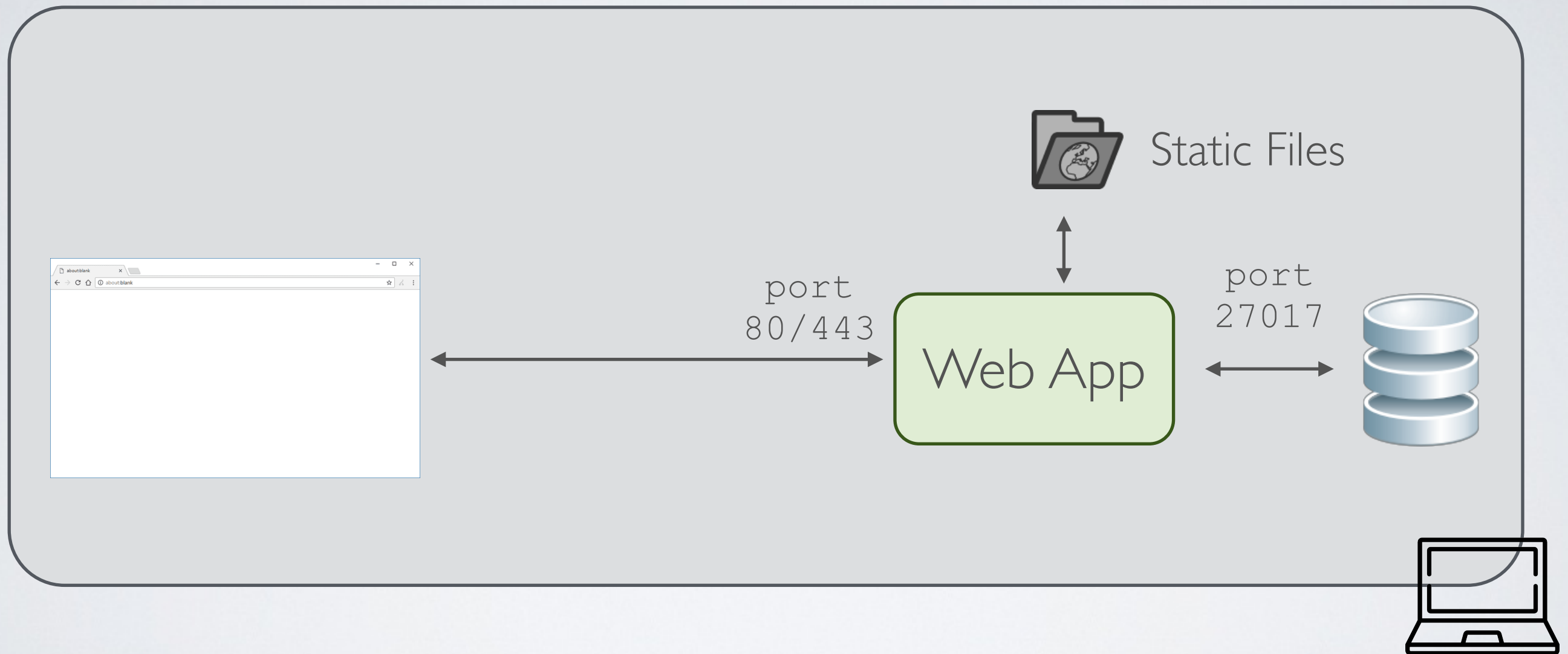


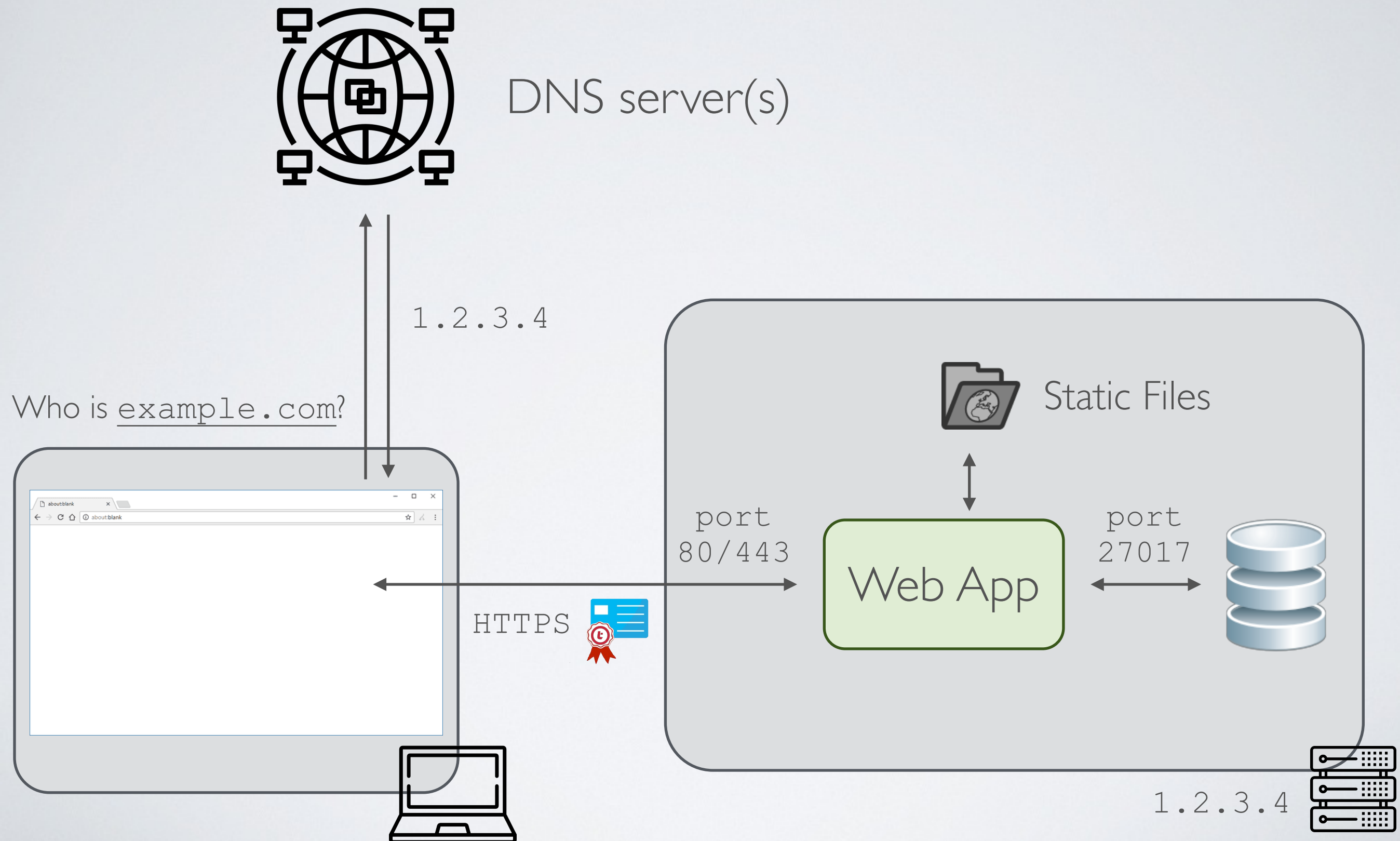
Deploying Web Applications

Thierry Sans

Current situation (running on our laptop)



What we want to achieve



What you need

Web Host	A server to host your website
Domain Name	A url for your website
Valid Certificate	A signed certificate for HTTPS

Web Hosting

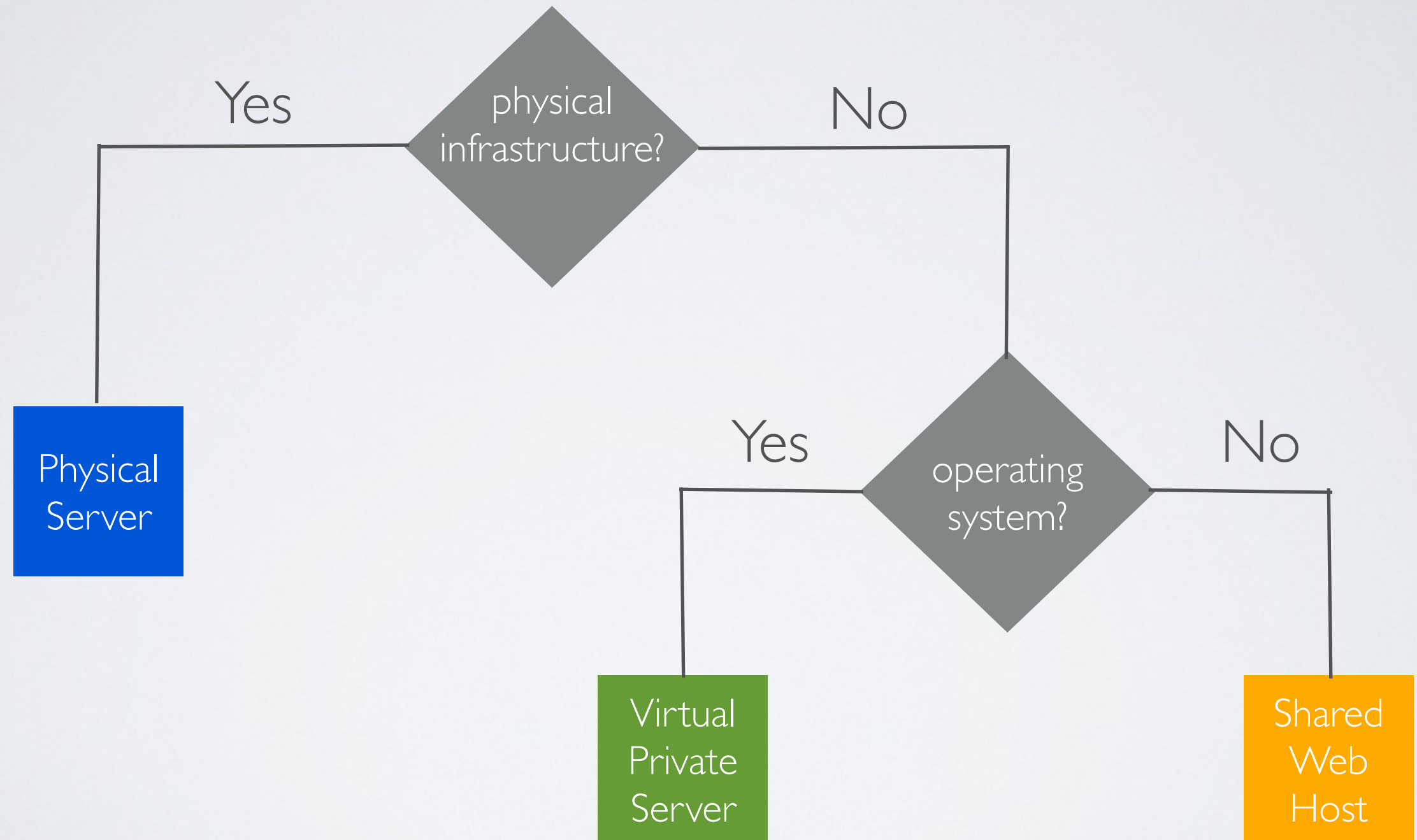
Development Server vs Production Server

- ➔ Most web frameworks provide a development server
- Not all are production ready and might not scale with multiple requests (multi-threading)

Web Hosting

Processing Power	How much CPU and RAM do you need?
Storage	How much space do you need?
Bandwidth	How much traffic do you expect?
Money	How much do you want to spend daily?

Do you want/need to manage ...



