Start Cloud Now

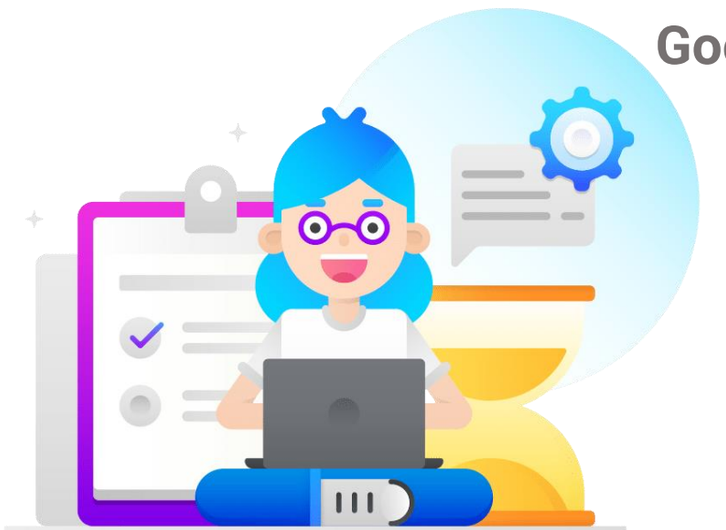
Google Cloud Professional Cloud Architect

New exam

Prep Notes by

Ammett

V2



BY AMMETT

Google Cloud Professional Cloud Architect Prep Sheet

by Ammett

v.2

This is my prep sheet based on my study for the new version of this exam launched in 2021.

General Knowledge

Organisations

What it is

Resources are organized hierarchically. This allows you to map your enterprise's operational structure to GCP, and to manage access control and permissions for groups of related resources

Key points

- Flow (Organisation, Folders, projects, resources)
- Where to manage permissions for groups, department, entire organisation, etc

Folders

What it is

Folders are an additional grouping mechanism on top of projects.

Key points

- Folders can be used to identify your departments or various environments of your cloud space. These are optional

What you should know

General knowledge

Review documents

Resource Hierarchy

Video

Resource Hierarchy

My experience

This knowledge is key and fundamental. Combination question may appear with any combination of Org, Folder, project, region, AZ, On prem (hybrid)

Projects

What it is

The project resource is the base-level organizing entity. Organizations and folders may contain multiple projects.

Key points

- A project is required to use services, resources and billing.

Region

What it is

Regions are independent geographic areas that consist of *zones*

Key points

- Isolated from other regions
- Transfer fee for data between regions

What you should know

- Multi regional design can be used for fault tolerance

Review documents

Region and Zones

Region, Zone and Multi

Video

Region and Zones

Availability Zone

What it is

A *zone* is a deployment area for Google Cloud resources within a region.

Key points

- Isolated from other zones
- Low latency connection between AZ within the region

What you should know

- Zonal resources operate within a single zone. If a zone becomes unavailable, all of the zonal resources in that zone are unavailable until service is restored

On Prem

What it is

Your organisation private data centre

Key points

- Why chose cloud
- Type of application
- Type of infrastructure
- How to connect to cloud

What you should know

- Why move, what are the requirements.
- Suitable cloud services (on cloud replacements / equivalents)

Key points

Staple based on the cases. Please review so you can appreciate the architecture and how it can migrate or connect to the cloud.

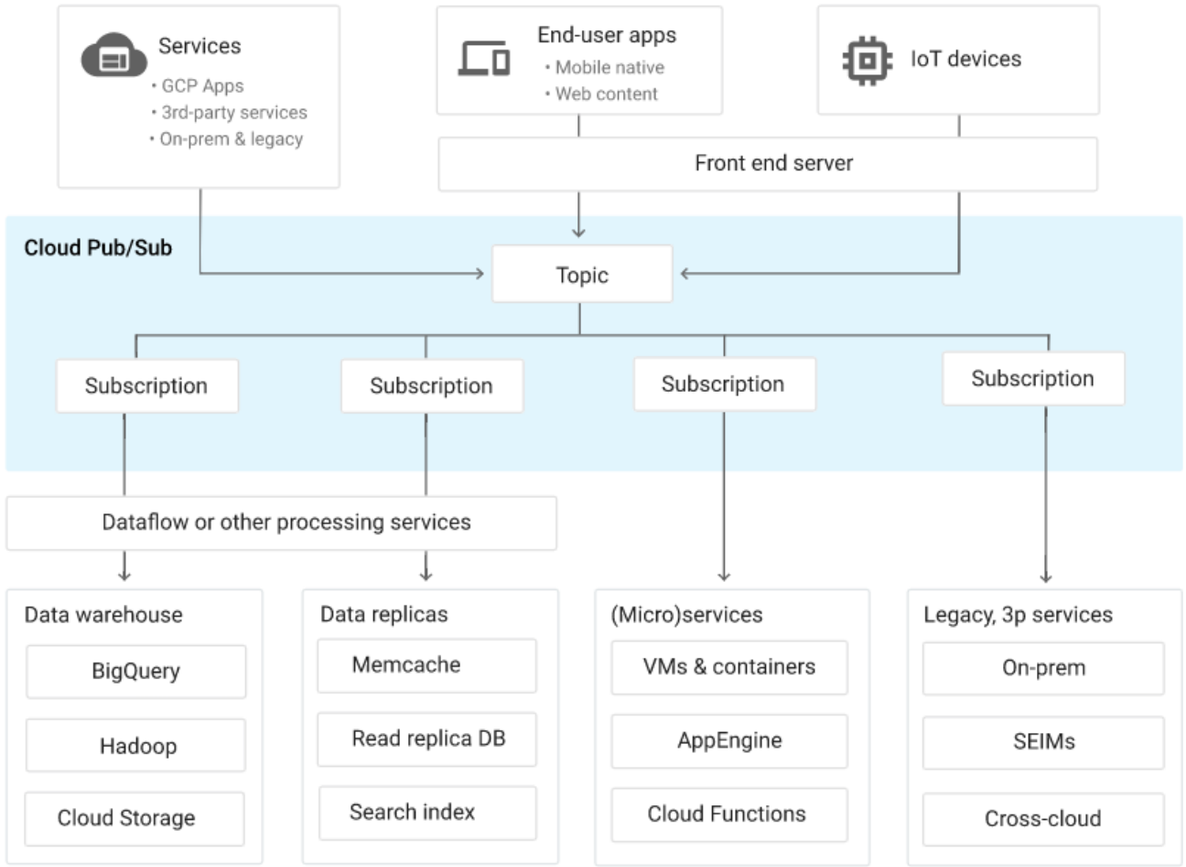
Compute						
Compute Engine 	**What it is** Compute Engine lets you create and run virtual machines on Google infrastructure	**What you should know** • Improve performance • Troubleshooting issues • How to scale • Disable external IP's	**Review documents** Compute engine Disable external IP's	**Video** Best Practices for GCE Enterprise Deployments Managing Highly Available and Scalable Workloads on VMs	**Qwiklabs** Compute engine	**My experience** This will be mentioned is several scenarios. Once you understand why, when and what. You can decide if it is necessary an in what configuration.
App Engine 	**What it is** App Engine is a fully managed, serverless platform for developing and hosting web applications at scale.	**What you should know** • Know difference between flexible and standard • Language supported (go, etc) • It's PaaS	**Review documents** App engine Standard environment Flexible environment	**Video** App Engine	**Qwiklabs** API explore: App engine	**My experience** A question may pop up
Cloud Run 	**What it is** Develop and deploy highly scalable containerized applications on a fully managed serverless platform.	**What you should know** • Uses	**Review documents** Cloud run	**Video** Cloud run	**Qwiklabs** Serverless Cloud Run Development	**My experience** Good to know
Cloud Functions 	**What it is** Event-driven serverless compute platform	**What you should know** • This scales from nothing. • No limit must be maintained for it's use	**Review documents** Google cloud functions	**Video** What is Cloud Functions	**Qwiklabs** Cloud function quick start	**My experience** A pop up question of two may appear
Unmanaged groups 	**What it is** Unmanaged instance groups are collections of instances that exist in a single zone and do not share a common instance template.	**What you should know** • Use instances that are not identical • Do not allow automatic creation, deletion or scaling.	**Review documents** Unmanaged instance groups			**My experience** Know the different between a managed instance group and an unmanaged instance group
Managed groups 	**What it is** This offers autoscaling capabilities, which let you automatically add or based on increases or decreases in load.	**What you should know** • Use identical instances templates • Allow automatic creation, deletion and scaling.	**Review documents** Managed instance groups	**Video** Managed group Managed group template	**Qwiklabs** Autoscaling an Instance Group with Stackdriver Custom Metrics Join	**My experience** Know when and why you should use a managed instance group with autoscaling
Auto Scaling 	**What it is** The ability to scale automatically based on metric defined by user.	**What you should know** • Importance of autoscaling • Various ways to configure	**Review documents** Managing autoscalers	**Video** Scaling Web apps		
BYOL Windows 	**What it is** Google Cloud provides you with flexibility for bringing your existing licenses and running them on Compute Engine.	**What you should know** • How this works • Know the steps to achieve this	**Review documents** BYOL	**Video** Running your windows workload on GCP Managing Highly Available and Scalable Workloads on VMs		**My experience** Knowing the steps and how to set up is a good idea.

