

Google Cloud Platform!

A Practical Introduction



THANKS TO ALL OUR SPONSORS!



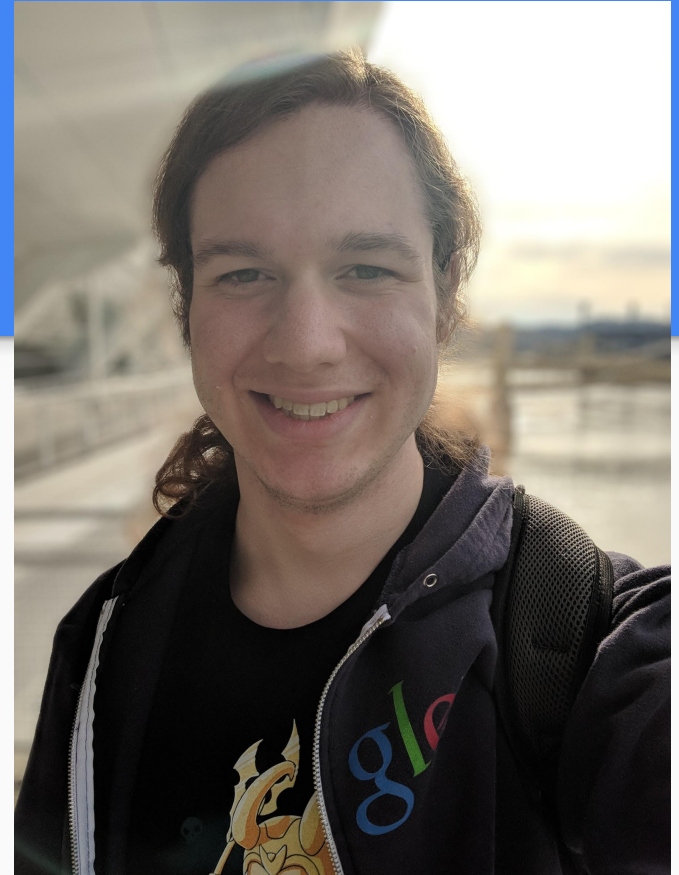
Who am I?

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Outline

Intro

Summary of tech and terms

Example App

Questions

GCP



Compliance



HIPAA



FedRAMP
Moderate
(High in
progress)



GDPR



FIPS
140-2
Validated



PCI DSS

<https://cloud.google.com/security/compliance/>

What is Google Cloud Platform

- Aka “GCP”
- Google’s cloud offering
- Versatile
- Fast
- MANY PRODUCTS



Google Cloud

DEVELOPER'S CHEAT SHEET

v2018.12.19

Created by the Google Developer Relations Team
Maintained at <https://github.com/gregsramblings/google-cloud-4-words>

Feedback? @gregsramblings

COMPUTE PRODUCTS

Compute Engine	Virtual Machines, Disks, Network
App Engine	Managed App Platform
Kubernetes Engine	Managed Kubernetes/Containers
Cloud Functions	Event-driven serverless functions

STORAGE PRODUCTS

Cloud Storage	Object Storage and Serving
Nearline	Archival Occasional Access Storage
Coldline	Archival Rare Access Storage
Persistent Disk	VM-attached Disks
Cloud Filestore	Managed NFS Server

DATABASES PRODUCTS

Cloud Bigtable	Petabyte-scale, low-latency nonrelational
Cloud Datastore	Horizontally Scalable Document DB
Cloud Firestore	Strongly-consistent Serverless Document DB
Cloud Memorystore	Managed Redis
Cloud Spanner	Horizontally Scalable Relational DB
Cloud SQL	Managed MySQL and PostgreSQL

DATA AND ANALYTICS PRODUCTS

Cloud Composer	Managed Workflow Orchestration Service
Cloud Dataflow	Stream/batch data processing
Cloud Datalab	Managed Jupyter Notebook
Cloud Dataprep	Visual data wrangling
Cloud Dataproc	Managed Spark and Hadoop
Cloud Pub/Sub	Global Real-time Messaging
Google BigQuery	Data Warehouse/Analytics
Google Data Studio	Collaborative Data Exploration/Dashboarding
Google Genomics	Managed Genomics Platform

AI AND MACHINE LEARNING PRODUCTS

Cloud AutoML Natural Language	Custom text classification models
Cloud AutoML Translate	Custom domain-specific translation
Cloud AutoML Vision	Custom image classification models
Cloud Job Discovery	Job Search with ML
Cloud Deep Learning VM Image	Preconfigured VMs for deep learning
Cloud Machine Learning Engine	Managed Platform for ML
Cloud Natural Language	Text Parsing and Analysis
Cloud Speech-To-Text	Convert Audio to Text
Cloud Text-To-Speech	Convert Text to Audio

AI AND MACHINE LEARNING PRODUCTS (CONT.)