Choosing a hosting solution

Depends on

Specific needs	Specific applications that your web applications uses
Security	What you are comfortable to administer

Dedicated Physical Server

✓ Total Control

- Maintenance of the physical infrastructure
- Administration of the operating system
- Flexibility

Virtual Private Server (VPS)

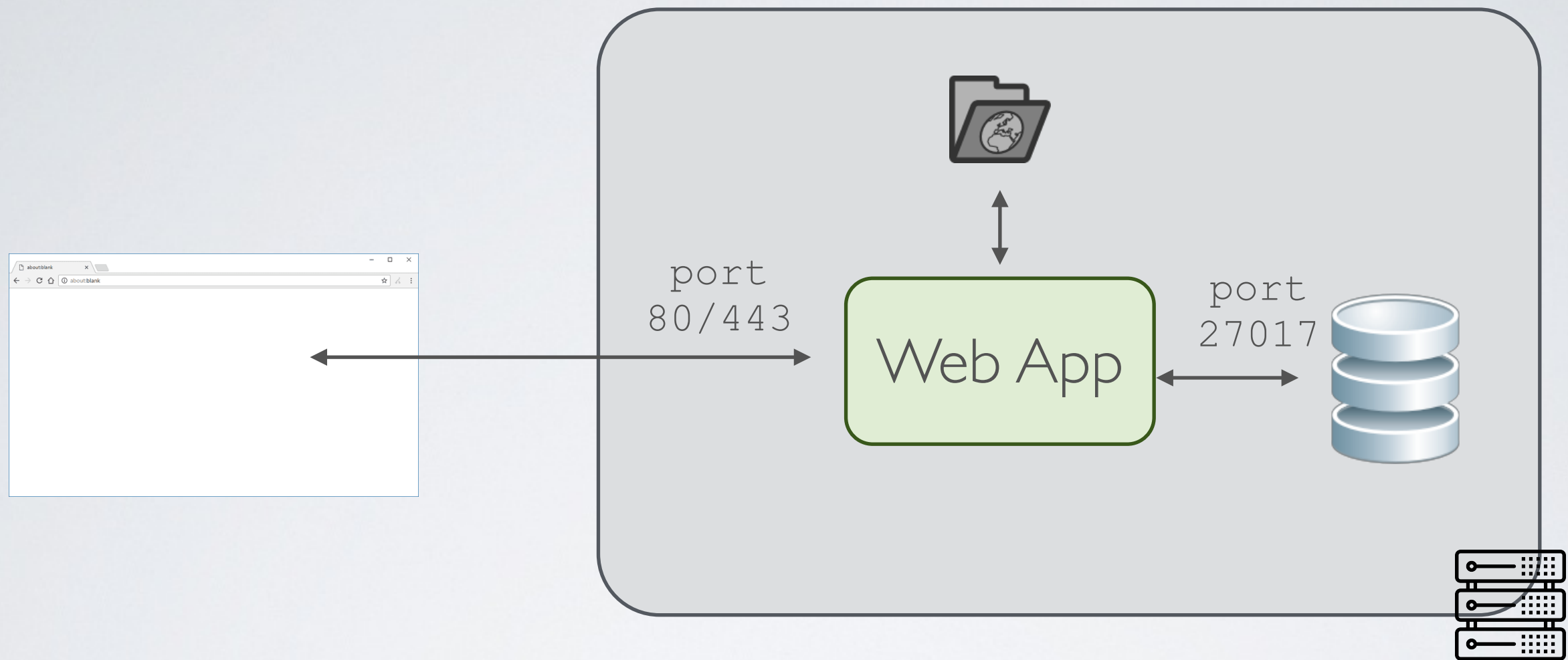
- Administration of the operating system
- ✓ No maintenance of the physical infrastructure
- ✓ Flexibility (pay for what you need)

Shared Web Host

- ✓ No administration of the operating system
- Cost
- Not adequate for specific needs