Compute						
Sole tenant 	**What it is** Sole-tenancy lets you have exclusive access to a sole-tenant node, which is a physical Compute Engine server that is dedicated to hosting only your project's VMs	**What you should know** • You will need this for BYOL migration • How it works	**Review documents** Sole tenancy nodes Provision VM on sole-tenant nodes			**My experience** A question may pop up or be linked to another.
Bare metal 	**What it is** Providing hardware to run specialized workloads with low latency on Google Cloud	**What you should know** • Used to run - Third-party virtualization software • Apps that require direct, low-level access to server	**Review documents** Bare metal solutions	**Video** Run specialized workloads with Bare Metal Solution Bare metal solutions		**My experience** Look out for this. Know the use cases
DevOps						
Cloud Build 	**What it is** Cloud Build can import source code from a variety of repositories or cloud storage, execute and produce artifacts such as Docker containers or Java archives.	**What you should know** • Importance in the CI/CD flow	**Review documents** Cloud Build	**Video** Shift left: Cloud build		**My experience** Be aware of this, not heavily featured
Container Registry 	**What it is** This is a private container image registry that runs on Google Cloud Platform. It supports Docker Image Manifest V2 and OCI image formats.	**What you should know** • What's used for	**Review documents** Container registry	**Video** Container registry		**My experience** Be aware of this.
Jenkins 	**What it is** An open-source automation server which enables developers around the world to reliably build, test, and deploy their software	**What you should know** • What Jenkins does • How to setup	**Review documents** Jenkins on GCP			**My experience** This may make a pop-up appearance so know about its purpose can help you analyse if it's relevant or not
Cloud Scheduler	**What it is** Cloud Scheduler is a fully managed enterprise-grade cron job scheduler.	**What you should know** • How it works and what it does.	**Review documents** Cloud schedule quick start	**Video** Moving Cron Job to the cloud		**My experience** Just be aware of this
API	**What it is** APIs are a set of functions and procedures that allow for the creation of applications that access data and features of other applications, services, or operating systems	**What you should know** • API best practices • API lifecycle	**Review** Release cycle Deprecation			

