Gcloud

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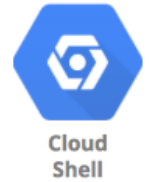
- **Command line interface** to interact with Google Cloud Resources
- Most GCP services can be managed from CLI using Gcloud:
  - Compute Engine Virtual Machines
  - Managed Instance Groups
  - Databases
  - and ... many more
- You can create/delete/update/read existing resources and perform actions like deployments as well!
- (REMEMBER) SOME GCP services have specific CLI tools:
  - Cloud Storage - gsutil
  - Cloud BigQuery - bq
  - Cloud Bigtable - cbt
  - Kubernetes - kubectl (in addition to Gcloud which is used to manage clusters)



Gcloud - Getting Started

In28 Minutes

Installation

- Gcloud is part of Google Cloud SDK
  - Cloud SDK requires Python
  - Instructions to install Cloud SDK (and Gcloud) => ***https://cloud.google.com/sdk/docs/install***
- You can also use Gcloud on Cloud Shell

Connecting to GCP

- **`gcloud init`** - initialize or reinitialize gcloud
  - Authorize gcloud to use your user account credentials
  - Setup configuration
    - Includes current project, default zone etc
- **`gcloud config list`** - lists all properties of the active configuration

gcloud command structure - Playing with Services

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- **`gcloud GROUP SUBGROUP ACTION ...`**
  - GROUP - config or compute or container or dataflow or functions or iam or ..
    - Which service group are you playing with?
  - SUBGROUP - instances or images or instance-templates or machine-types or regions or zones
    - Which sub group of the service do you want to play with?
  - ACTION - create or list or start or stop or describe or ...
    - What do you want to do?
- **Examples**:
  - gcloud compute instances list
  - gcloud compute zones list
  - gcloud compute regions list
  - gcloud compute machine-types list
  - gcloud compute machine-types list --filter="zone:us-central1-b"
  - gcloud compute machine-types list --filter="zone:(us-central1-b europe-west1-d)"

Cloud Shell

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- **Important things** you need to know about Cloud Shell:
  - Cloud Shell is **backed by a VM instance** (automatically provisioned by Google Cloud when you launch Cloud Shell)
    - **5 GB** of free persistent disk storage is provided as your $HOME directory
    - Prepackaged with **latest version** of Cloud SDK, Docker etc
    - (Remember) Files in your **home directory persist between sessions** (scripts, user configuration files like .bashrc and .vimrc etc)
    - Instance is terminated if you are inactive for more than 20 minutes
      - Any modifications that you made to it outside your $HOME will be lost
    - (Remember) After 120 days of inactivity, even your $HOME directory is deleted
  - Cloud Shell can be used to **SSH into virtual machines using their private IP addresses**