Deploying on physical
or virtual server

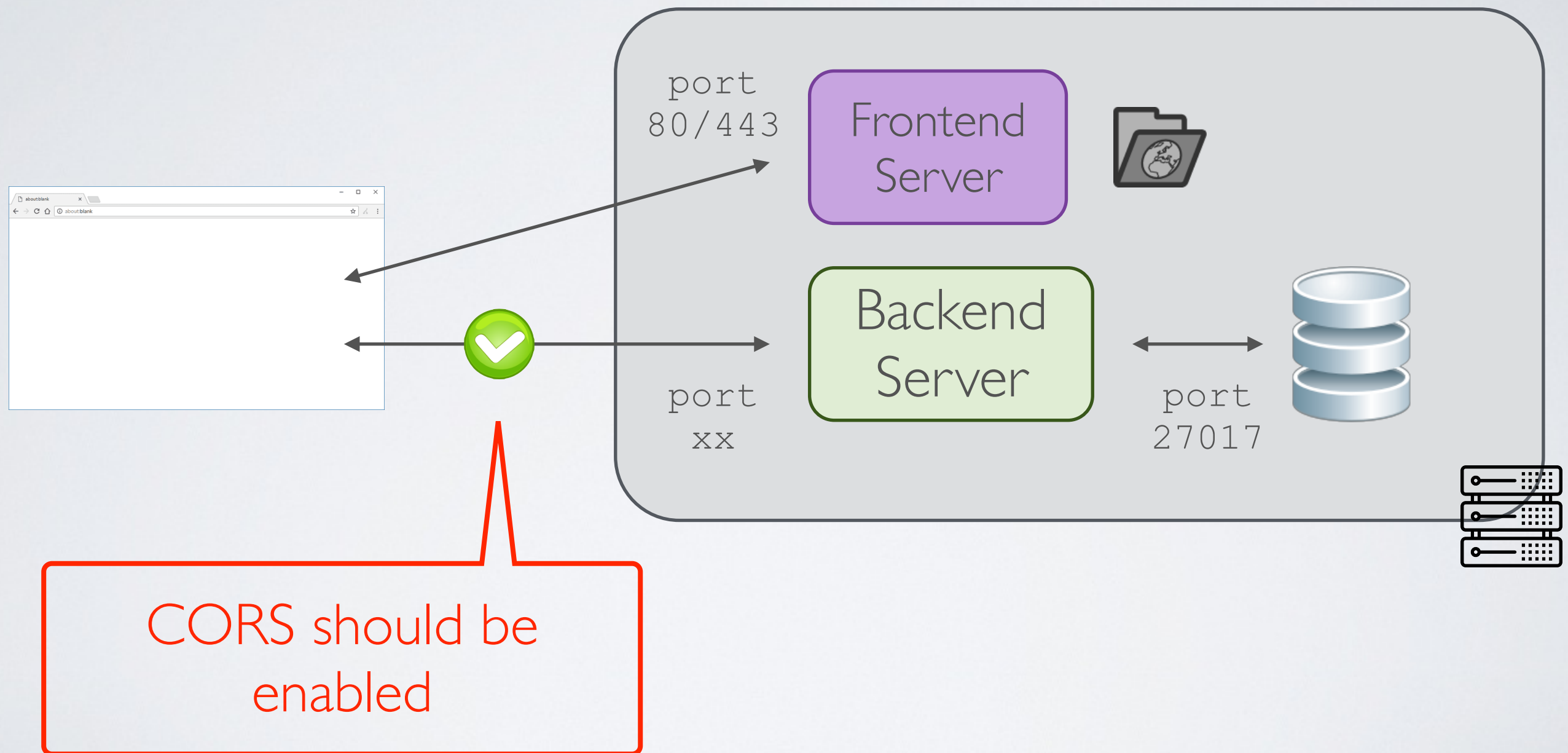
Current situation



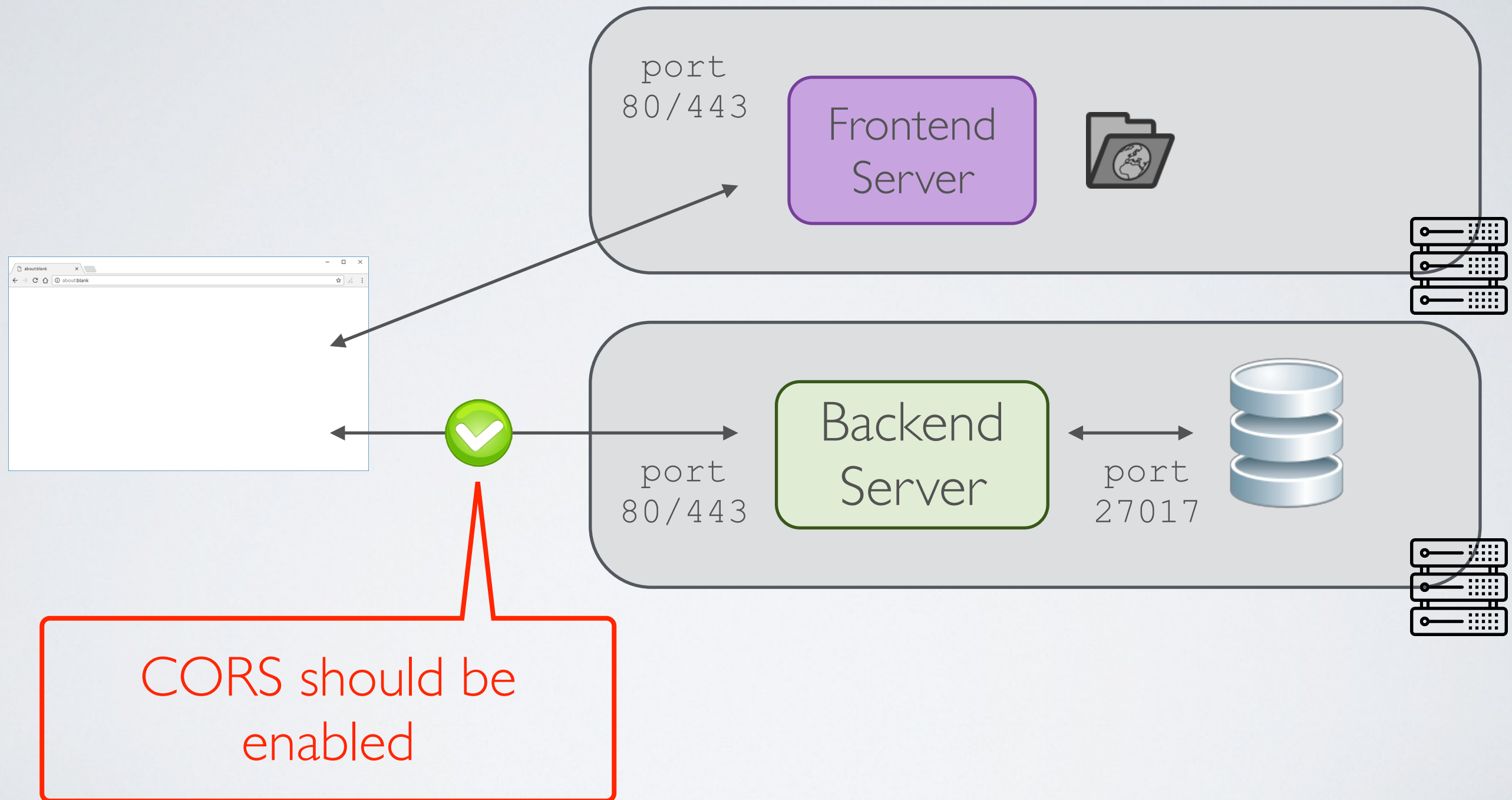
Two types of content

- Frontend content : html, css, js, images and so on
- Backend content : database, uploaded files