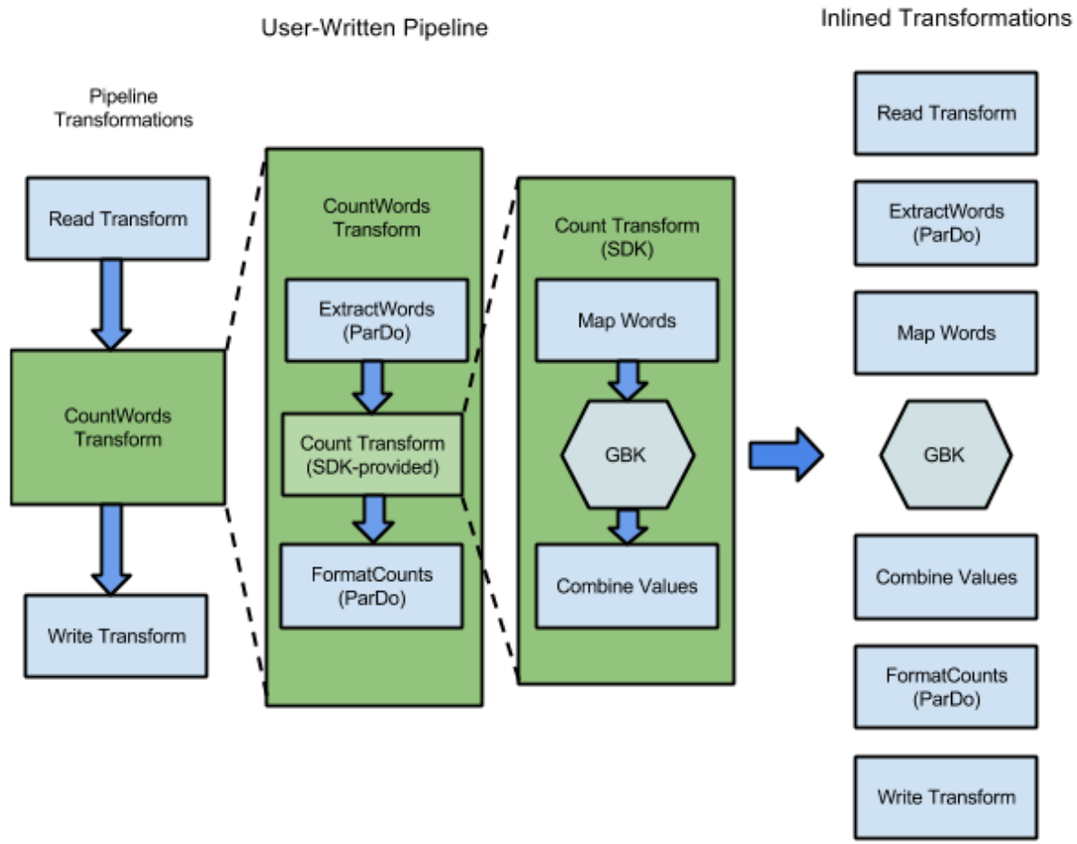
DevOps						
Terraform 	**What it is** Terraform is an open-source tool that lets you provision cloud resources with declarative configuration files.	**What you should know** • IaC • Deploy using terraform	**Review documents** Using terraform with Google Cloud	**Video** Terraform serverless cloud run		**My experience** Be aware of this not heavily featured
Deployment manager	**What it is** Create and manage cloud resources with simple templates	**What you should know** • What's it used for	**Review documents** Deployment manager docs	**Video** IaC with deployment manager		**My experience** Be aware of this
Data Analytics / Big Data						
BigQuery 	**What it is** Enterprise data warehouse that enables super-fast **SQL** queries using the processing power of Google's infrastructure.	**What you should know** • Managed by Google • Analyse Data with SQL • Use API • Streaming Data to BQ • Support OLAP	**Review documents** BigQuery BigQuery API Streaming into Partitions Materialized views	**Video** Dataware housing with BQ Best practices to speed up BQ	**Qwiklabs** Building an IoT Analytics Pipeline on Google Cloud Platform	**My experience** Know what it's used for, API, no management required, streaming data into it, views and permissions and creating partitions. Can pick you up a few points
Dataflow 	**What it is** This is a fully-managed service for transforming and enriching data in stream (real time) and batch (historical) modes with equal reliability and expressiveness	**What you should know** • Used to batch and real time • Reliable, exactly once, low latency. • ParDo	**Review documents** DataFlow ParDo Deploy a pipeline	**Video** Real Time Streaming Analytics		**My experience** What this does is good to know so you can identify when to use in with other tools in GCP. This may pop up on the exam.
Dataprep 	**What it is** Use Cloud Dataprep to explore and transform raw data from disparate and/or large datasets into clean and structured data for further analysis and processing.	**What you should know** • Detect problem and clean dirty data	**Review documents** Dataprep	**Video** Creating ETL with DataPrep Advanced Data Cleanup		**My experience** Clean Data who does not want that right.
Dataproc 	**What it is** This is you managed Spark and Hadoop cloud offering	**What you should know** • Hadoop/ spark • How to configure your clusters	**Review documents** Cloud Dataproc	**Video** Cloud Dataproc newest features	**Qwiklabs** Dataproc quick start	**My experience** Know design options
Cloud Pub/Sub 	**What it is** is a fully-managed real-time messaging service that allows you to send and receive messages between independent applications	**What you should know** • Ingest millions of streaming events • Efficient deduplication Schemas	**Review documents** Pub Sub Efficient deduplication Schemas	**Video** What is Cloud Pub/Sub?		**My experience** One of those versatile services you should know. Pay attention to the detail here.
Data Studio 	**What it is** Is a visualization and reporting tool, and an integral part of Google Marketing Platform. .	**What you should know** • Use identical instances templates	**Review documents** Data Studio	**Video** Data Studio	**Qwiklabs** Data Studio Qwiklab	

Firestore	**What it is** Use our flexible, scalable NoSQL cloud database to store and sync data for client- and server-side development.		**Review document** Cloud Firestore	**Video** Firebase Playlist Firestore		Understand the purpose and use cases of this service

