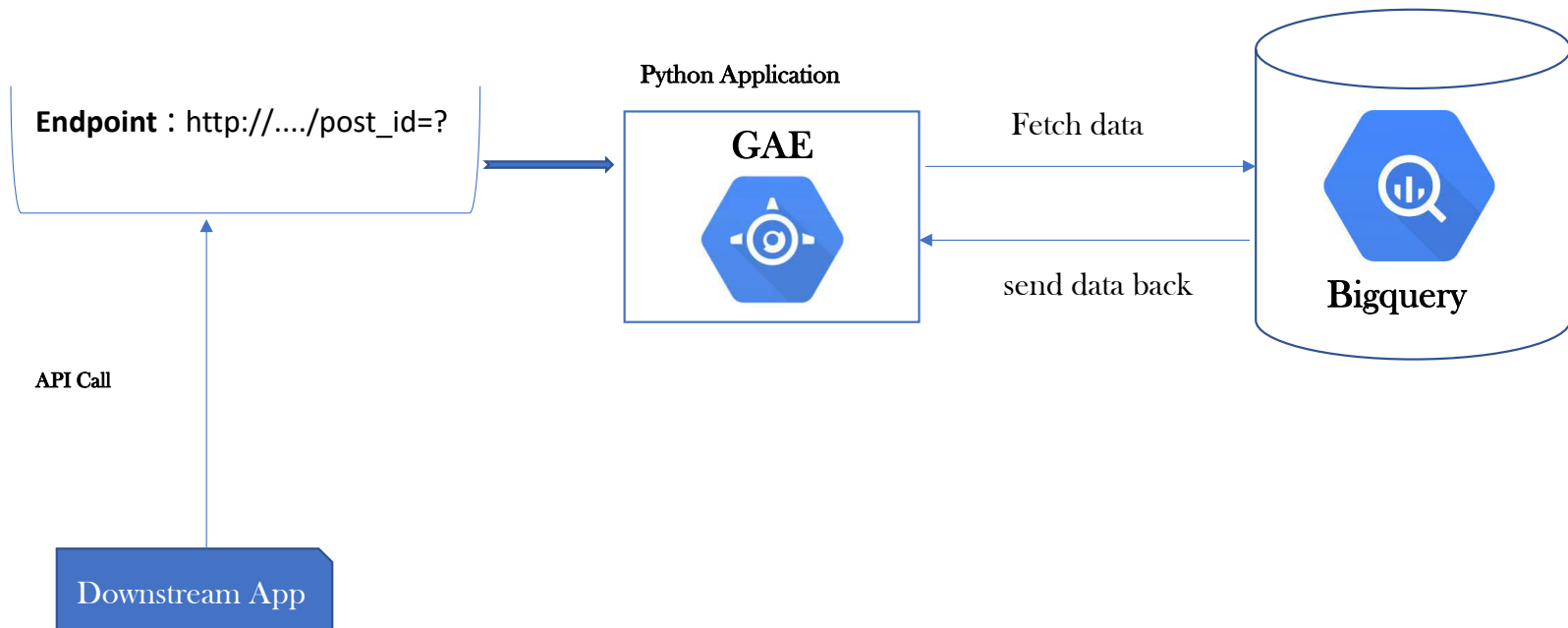# Google App Engine

- ➢ Compute Serverless Option in GCP

- ➢ Only Pay for infrastructure and usage time

- ➢ Supported runtimes : **Python,Java,Go,PHP & NodeJs**

- ➢ No maintenance overhead :
  - ➢ Provisioning
  - ➢ Scaling
  - ➢ Logging
  - ➢ Monitoring & diagnostics
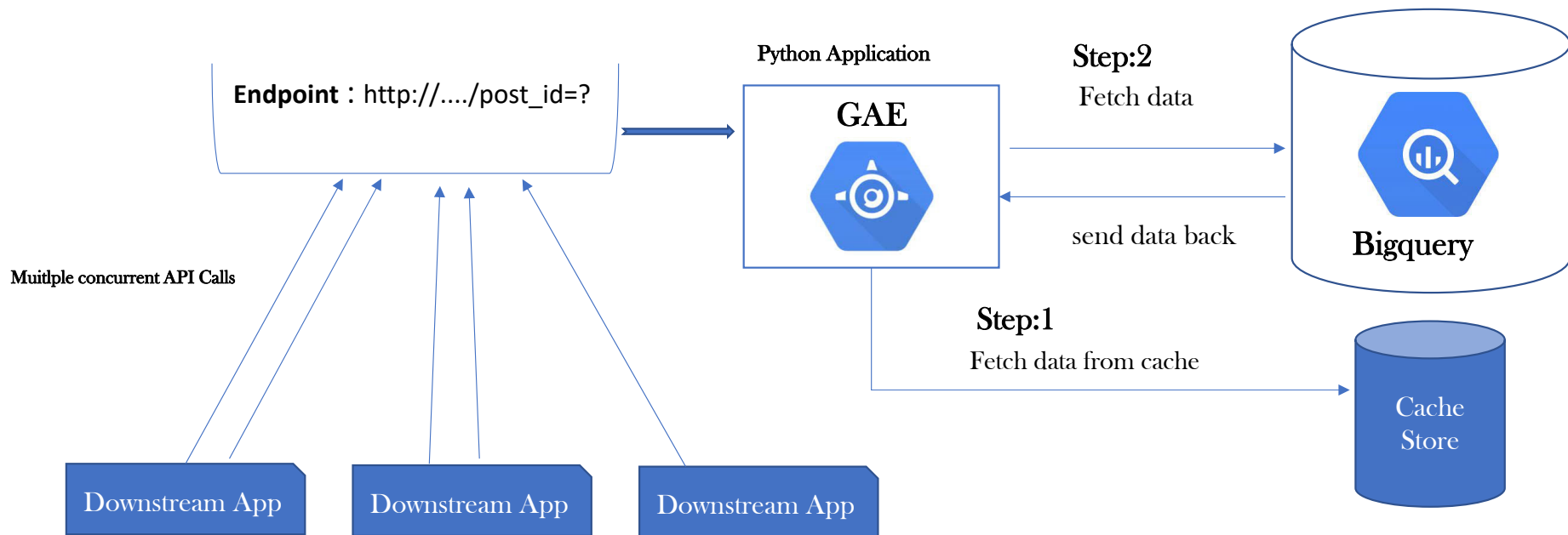 - ➢ Load balacing / Traffic splitting

