

GAE - Python

- <https://cloud.google.com/appengine/docs/python/how-to>
- <https://cloud.google.com/sdk/docs/>
- <https://cloud.google.com/appengine/docs/python/issue-requests>
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Create project

- console.cloud.google.com
- My Project → Criar Projecto
 - Name project
 - Define location (EU, US)
- Wait :)
- End of page
 - Project ID
 - Project Number

Download SDK

- Select programming language
- <https://cloud.google.com/sdk/docs/>
- Or install package
 - `sudo zypper install google-cloud-sdk`
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- Create project directory
- Implement project
- Test locally
- Deploy on the cloud

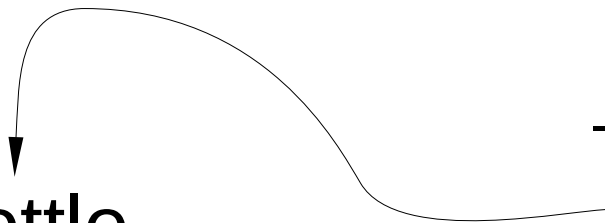
Client libraries

- One client Library for each language
 - <https://developers.google.com/api-client-library/>
 - Python
 - <https://developers.google.com/api-client-library/python/start/installation>
 - `pip install --upgrade google-api-python-client`
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Start a project

- Fetch a skeleton
 - <https://github.com/GoogleCloudPlatform/appengine-bottle-skeleton>
- app.yaml
 - Configuration files
 - Static files
 - Libraries
- Directory structure
 - Code
 - Static files

App.yaml

- Name of application
 - application: projecto-aula
 - main.bottle
 - main – name of the main file (can be different)
 - botle name of the Bottle object created in the
 - Main.py
 - debug(True)
 - bottle = Bottle()
 - Handlers Example:
 - url: /
static_files: www/index.html
upload: www/index.html
 - url: .* # directs other routes to bottle
 - script: main.bottle
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Run locally

- `~/bin/google_appengine/dev_appserver.py .`
- Run locally a version of the application
 - `http://localhost:8080`
- Allows management of the application
 - `http://localhost:8000`
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Data storage

- Global variables not allowed
- Use data store
 - <https://cloud.google.com/appengine/docs/python/storage>
- <https://cloud.google.com/appengine/docs/python/ndb/>

Google data Storage

Concept	Cloud Datastore	Relational database
Category of object	Kind	Table
One object	Entity	Row
Individual data for an object	Property	Field
Unique ID for an object	Key	Primary key

- `from google.appengine.ext import ndb`
 - `class Account(ndb.Model):`
 - `username = ndb.StringProperty()`
 - `userid = ndb.IntegerProperty()`
 - `email = ndb.StringProperty()`

Insertion of Entities

- Creation of object
- `m = Account(`
 Username = "jjjj", userid= 12, email=" j@j.pt ")
- `Key = m.put()`

Queries

- Clase includes the method `query ()`
- `Qry = Account.query()`
 - Return all entities of that kind
- `Qry` can be iterated
- `Qry.fetch()` allows further refinement

- <https://cloud.google.com/appengine/docs/python/ndb/queries>
- <https://cloud.google.com/appengine/docs/python/ndb/queryclass>

Deployment

- Upload code/data
 - `~/bin/google_appengine/appcfg.py update . -A projecto-aula`
- Manage application
 - <https://console.cloud.google.com/appengine?src=ac>
 - <https://console.cloud.google.com/datastore>
- Use application
 - <https://projecto-aula.appspot.com>