Cloud Pub/Sub flow

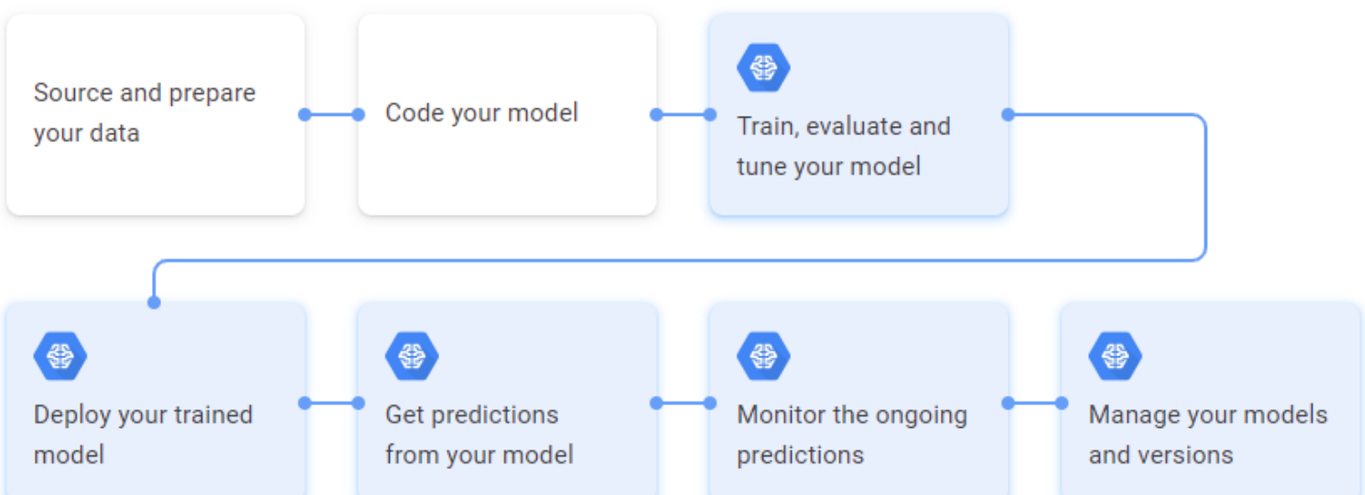


Pipelines

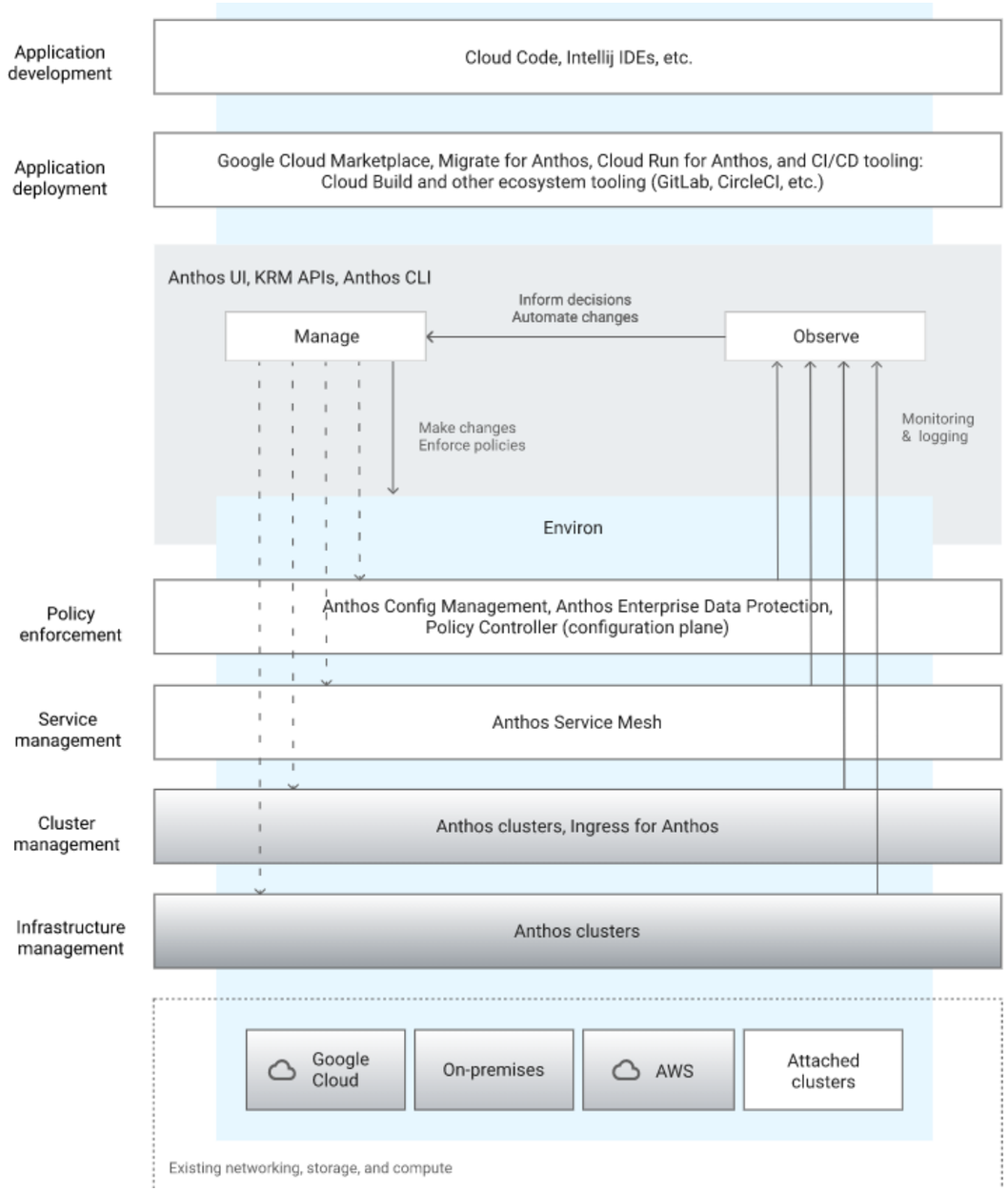


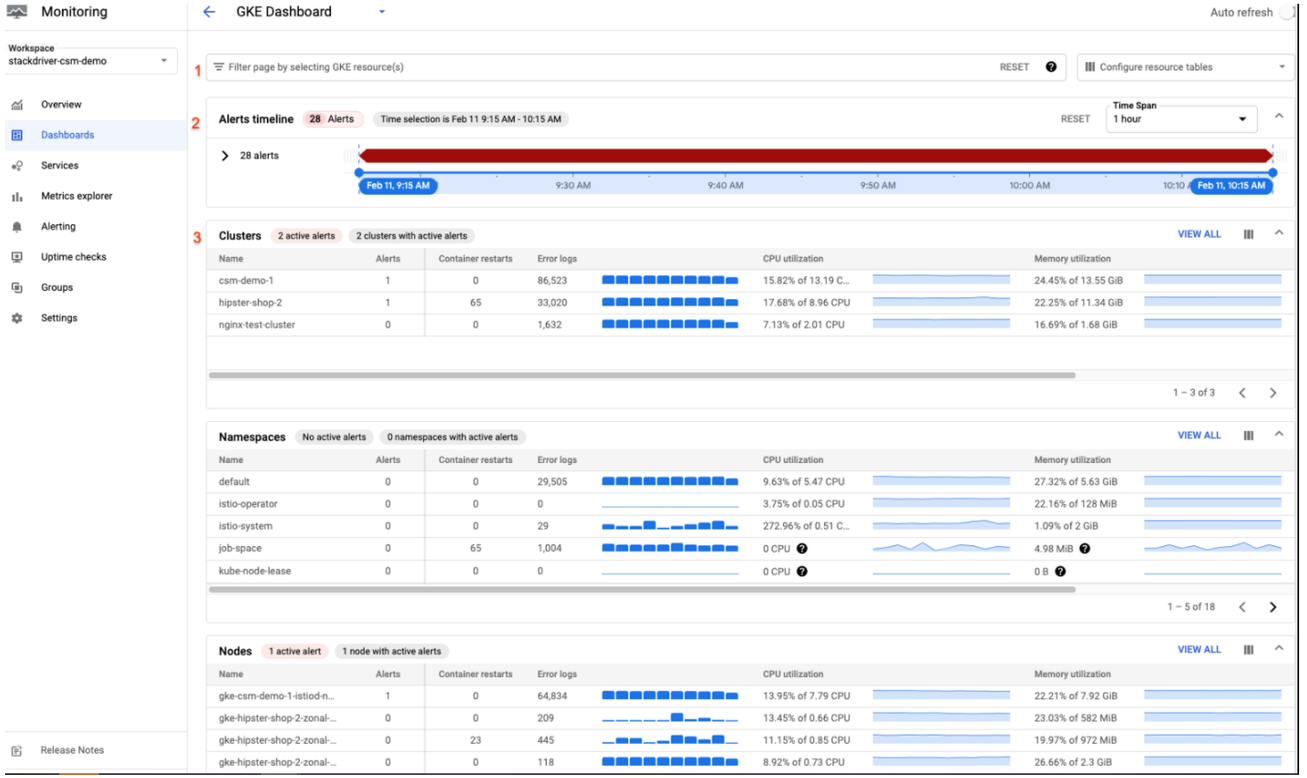
AI / ML						
Google AI platform	**What it is** Fully managed, end-to-end platform for data science and machine learning	**What you should know** • What it is • When you would use it • Components of this service	**Review documents** Google AI	**Video** Creating value with depth of AI platform	**Qwiklabs** AI Platform: Qwik Start	**My experience** This is a new area so you need to spend some time to get familiar with the Google AI ecosystem. It will be mentioned.
Explainable AI	**What it is** Tools to understand and help interpret your ML models	**What you should know** • What it is • XRAI • Differentiable and non-differentiable	**Review documents** Intro to AI Explanations AI Explanation Whitepaper	**Video** Intro to Explanation for AI platform		**My experience** Don't be surprised if you see something about this. Who know?
TensorFlow	**What it is** TensorFlow Enterprise provides users with a Google Cloud optimized distribution of TensorFlow with long-term version support.	**What you should know** • What TensorFlow is used for • Benefits feature of this • Integrations	**Review documents** TensorFlow overview All features Getting started	**Video** TensorFlow Enterprise	**Qwiklabs** Code lab options	**My experience** Have an awareness of this service.
Vision API	**What it is** Vision API uses OCR to detect text within images in more than 50 languages and various file types.	**What you should know** • Uses (images,etc)	**Review documents** Vision AI	**Video** What is cloud vision Image recognition and classification with Cloud Vision	**Qwiklabs** Detect label, faces & landmarks in Images	**My experience** Have an awareness of this service.