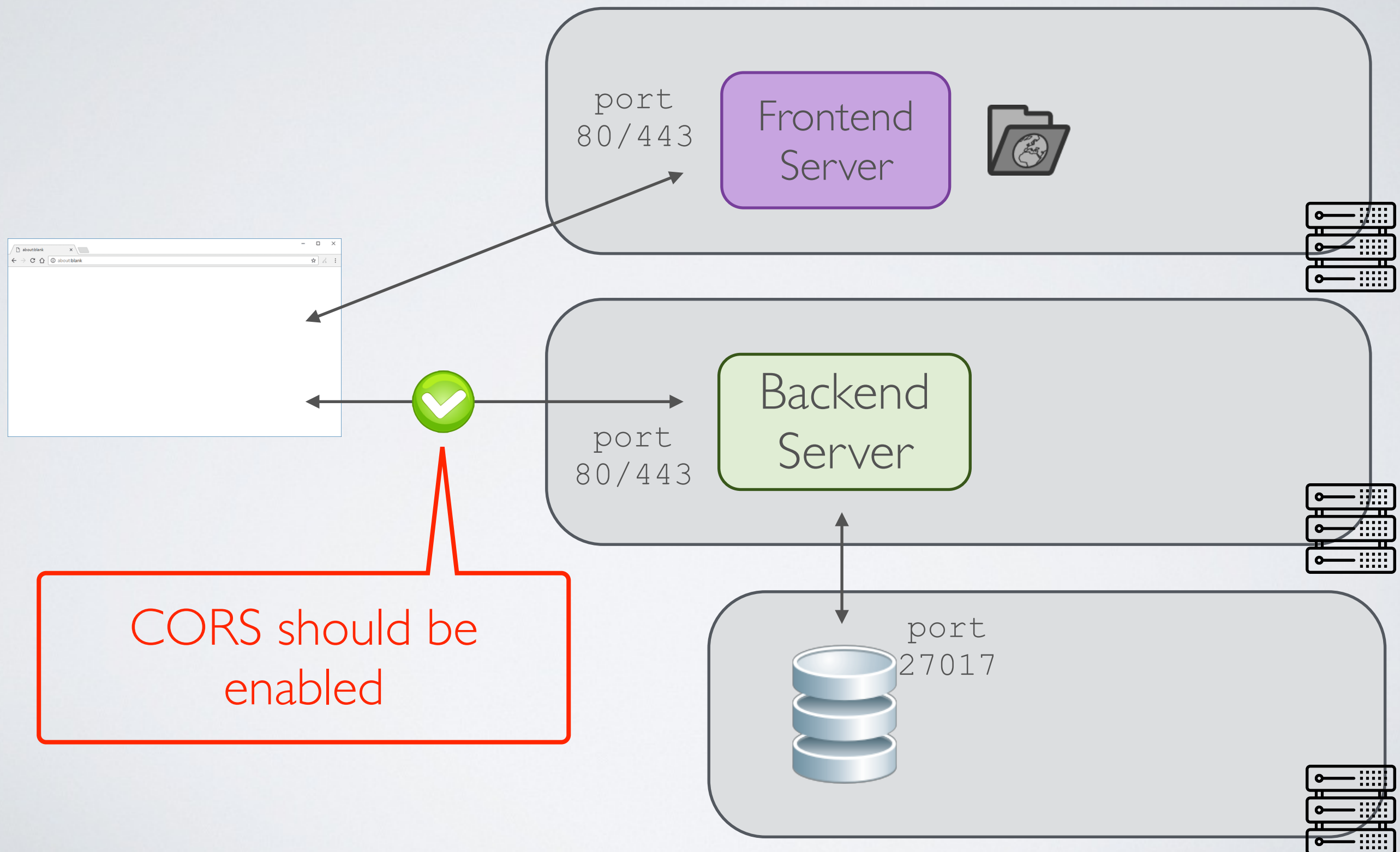
Two servers on the same host



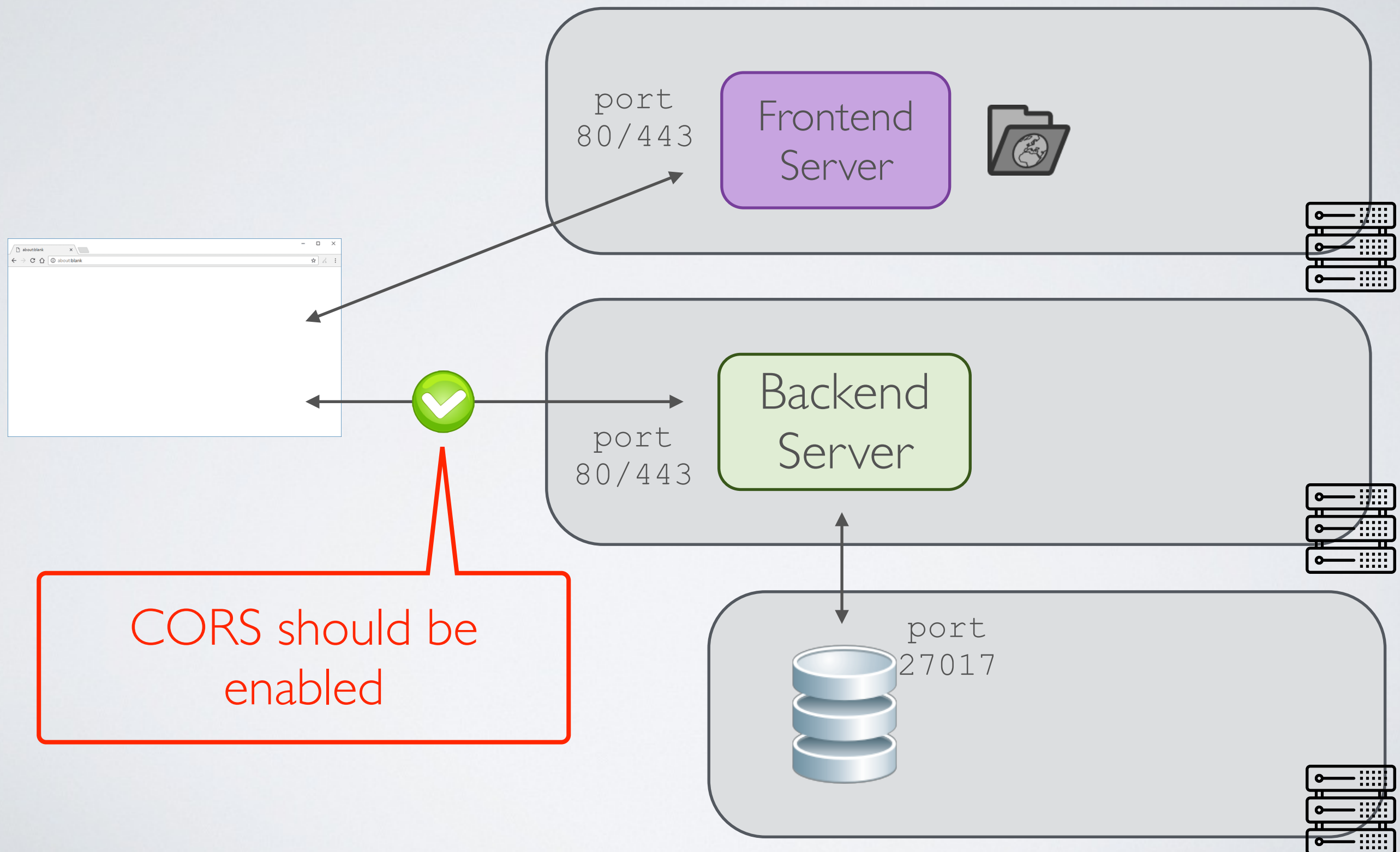
Two servers on different hosts



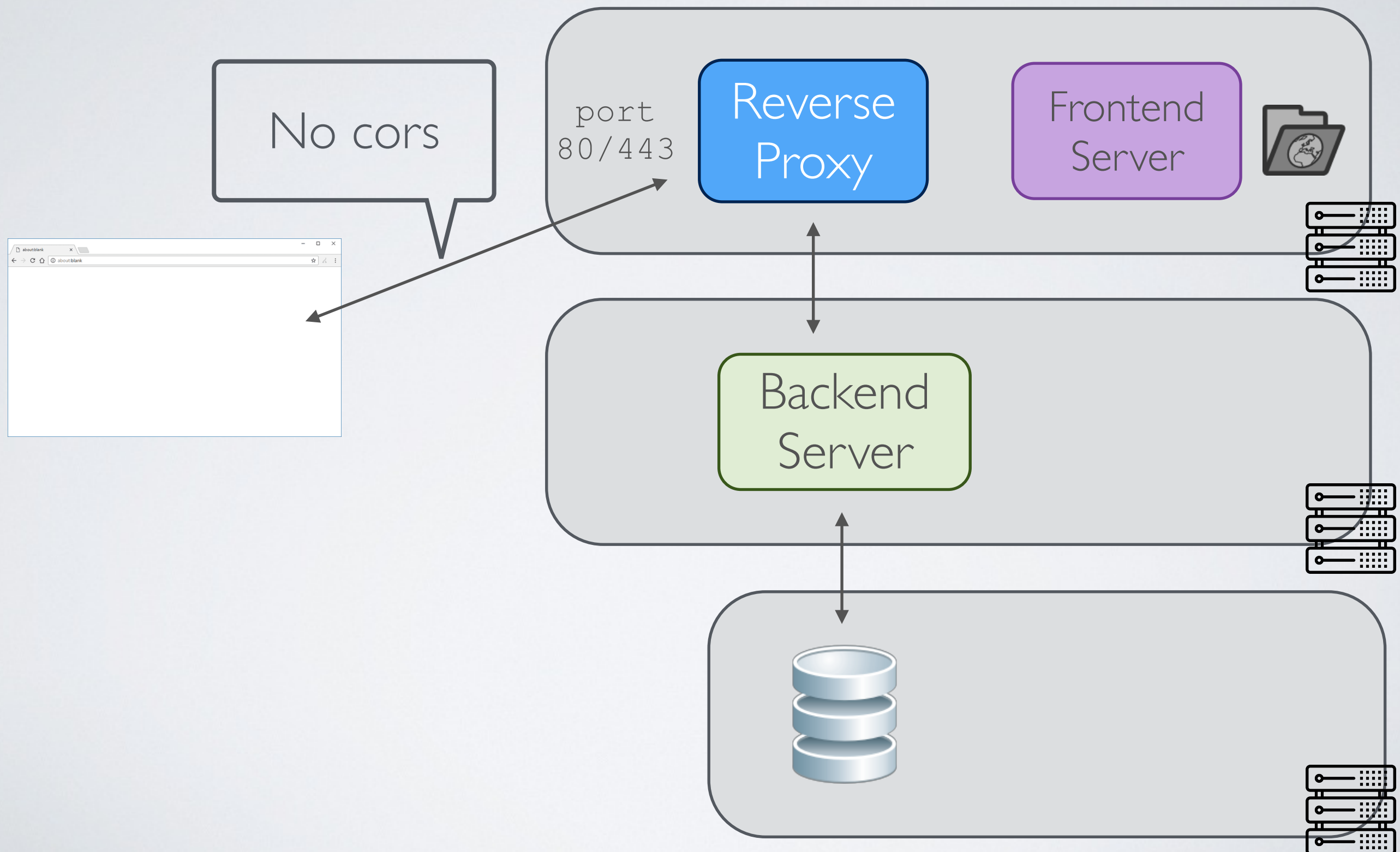
Three-tiered architecture on different hosts



Three-tiered architecture on different hosts



Three-tiered architecture with reverse proxy



Why having separated servers?

