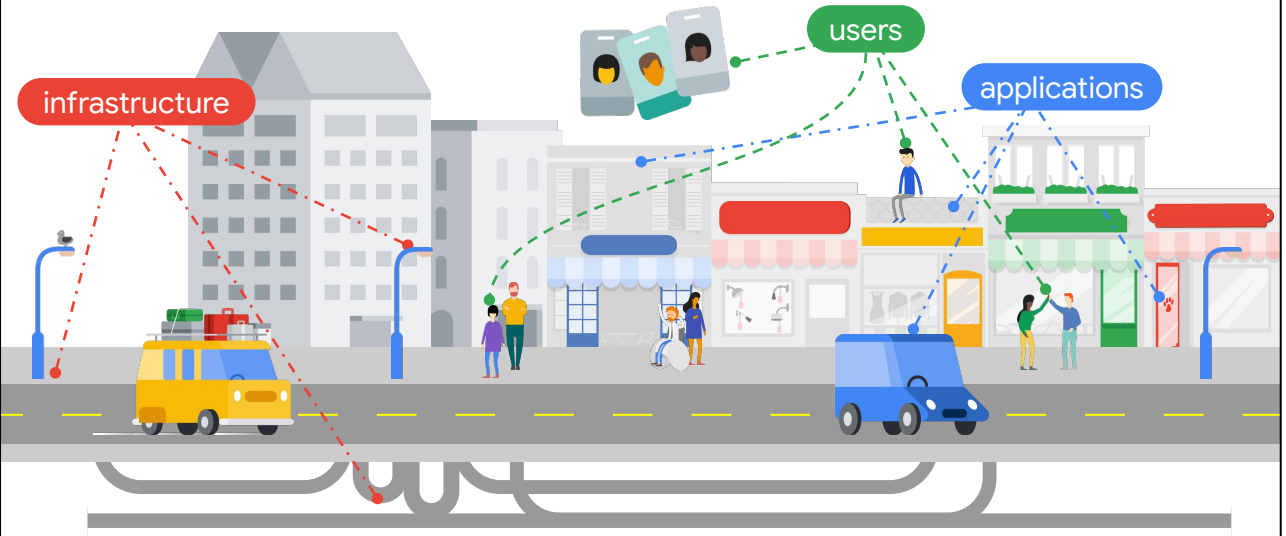
Google Cloud is...

Usually more than one solution

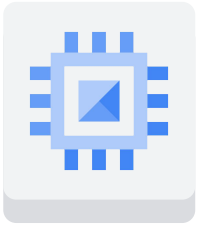
Solution continuum

IaaS	PaaS	SaaS
CPUs, Memory Disks, Interfaces	Servers VM Instances	Clusters Cluster Management	Serverless, Autoscaling

IT Ops	SysOps	DevOps	Low Ops	No Ops



Google Cloud offers a range of compute services

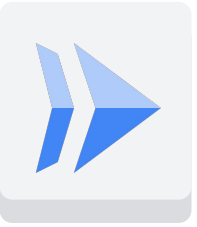


Compute Engine

Google Kubernetes Engine

App Engine

Cloud Functions



Cloud Run

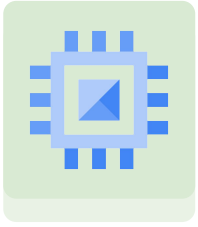
Cloud Run, a managed compute platform that lets you run stateless containers via web requests or Pub/Sub events.

Cloud Run is serverless. That means it removes all infrastructure management tasks so you can focus on developing applications.

It is built on Knative, an open API and runtime environment built on Kubernetes that gives you freedom to move your workloads across different environments and platforms. It can be fully managed on Google Cloud, on Google Kubernetes Engine, or anywhere Knative runs.

Cloud Run is fast. It can automatically scale up and down from zero almost instantaneously, and it charges you only for the resources you use, calculated down to the nearest 100 milliseconds, so you‘ll never pay for your over-provisioned resources.

Google Cloud offers a range of compute services



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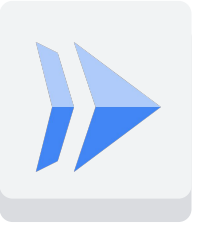


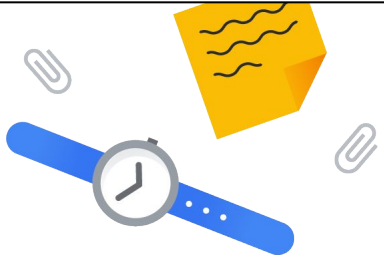
Cloud Run

Cloud Infrastructure learning path

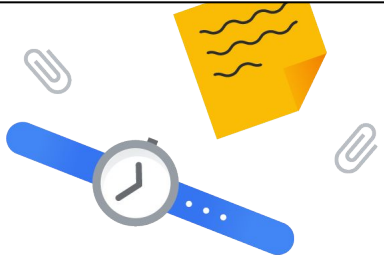
Cloud Infrastructure

Google Cloud runs on the same global infrastructure that powers YouTube, Gmail, and other Google products used by billions of people around the world. Learn about Google Cloud's approach to infrastructure and implementing, deploying, migrating, and maintaining applications.

1. Google Cloud Fundamentals: Core Infrastructure
2. Architecting with Google Compute Engine
3. Architecting with Google Cloud: Design and Process



Cloud Infrastructure: **Foundation**



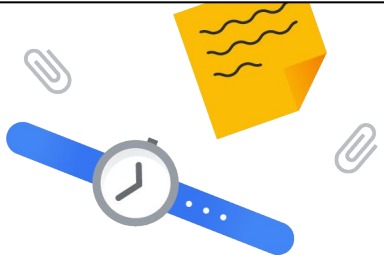
Cloud Infrastructure: **Core Services**

01 Identity and Access Management (IAM)

02 Data Storage Services

03 Resource Management

04 Resource Monitoring



Cloud Infrastructure: Scaling and Automation

01 Interconnecting Networks

02 Load Balancing and Autoscaling

03 Infrastructure Automation

04 Managed Services