ML workflow



Kubernetes						
GKE 	**What it is** (GKE) provides a managed environment for deploying, managing, and scaling your containerized applications using Google infrastructure.	**What you should know** • What it is • Doing rolling deployment • Be familiar with kubectl syntax • Private clusters	**Review documents** Overview GKE Private clusters Best practices	**Video** GKE in a minute Designing GKE for massive scale	**Qwiklabs** Migrating a Monolithic Website to Microservices on Google Kubernetes Engine	**My experience** I think you should learn Kubernetes from the basics, also learn the kubectl syntax, and how to deploy, scale, expose services and other stand operations. It's well featured.
Cluster Autoscaler 	**What it is** **Cluster autoscaler** automatically resizes the number of nodes in a given node pool, based on the demands of your workloads.	**What you should know** • What it is • How to turn it on and configure	**Review documents** Cluster Autoscaler Autoscaling a cluster	**Video** Autoscaling with GKE	**Qwiklabs** Understanding and Combining GKE Autoscaling Strategies	**My experience** Get familiar with this ability. Scaling is important for your clusters.
GKE Dashboard 	**What it is** Useful dashboards for your project's GKE clusters and their resources	**What you should know** • What it does • General familiarity with this	**Review documents** GKE dashboards			**My experience** Have an awareness of this.
Prometheus 	**What it is** Prometheus is a monitoring tool often used with Kubernetes	**What you should know** • How it is configured • Troubleshooting	**Review documents** Prometheus Set up a Prometheus instance	**Video** Custom metrics with Prometheus		**My experience** Monitoring is a big part of your application so be aware of various integrations with GKE.
Istio 	**What it is** Istio is an open service mesh that provides a uniform way to connect, manage, and secure microservices	**What you should know** • How to set up • What it does • Why to use it	**Review documents** What is Istio	**Video** Istio and ASM	**Qwiklabs** Installing the Istio on GKE	**My experience** Managing your service mesh is a big deal when dealing with micro services. Question on this may definitely throw you off.
Anthos						
Anthos 	**What it is** Anthos is a modern application management platform that provides a consistent development and operations experience for cloud and on-premises environments	**What you should know** • What it is • How it's set up • Different way to run Anthos	**Review documents** Anthos technical overview Cloud run for Anthos	**Video** Anthos deep dive part 1 Anthos deep dive part 2 Get started with Anthos	**Qwiklabs** Anthos Cloud run for Anthos	**My experience** Get familiar Anthos is featured
Anthos SM 	**What it is** The fully managed service mesh for your complex microservices architectures.	**What you should know** • What it is • How to use it	**Review documents** Anthos Service Mesh	**Video** Autoscaling with GKE	**Qwiklabs** Anthos service mesh quest	**My experience** Get familiar Anthos is featured


Application development
Cloud Code, Intellij IDEs, etc.
Application deployment
Google Cloud Marketplace, Migrate for Anthos, Cloud Run for Anthos, and CI/CD tooling:
Cloud Build and other ecosystem tooling (GitLab, CircleCI, etc.)
Anthos UI, KRM APIs, Anthos CLI
Inform decisions
Automate changes
Manage
Observe
Make changes
Enforce policies
Monitoring
& logging
Environ
Policy enforcement
Anthos Config Management, Anthos Enterprise Data Protection,
Policy Controller (configuration plane)
Service management
Anthos Service Mesh
Cluster management
Anthos clusters, Ingress for Anthos
Infrastructure management
Anthos clusters
Google Cloud
On-premises
AWS
Attached clusters
Existing networking, storage, and compute


Monitoring
GKE Dashboard
Auto refresh
Workspace
stackdriver-csm-demo
Overview
Dashboards
Services
Metrics explorer
Alerting
Uptime checks
Groups
Settings
Release Notes
Filter page by selecting GKE resource(s)
RESET
Configure resource tables
Alerts timeline
28 Alerts
Time selection is Feb 11 9:15 AM - 10:15 AM
Time Span
1 hour
28 alerts
Feb 11, 9:15 AM
9:30 AM
9:40 AM
9:50 AM
10:00 AM
10:10
Feb 11, 10:15 AM
Clusters
2 active alerts
2 clusters with active alerts
VIEW ALL
Name
Alerts
Container restarts
Error logs
CPU utilization
Memory utilization
csm-demo-1 1 0 86,523 15.82% of 13.19 C... 24.45% of 13.55 GiB
hipster-shop-2 1 65 33,020 17.68% of 8.96 CPU 22.25% of 11.34 GiB
nginx-test-cluster 0 0 1,632 7.13% of 2.01 CPU 16.69% of 1.68 GiB
1 – 3 of 3
Namespaces
No active alerts
0 namespaces with active alerts
default 0 0 29,505 9.63% of 5.47 CPU 27.32% of 5.63 GiB
istio-operator 0 0 0 3.75% of 0.05 CPU 22.16% of 128 MiB
istio-system 0 0 29 272.96% of 0.51 C... 1.09% of 2 GiB
job-space 0 65 1,004 0 CPU 4.98 MiB
kube-node-lease 0 0 0 0 CPU 0 B
1 – 5 of 18
Nodes
1 active alert
1 node with active alerts
gke-csm-demo-1-istiod-n... 1 0 64,834 13.95% of 7.79 CPU 22.21% of 7.92 GiB
gke-hipster-shop-2-zonal-... 0 0 209 13.45% of 0.66 CPU 23.03% of 582 MiB
gke-hipster-shop-2-zonal-... 0 23 445 11.15% of 0.85 CPU 19.97% of 972 MiB
gke-hipster-shop-2-zonal-... 0 0 118 8.92% of 0.73 CPU 26.66% of 2.3 GiB