Each piece of our three-tiered architecture relies on specific OS configurations, libraries and runtime environment

- These environments might conflict with each other

- ➔ Having several servers enable to isolate them

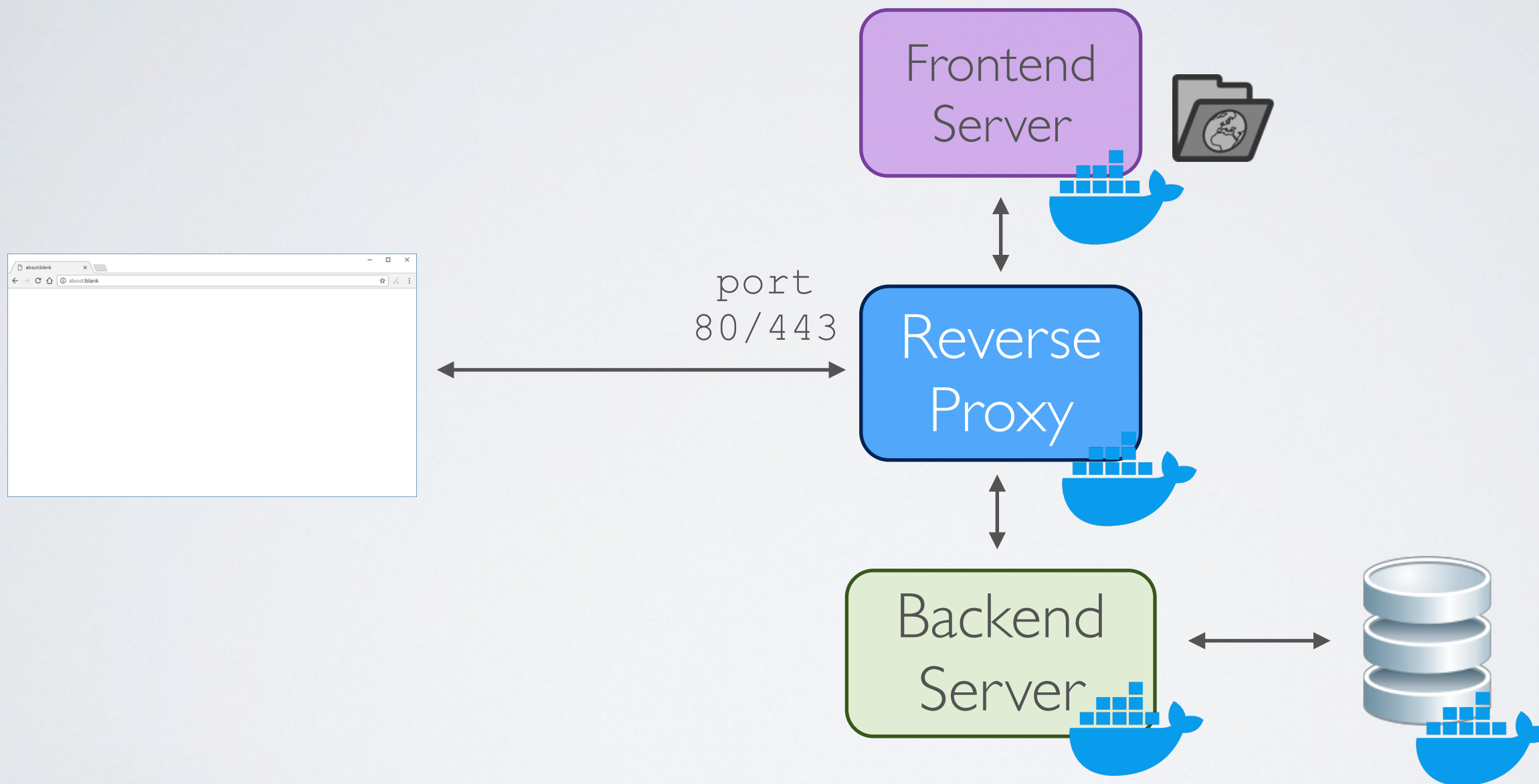
- ✓ Easier to maintain and more reliable

- But having several servers has a cost!

