Api gateway or No Api Gateway

Asked 8 years, 11 months ago Modified 2 years, 3 months ago

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I am developing an application based on the `microservice architecture`. Here, each `service` is an independently deployable `play-scala application` exposing `rest apis`. I want to implement an `Api gateway` on top of these services for mapping incoming requests.I am following the architecture discussed here: Building Microservices.

There are very few projects with substantial maturity that are based on the microservice architecture. One of them is Reactive Microservices. But this project is not using the `api gateway pattern` and seems to be following the Anti Pattern There is an issue opened for this project regarding the missing Api Gateway here. The contributors here claim that they did not follow the `api gateway pattern` because it has the risk of `single-point of failure`.

This varying opinion is very confusing to me. So, I am looking for the suggestions on whether I should be using Api Gateway or not. **What is the right practice here?**

microservices

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edited Jan 20, 2020 at 6:34

Rafael Beckel

2,474 ● 5 ● 28 ● 38

asked Dec 23, 2015 at 19:09

oblivion

6,528 ● 3 ● 39 ● 56

1 Hi @oblivion, could you please share the approach you took? – Saad Malik Oct 26, 2016 at 2:22

2 Answers

Sorted by: Highest score (default)

15

The API gateway doesn't introduce a single point of failure any more than a load balancer does. Any serious API gateway should be able to run in high availability mode removing the single point of failure.

The API gateway encourages good documentation & planning within teams. Some API gateways allow you to import Swagger Specifications https://swagger.io/ in order to create the API.

Some gateways allow you to create virtual endpoints to mock responses of an upstream target. That way, if your service is not available quite yet, you can still code to it, and switch to the targets when ready.

API gateways should be able to round robin load balance your upstream targets, negating the necessity for adding a dedicated load balancer. You can also configure your

gateway to periodically hit a healthcheck endpoint, and automatically remove targets from LB if service is not available.

Gateways will handle auth for you. Whether that be via JWT, Oauth, Simple, Open etc. Your developers can concentrate on building their microservices. Your microservices can be micro. The gateway would sit at the edge of the infrastructure, and handle security for you.

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answered Sep 30, 2017 at 11:56

Gravy

12.4k ● 26 ● 128 ● 194

1 If API gateway handles auth, does it mean, that services behind might be totally open? – srnjak Apr 1, 2019 at 21:08

2 The gateway is there to protect your internal network and should be trusted. It is a reverse proxy. So depending on your use case, you could leave open, or use mutual TLS, or jwt or inject an auth header or whitelist the gateway IP, or deploy as a service mesh. Take a look at tyk.io for a solid api gateway and management platform. – Gravy Apr 2, 2019 at 5:15

What about this use case. Service inside provides data about entities. API gateway filters out only entities for which user has authorization to see. Is that legit? Here is not that much about technical security, but more about content. – srnjak Apr 2, 2019 at 9:40

Take a look at OAuth & OIDC. A gateway could validate access token via introspection endpoint and determine which resources may be accessed - but AuthN/Z is beyond the scope of this S/O question. – Gravy Apr 2, 2019 at 13:32

@Gravy but what happen if the API gateway itself goes out of service? doesn't that make the API gateway as a single point of failure because the whole system depends on it? – Aleson Sep 15, 2022 at 3:14

2

In 2022, microservices have become a common choice, and open source microservice API gateways and cloud-native API gateways have become the choices of most engineers. Authentication and observability have become the basic features of API gateways. You can refer to the documentation of Apache APISIX

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answered Sep 15, 2022 at 0:40

Ming Wen

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