Cloud TPU	Specialized Hardware for ML
Cloud Translation API	Language Detection and Translation
Cloud Video Intelligence	Scene-level Video Annotation
Cloud Vision API	Image Recognition and Classification
Dialogflow Enterprise Edition	Create Conversational Interfaces

NETWORKING PRODUCTS

Carrier Peering	Peer through a carrier
Direct Peering	Peer with GCP
Dedicated Interconnect	Dedicated private network connection
Partner Interconnect	Connect on-premises network to VPC
Cloud Armor	DDoS Protection and WAF
Cloud CDN	Content Delivery Network
Cloud DNS	Programmable DNS Serving
Cloud Load Balancing	Multi-region Load Distribution
Cloud NAT	Network Address Translation Service
IPsec VPN	Virtual private network connection
Network Service Tiers	Price vs Performance Tiering
Network Telemetry	Network Telemetry Service
Virtual Private Cloud	Software Defined Networking

INTERNET OF THINGS PRODUCTS

Cloud IoT Core	Device Management and ingest data
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IDENTITY AND SECURITY PRODUCTS

Access Transparency	Audit Cloud Provider Access
Binary Authorization	Kubernetes Deploy-time Security
Cloud Data Loss Prevention API	Classify, Redact Sensitive Data
Cloud HSM	Hardware Security Module Service
Cloud IAM	Resource Access Control
Cloud Identity	Manage Users, Devices & Apps
Cloud Identity-Aware Proxy	Identity-based App Signin
Cloud Key Management Service	Hosted Key Management Service
Cloud Resource Manager	Cloud Project Metadata Management
Cloud Security Command Center	Asset inventory, discovery, search, management
Cloud Security Scanner	App Engine Security Scanner
Security Key Enforcement	Two-step Key Verification
Shielded VMs	Hardened VMs
Titan Security Key	Two-factor Authentication (2FA) Device

MANAGEMENT TOOLS PRODUCTS

Cloud APIs	APIs for Cloud Services
Cloud Billing	Billing and Cost Management Tools
Cloud Billing API	Programmatically Manage GCP Billing
Cloud Console	Web-based Management Console
Cloud Deployment Manager	Templated Infrastructure Deployment
Cloud Mobile App	iOS/Android GCP Manager App
Cloud Shell	Browser-based Terminal/CLI
Stackdriver Debugger	Live Production Debugging
Stackdriver Error Reporting	App Error Reporting
Stackdriver Logging	Centralized Logging
Stackdriver Monitoring	Infrastructure and Application Monitoring
Stackdriver Profiler	CPU and heap profiling
Stackdriver Transparent SLIs	Monitor GCP Services
Stackdriver Trace	App Performance Insights

DEVELOPER TOOLS

Cloud SDK	CLI for GCP
Cloud Build	Continuous integration/delivery platform
Cloud Source Repositories	Hosted Private Git Repos

DEVELOPER TOOLS (CONT.)

Cloud Scheduler	Managed cron job service
Cloud Tools for IntelliJ	IntelliJ GCP Tools
Cloud Tools for PowerShell	PowerShell GCP Tools
Cloud Tools for Visual Studio	Visual Studio GCP Tools
Cloud Tools for Eclipse	Eclipse GCP Tools
Container Registry	Private Container Registry/Storage
Gradle App Engine Plugin	Gradle App Engine Plugin
Maven App Engine Plugin	Maven App Engine Plugin

MIGRATION (TO GCP)

Google Transfer Appliance	Rentable Data Transport Box
Cloud Storage Transfer Service	Cloud to Cloud Transfers
BigQuery Data Transfer Service	Bulk Import Analytics Data
Velostara	Lift-and-shift VM Migration

API PLATFORM AND ECOSYSTEMS

API Analytics	API Metrics
API Monetization	Monetize APIs
Apigee API Platform	Develop, secure, monitor APIs
Apigee Sense	API protection from attacks
Cloud Endpoints	Cloud API Gateway
Cloud Healthcare API	Healthcare System GCP Interoperability
Developer Portal	API Management Portal
GCP Marketplace	Partner & Open Source Marketplace

GOOGLE MAPS PLATFORM

Directions API	Get Directions Between Locations
Distance Matrix API	Calculate Travel Times
Geocoding API	Convert Address to/from Coordinates
Geolocation API	Derive Location Without GPS
Maps Embed API	Web Embedded Maps
Maps JavaScript API	Dynamic Web Maps
Maps SDK for Android	Maps SDK for Android
Maps SDK for iOS	Maps SDK for iOS
Maps Static API	Web Static Maps
Maps Unity SDK	Unity SDK for Games
Maps URLs	URL Scheme for Maps
Places Library, Maps JS API	Metadata About Places (REST)
Places SDK for Android	Metadata About Places (JavaScript)
Places SDK for iOS	Places SDK for Android
Roads API	Places SDK for iOS
Street View API	Metadata About Roads
Time Zone API	Street View API
	Convert Coordinates to Timezone

