API Management

- API Management Overview
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API Management Overview

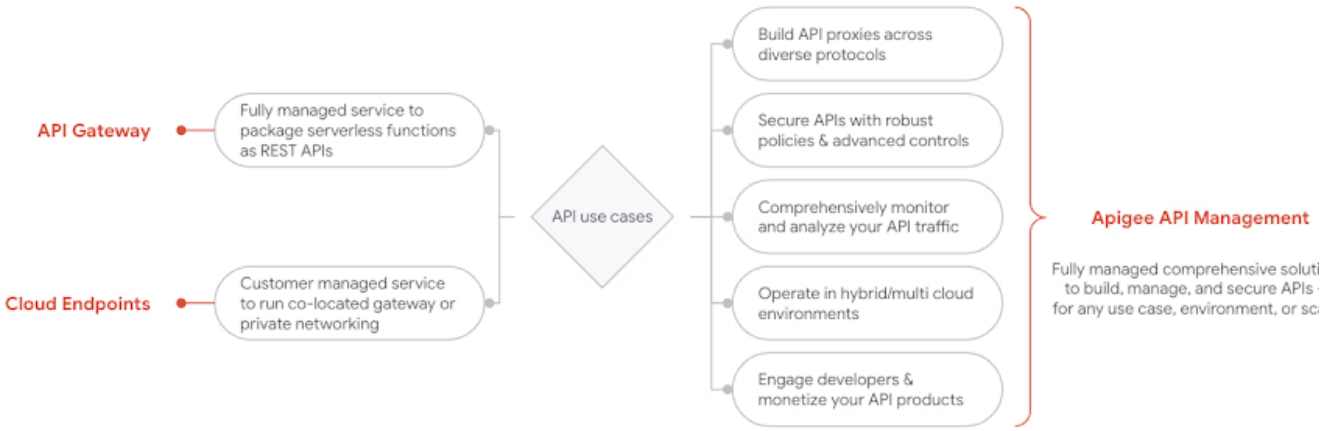
API Management - the art of funnelling traffic from an API client through to the background service and taking care of things like authentication, rate-limiting, logging, auditing etc.

There are lots of solutions out there - both FOSS and commercial.

Google Solutions

Google have three solutions that they discuss on their cloud platform docs site (mirror):

- ApiGee - looks like the super expensive enterprisey option not really an option for new products
- API Gateway - seems to just provide a gateway that allows the internet to
- Cloud Gateway - seems to be a really customisable/complex version of API Gateway



Seems like API Gateway might be useful if you are running cloud functions. Apigee is SOO SOO expensive - it starts at $700/month.

FOSS Solutions

Started exploring from this list (mirror) :

- Looked at API Umbrella - it seems like they haven't; made any releases since 2019 and I'm not sure how maintained it is so staying away for now.
- Started playing with Kong Gateway - it is lightweight, stores data in Postgres and looks easy to use with docker-compose.

Kong Gateway

Kong Gateway is an open core project that offers many of the traditional API Management features.

Minimal Docker Compose for Kong

```
version: "3.0"

services:

  kong:
    env_file: .env
    image: kong/kong-gateway:3.0.1.0
    environment:
      - KONG_DATABASE=postgres
      - KONG_PG_HOST=db
      - KONG_PG_DATABASE=kong
      - KONG_PG_USER=postgres
      - KONG_PG_PASSWORD=${POSTGRES_PASSWORD}
      - KONG_ADMIN_LISTEN=0.0.0.0:8001
      - KONG_ADMIN_GUI_URL=http://localhost:8002
    ports:
      - 8000:8000
      - 8443:8443
      - 8001:8001
      - 8444:8444
      - 8002:8002
      - 8445:8445
      - 8003:8003
      - 8004:8004

  db:
    env_file: .env
    image: postgres
    restart: always
    volumes:
```

```
      - ./postgres:/var/lib/postgresql/data
    ports:
      - 5432:5432


  adminer:
    env_file: .env
    image: adminer
    restart: always
    ports:
      - 8080:8080
```

And accompanying `.env` file:

```
POSTGRES_PASSWORD=example
KONG_PASSWORD="supersecret123"
```

Docker Compose Installation

The official documentation for the project provides a walkthrough for docker installation here

Seed the Database

`docker-compose run kong kong migrations bootstrap`

Starting Kong

`docker-compose up -d kong`

Kong Config and Environment Variables

Kong normally reads a config file called `kong.conf` - an overview of valid configuration settings/directives can be found here

The docker image can read these variables from the environment. Simply copy the name of the thing, uppercase it and prefix with `KONG_` e.g. `prefix` becomes `KONG_PREFIX`.