Networking						
VPC Sharing 	**What it is** Used to connect to a common VPC network. Resources in those projects can communicate with each other securely and efficiently across project boundaries using internal IPs.	**Key points** • Centralised management • Firewall control • Internal RFC1918 communication	**What you should know** 1- When to use (depend of services and controls necessary etc) 2- Who gets billed	**Review documents** Hybrid Connectivity Shared VPC	**Video** CONNECTIVITY	**My experience** This may pop up. Who knows peering is sharing ☺. **Core topic**
VPC Peering 	**What it is** Access G Suite and Google Cloud features over VPN or the internet, while cutting egress fees. Connect directly with Direct Peering, or choose a partner with Carrier Peering.	**Key points** • When to peer • What services you have access to	**What you should know** 1- How to peer to a shared VPC	**Review documents** VPC Peering	Connecting to Datacentre	**My experience** It gets tricky so know when you would use this over other options.
VPN 	**What it is** Connect your on-premises or other public cloud networks to GCP Virtual Private Cloud (VPC) securely over the internet through IPSec VPN	**Key points** • How to setup • IPSEC used • Best practices	**What you should know** 1- Multiple tunnels 2- ECMP	**Review documents** Cloud VPN		**My experience** It gets tricky so know when you would use this over other options.
Dedicated Interconnect 	**What it is** Use dedicated Interconnect to connect to Google's network through a highly available, low latency connection. (10GB higher)	**Key points** • 1- Single mode fiber 10GBase-LR • LACP for links & 802.1q Vlan • Support EBGP with multihop • Ipv4 link local addresses • Meet at Co Location facilities	**What you should know** 1- Type (system and custom) 2- Default route & Subnet route 3- Static and Dynamic routes 4- Min 10GB 5- Layer2	**Review documents** Dedicated Interconnect Best practices for Cloud Interconnect		**My experience** It gets tricky so know when you would use this over other options.
Partner Connect 	**What it is** Use Google Cloud Interconnect - Partner (Partner Interconnect) to connect to Google through a supported service provider. (from 50 MB up)	**Key points** • Best case use • Min size 50MB • Not over the internet	**What you should know** 1- How to setup (VLAN, Key, request location and capacity) 2- Difference L2 and L3	**Review documents** Partner Interconnect		**My experience** It gets tricky so know when you would use this over other options.
VLAN 	**What it is** VLAN attachments (also known as **Interconnect Attachments**) determine which Virtual Private Cloud networks can reach your on-premises network through an interconnect	**Key points** • Works with Cloud router • Maximum speed 10 Gbps • Multiple VLANs	**What you should know** 1- Create VLAN attachments over Cloud Interconnect connections that have passed all tests and that are ready to use	**Review documents** Creating VLAN attachment		**My experience** Basic stuff goof to know
Dynamic routing 	**What it is** Dynamic routing is suitable for any size network. It frees you from maintaining static routes. Also, if a link fails, dynamic routing can automatically reroute traffic if possible.	**Key points** • Cloud router necessary • BGP session necessary	**What you should know** 1- IP automatically updated and propagated 2- Modes are Global or regional	**Review documents** Setting the network dynamic routing mode		**My experience** Another basic concept.
VPC 	**What it is** A VPC network is your virtual network in the cloud just like an on-premise physical network or data centre or office network.	**Key points** • VPC are global SDN • How to get traffic flowing • Using RFC 1918 subnets • Internal and external access	**What you should know** 1- Internal and external access 2- Controlling access and firewalls 3- How to Connect VPC together (peering or sharing)	**Review documents** VPC Overview Best practices	**Video** VPC Deep Dive	**My experience** **Core area**. Let me put it like this; you should know what this does and how this works.

Networking

CDN

What it is
Cloud CDN uses Google's global edge network to serve content closer to users, which accelerates your websites and applications.

Key points
- What it does how to enable
- How to enable (HTTPS LB)

What you should know
1- How to trouble shoot
2- Invalidation
3- Serve none cached content
4- Cache Control
5- How to enable

Review documents
CDN Overview
CDN Invalidation
CDN troubleshooting

Video
CDN

Labs
Cloud CDN

My experience
Good to know

Cloud NAT

What it is
Allows virtual machine (VM) instances without external IP addresses and private (GKE) clusters to connect to the Internet.

What you should know
- How it works

Key Points
1- Hide internal IP from external host.

Review
NAT

My experience
All these area combined made for some very challenging questions

HTTP(S) Load balancer

What it is
Load balancer for HTTP(S) traffic, global, external, 80 or 8080 on 443.

What you should know
1- Scope global
2- HTTPS traffic
3- Health checks

Key Points
1- Services that need HTTPS Load balancing

SSL Proxy

What it is
Load balancer for TCP with SSL offload, global, external. (25, 43, 110, 143,195, 443, 465, 587, 700, 993, 995, 1883, and 5222)

What you should know
1- Scope Global
2- Non HTTPS traffic with SSL termination

Key Points
1- SSL termination

TCP Proxy

What it is
Load balancer for TCP without SSL, global, external. (25, 43, 110, 143,195, 443, 465, 587, 700, 993, 995, 1883, and 5222)

What you should know
1- Scope Global
2- TCP/UDP traffic
3- Health checks

Key Points
1- Scope global

Network Load balancer

What it is
Load balancer for TCP/UDP no SSL offload, regional, external. (any port)

What you should know
1- Scope regional
2- TCP/UDP traffic
3- Health checks

Key Points
1- Scope global
2- HTTPS traffic

Internal load balancer

What it is
Load balancer for TCP /UDP regional, Internal traffic (any port)

What you should know
1- Scope Regional
2- Internal TCP/UDP traffic

Key Points
1- Scope global
2- HTTPS traffic

Kubernetes Load balancing

What it is
This allows you balance between you application running in Kubernetes

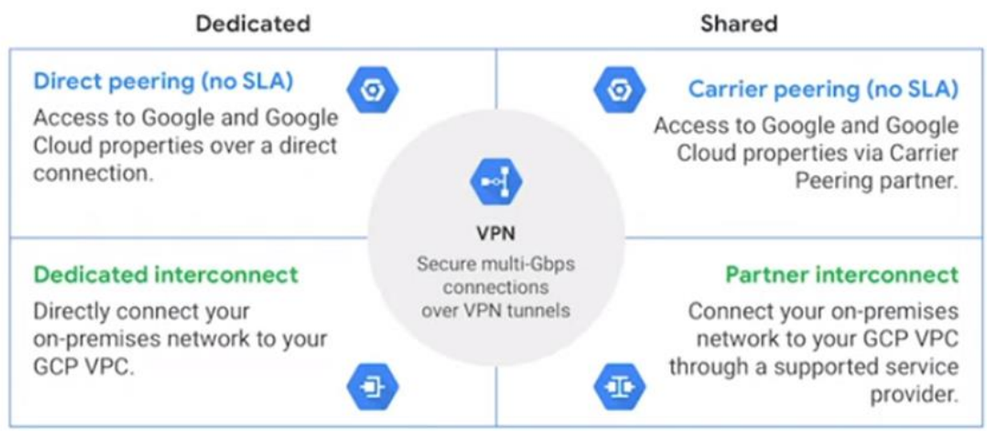
What you should know
1- How it works
2- Connections points
3- Type of LB supported (HTTPS-**Ingress**, Internal, External)

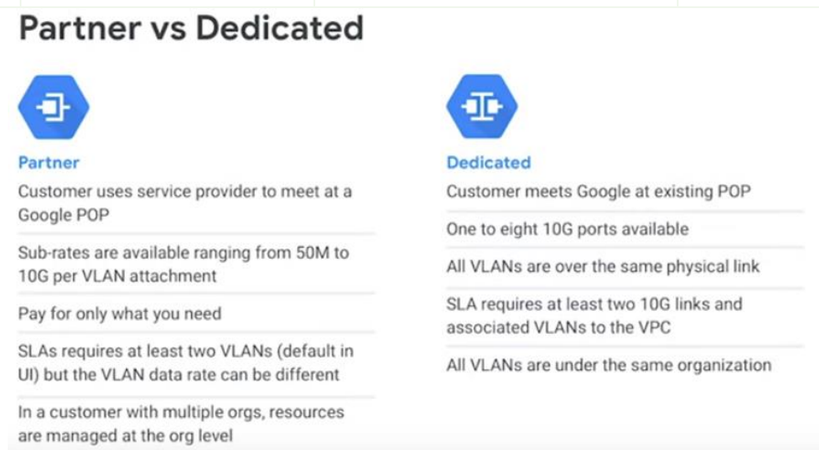
Key Points
1- What IP you connect to
2- HTTPS traffic