Google App Engine - Caching

Endpoint : http://..../post_id=?

Python Application

GAE

Fetch data

send data back

Bigquery

API Call

Downstream App

Google App Engine - Caching

Endpoint：http://..../post_id=?

Python Application

GAE

Step:2
Fetch data

Bigquery

send data back

Muitlple concurrent API Calls

Step:1
Fetch data from cache

Cache Store

Downstream App

Downstream App

Downstream App

Google App Engine - Caching

- ➢ **Caching** – Is a mechanism to store a subset of data for faster data retrievals
- ➢ Few popular databases/datastores for caching :
    - ➢ Redis
    - ➢ Memcached
    - ➢ Ignite
- ➢ **Memcache** – In-memory caching mechanism for scalable applications on cloud
    - ➢ Distributed
    - ➢ Stores data "key-value" pair
- ➢ **Use cases** :
    - ➢ Speed up database operations
    - ➢ Avoid unnecessary querying from the data-warehouse (database)
    - ➢ In-frequently changing data which yields the same response over long periods of time
- ➢ Two types of memcache storage :
    - ➢ **Shared Cache** - Best effort basis , free of cost , no performance guarantee
    - ➢ **Dedicated Cache** – Charges per GB/Hour ($0.06)
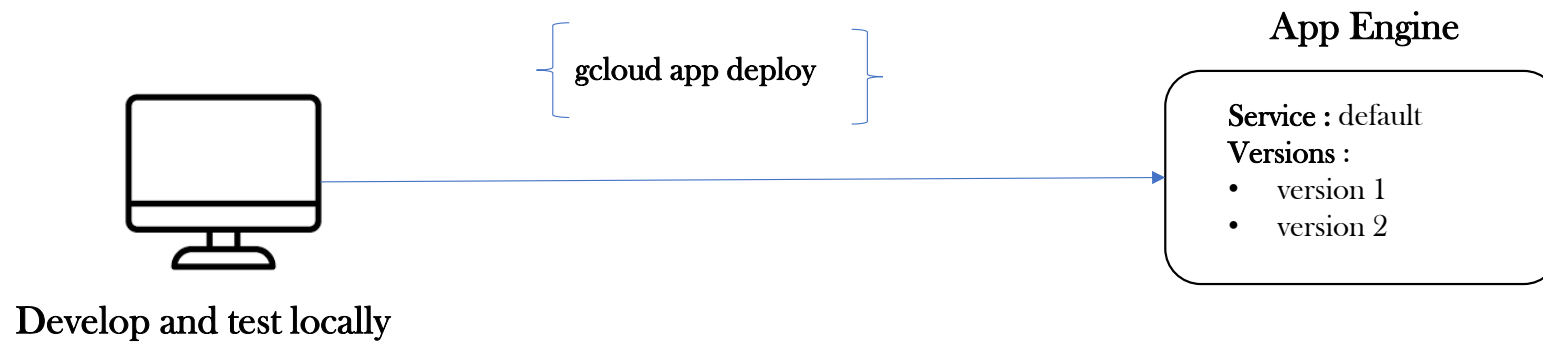
Google App Engine

STANDARD

- Pre-configured Runtime versions
- Secure , Sandboxed & easy to deploy
- Supports specific versions of :
  - Python
  - Java
  - PHP
  - Node
  - Ruby
  - GO

FLEXIBLE

- Overcomes the runtime limitations of Standard Env
- Flexibility to customize the runtime versions
- Custom Docker Image
- Supports :
  - Python
  - Java
  - PHP
  - Node
  - Ruby
  - GO
  - .NET

Google App Engine

gcloud app deploy

App Engine

Service : default
Versions :
- version 1
- version 2

Develop and test locally

App Engine

gcloud app deploy

Service : default
Versions :
- version 1
- version 2

Service : another-service
Versions :
- version 1
- version 2

Develop and test locally