G SUITE PLATFORM

App Maker	Assistive App Building
Apps Script	Extend and Automate Everything
Editor Add-ons	Extend Docs, Sheets, Slides
Gmail Add-ons	Contextual Apps in Gmail
Hangouts Chat Bots	Conversational Bots in Chat
Calendar API	Create and Manage Calendars
Classroom API	Provision and Manage Classrooms
Drive API	Read and Write Files
Gmail API	Enhance Gmail and Inbox
Sheets API	Read and Write Spreadsheets
Slides API	Create and Edit Presentations
Drive Picker	Drive File Selection Widget
Admin SDK	Managed G Suite Resources
Email Markup	Interactive Email using Schema.org
G Suite Marketplace	Storefront for Integrated Applications
Other G Suite APIs/SDKs	Contacts, Google+, Tasks, Vault.

MOBILE PRODUCTS (FIREBASE)

Cloud Firestore	Document Store and Sync
Cloud Functions for Firebase	Event-driven Serverless Applications
Cloud Storage for Firebase	Object Storage and Serving
Crashlytics	Crash Reporting and Analytics
Firebase A/B Testing	Create A/B Test Experiments
Firebase App Indexing	App / Google Search Integration
Firebase Authentication	Drop-in Authentication
Firebase Cloud Messaging	Send Device Notifications
Firebase Dynamic Links	Link to App Content
Firebase Hosting	Web Hosting with CDN/SSL
Firebase In-App Messaging	Send Contextual Messages in-App
Firebase Performance Monitoring	App Performance Monitoring
Firebase Predictions	Predict User Targeting
Firebase Realtime Database	Real-time Data Synchronization
Firebase Remote Config	Remotely Configure Installed Apps
Firebase Test Lab	Mobile testing device farm
Google Analytics for Firebase	Mobile App Analytics
ML Kit for Firebase	ML APIs for Mobile

GCP FOUNDATIONAL OPEN SOURCE PROJECTS

Apache Beam	Batch/Streaming Data Processing
gRPC	RPC Framework
gVisor	Secure Container Runtime
Istio	Connect and Secure Kubernetes
Knative	Serverless framework for Kubernetes
Kubeflow	ML Toolkit for Kubernetes
Kubernetes	Management of containerized applications
OpenCensus	Cloud Native Observability Framework
TensorFlow	ML Framework

ADDITIONAL RESOURCES

Google Cloud Home Page	https://cloud.google.com
Google Cloud Blog	https://cloud.google.com/blog
GCP Medium Publication	https://medium.com/google-cloud
Apigee Blog	https://apigee.com/about/blog
Firebase Blog	https://firebase.googleblog.com
G Suite Developers Blog	https://gsuite-developers.googleblog.com
Google Cloud Certifications	https://cloud.google.com/certification
Google Cloud System Status	https://status.cloud.google.com
Google Cloud Training	https://cloud.google.com/training
Google Developers Blog	https://developers.googleblog.com
Google Maps Platform Blog	https://mapsplatform.googleblog.com
Google Open Source Blog	https://opensource.googleblog.com
Google Security Blog	https://security.googleblog.com
Kaggle Home Page	https://www.kaggle.com
Kubernetes Blog	https://kubernetes.io/blog
Regions and Network Map	https://cloud.google.com/about/locations



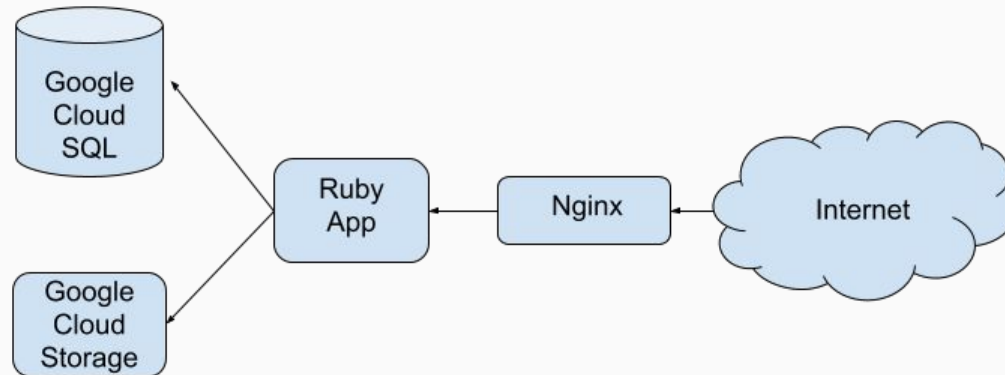
GCP's products

<https://console.cloud.google.com>

Example App

Demos

TestTube - a small video platform that users can use to share their videos



Questions?

Thank you!

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