Review documents
Choosing a load balanced
Troubleshooting health
HTTPS logging
Kubernetes HTTP(s) LB ingress
Setting up HTTP Ingress LB

Video
Cloud Load balancers

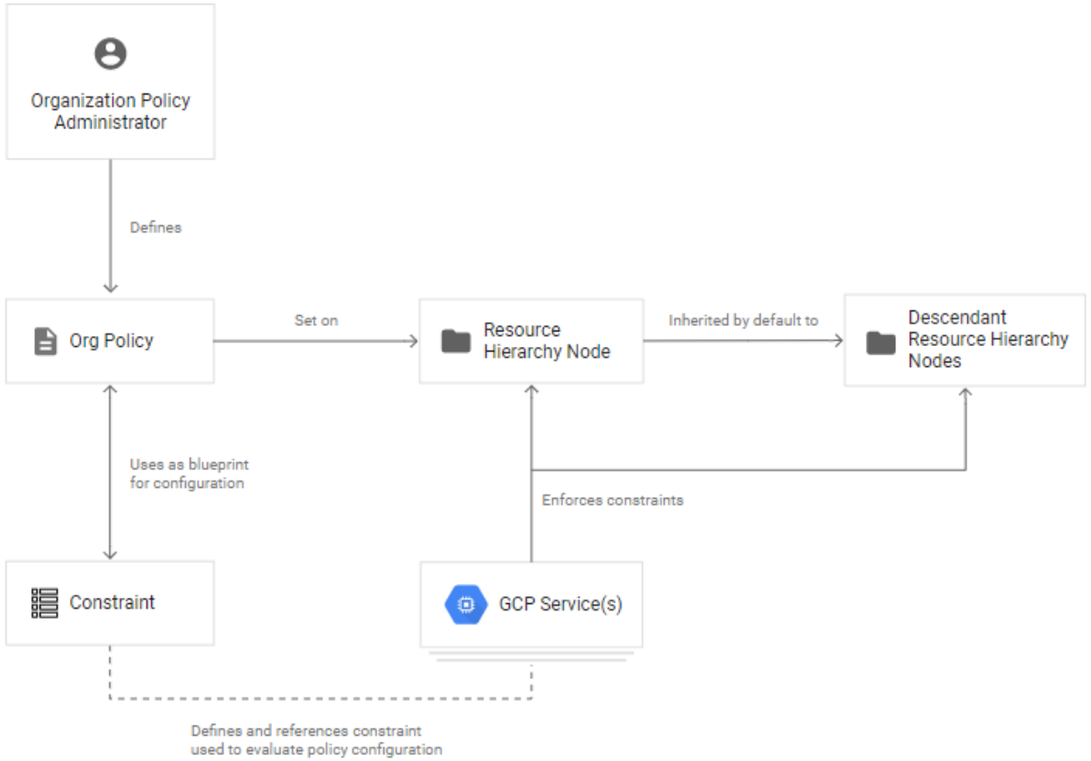
My experience
Loads and loads of variation on this area. (**Global** vs **Regional**, External vs Internal, **Traffic type**, VoIP, TFTP, IP, TCP, UDP). Understand health checks checks. For Kubernetes understand connection points of load balancers.



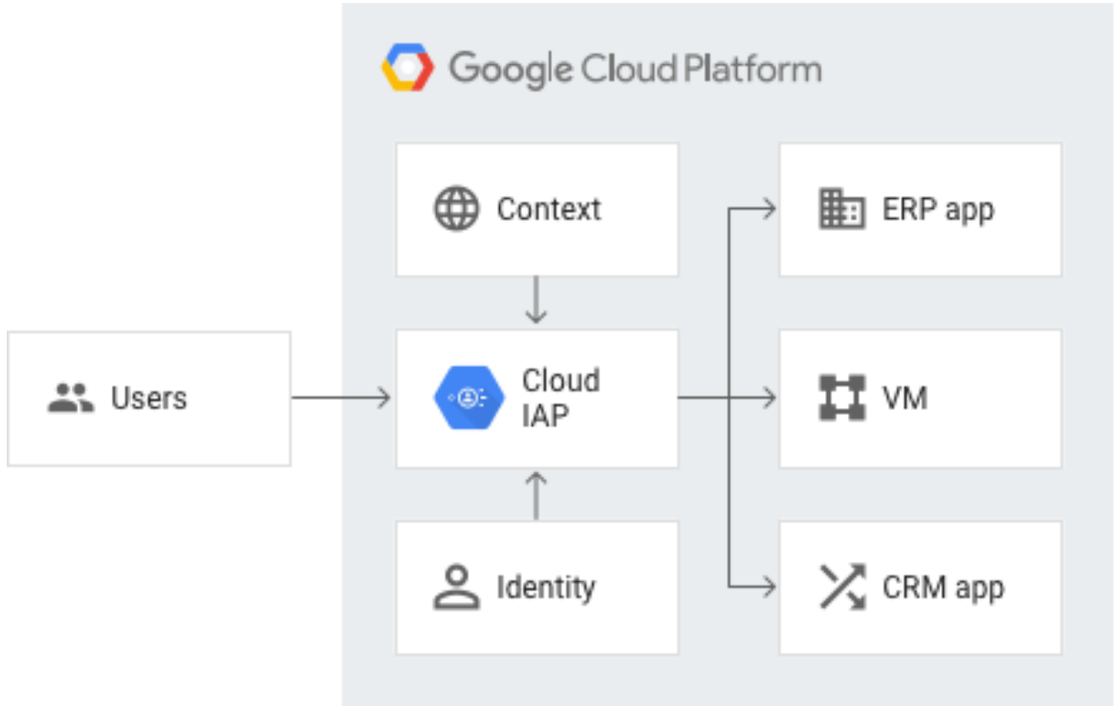


Security						
Recommender 	**What it is** A recommender is a service on Google Cloud that provides usage recommendations for Google Cloud resources	**What you should know** • What it is • gcloud recommender recommendations	**Review documents** gcloud recommender	**Video** Recommender		**My experience** Tricky one indeed.
Firewall 	**What it is** VPC firewall rules let you allow or deny connections to or from your virtual machine (VM) instances based on a configuration that you specify	**What you should know** • How to turn configure • Priority • gcloud compute firewall-rules update	**Review documents** VPC Firewall gcloud compute firewall	**Video** Protect your GCP instances		**My experience** This should be basic knowledge for an architect.
Binary authorization 	**What it is** Deploy only trusted containers on Google Kubernetes Engine.	**What you should know** • What it does • General familiarity with this	**Review documents** Binary authorization	**Video** Binary authorization demo		**My experience** How do you make sure your images are safe and approved?
Identity aware proxy 	**What it is** Cloud Identity-Aware Proxy (Cloud IAP) controls access to your cloud applications and VMs running on (GCP)	**What you should know** • How it works (HTTPS) • JWT (signed headers) • How to configure	**Review documents** Identity-Aware Proxy overview Securing your app with signed headers IAP for on-premises apps	**Video** Identity Aware Proxy Beyond Corp	**Labs** User authentication with Identity-Aware Proxy	**My experience** May pop up
Organization policy constraint	**What it is** The Organization Policy Service gives you centralized and programmatic control over your organization's cloud resources		**Review documents** Organization policy OP constraints			**My experience** Centralized management
CMEK 	**What it is** For greater control you can use customer-managed encryption keys (CMEK). This way you control and manage key encryption keys in Cloud KMS	**What you should know** • What products support this service (BigQuery, Cloud Build, Cloud Dataproc, Cloud Storage, Compute Engine)	**Review documents** Envelope encryption CMEK Cloud KMS	**Video** **KEYS**	**Labs** Encrypt and decrypt data with Cloud KMS Encrypt and decrypt Cloud KMS Asymmetric Sign and verify data with Cloud KMS	**My experience** It's sometimes about choices and who manages what.
Secret manager 	**What it is** Applications often require access to small pieces of sensitive data at build or run time. These pieces of data are often referred to as secrets.		**Review documents** Secret manager			**My experience** How do you make sure your images are safe and approved?

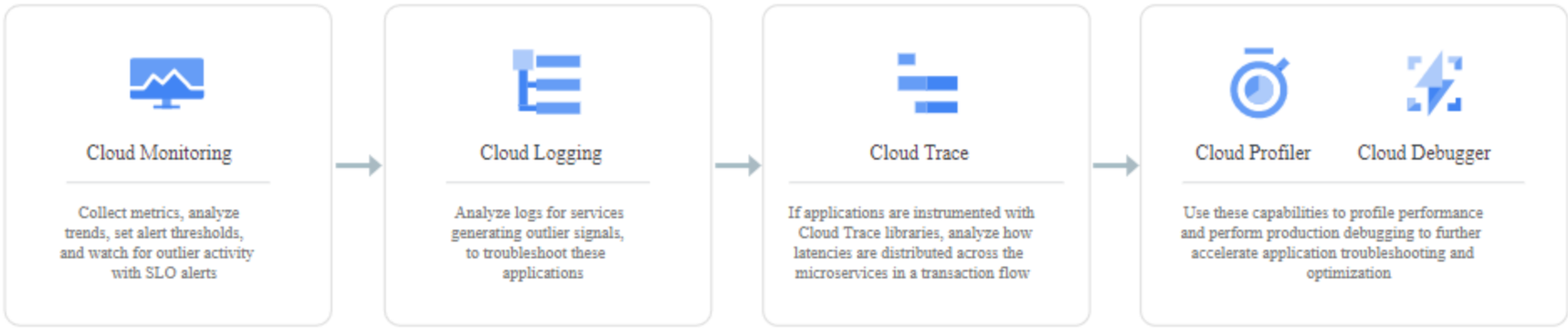
Org policy constraint flow



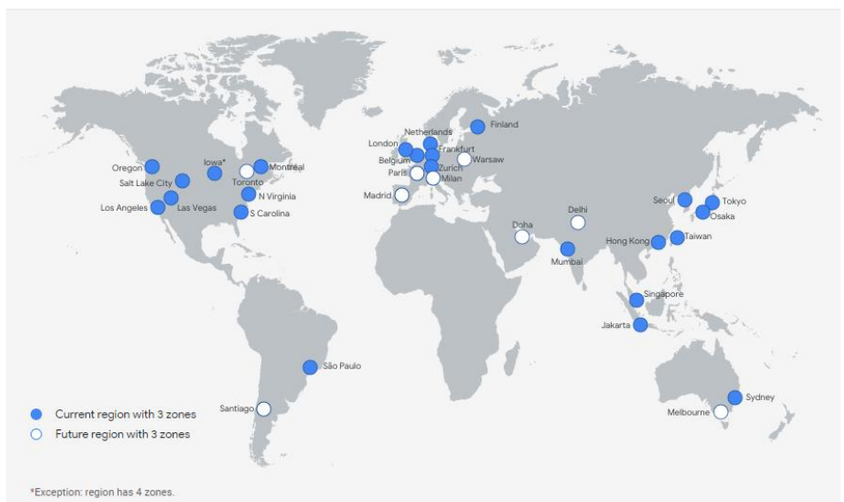
IAP



More stuff						
Cloud Storage 	**What it is** Object storage for companies of all sizes. Store any amount of data. Retrieve it as often as you'd like.	**What you should know** • Lifecycles • CRC checks • Configs • Data retention • Transfer data	**Review documents** Cloud Storage Best practices CRC32C Checks Transfer data	**Video** Google cloud storage		**My experience** This is standard so know the ins and outs of this versatile product staple.
Database migrations 	**What it is** Moving your on prem database setup to the cloud	**What you should know** • Various option to migrate a database with minimal data loss and down time	**Review documents** Database migrations Autoscaling a cluster	**Video** Database migration Tool for migrating your database	**Qwiklabs** Migrating Database	**My experience** Nothing much to say here. Migration would be a common thing as an Architect.
Private access 	**What it is** Allows VM instances with internal (RFC 1918) IP addresses to reach certain APIs and services without internet access.	**What you should know** • How to enable • What it's used for	**Review documents** Private Access		**Qwiklabs** Private access	**My experience** Have an awareness of this.
Price calculator 	**What it is** Check the approximate cost of you cloud services		**Review documents** Price calculator			**My experience** Good tool to know
Memorystore 	**What it is** Reduce latency with scalable, secure, and highly available in-memory service for Redis and Memcached	**What you should know** • How to set up • What it does • When to use it	**Review documents** Memorystore	**Video** Memorystore		**My experience** May pop up, I can't say.
Cloud Operations (logging and monitoring)	**What it is** Stackdriver Logging allows you to store, search, analyze, monitor, and alert on log data and events from Google Cloud Platform and Amazon Web Services (AWS).	**What you should know** • Various tools • Agents • How to troubleshoot logs	**Review documents** Stackdriver	**Video** Spotlight		**My experience** Some tricky combination may pop up & you should look at all the components of this area.



COMING SOON! Google Cloud will continue expanding into the following regions: Doha (Qatar), Toronto (Canada), Melbourne (Australia), Delhi (India), Paris (France), Milan (Italy), Santiago (Chile), and Madrid (Spain).



Thanks for reviewing

Please visit the official certification outline HERE

Sample questions HERE

ps. These are my notes and tips for the new version on this classic exam launch in 2021. Google reserve the right to change the requirements so please always check out the official exam guide. This guy is prefect just before the exam or as a refresher in general. All the topics listed have a possibility of appearing along with other.

This prep sheet is free, it just cost me time and energy to make this as concise as possible. Please feel free to share with people who maybe interest. If it helps you, please give me a shoutout on LinkedIn, it's just a form of feedback and encouragement to continue to develop these.

Get other GCP exam prep sheet HERE

Bonne Journée