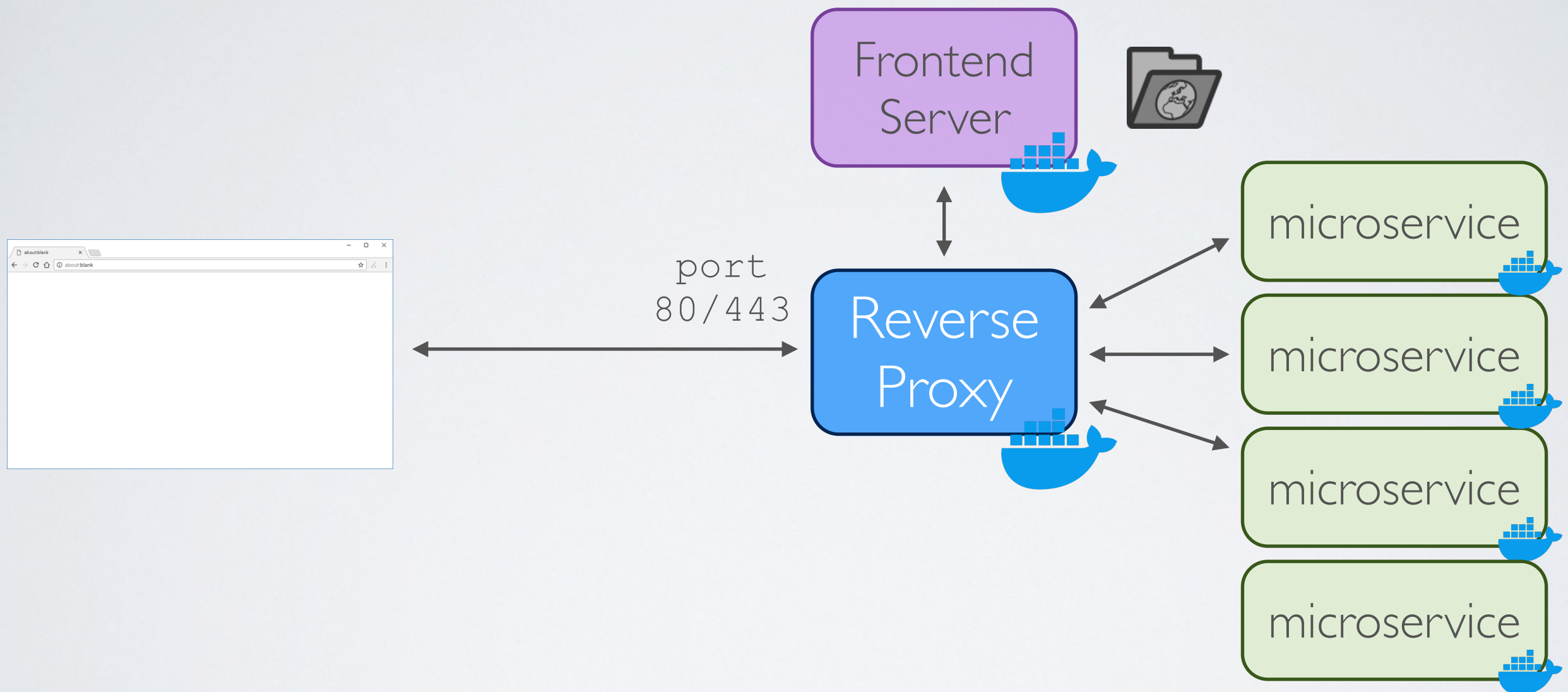
- ➔ Use virtual servers (or containerized servers)

- ✓ Cost effective and even simpler to maintain (and to scale, coming later)

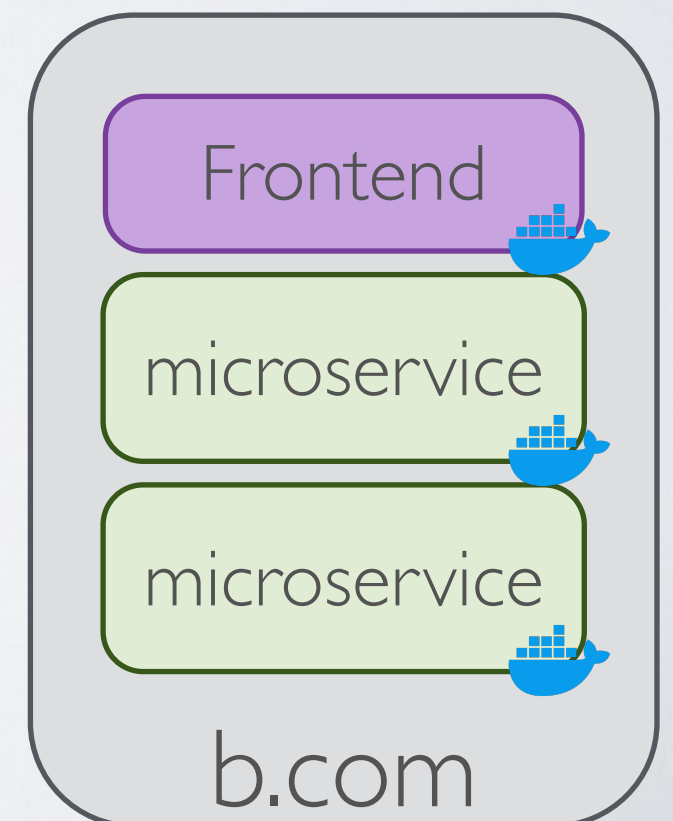
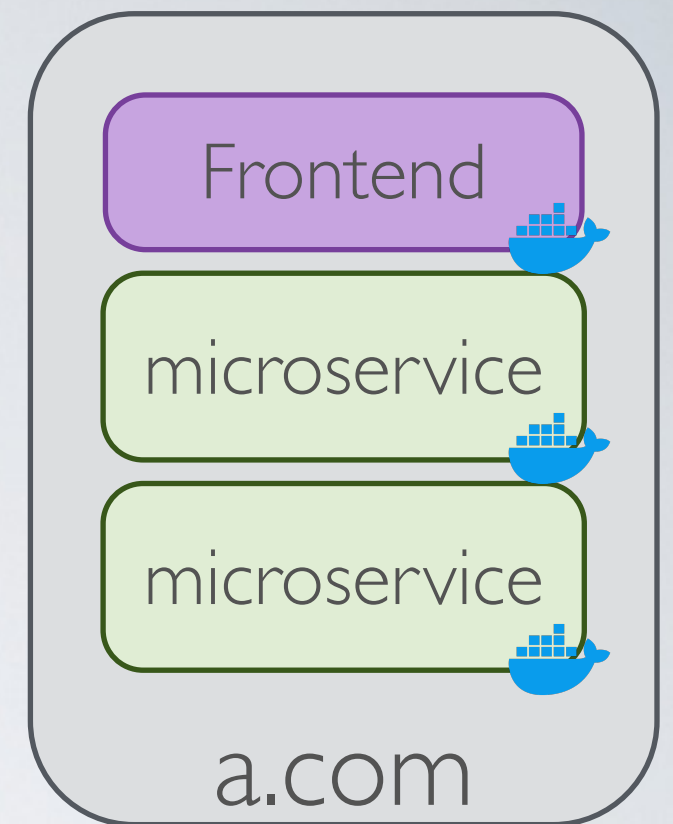
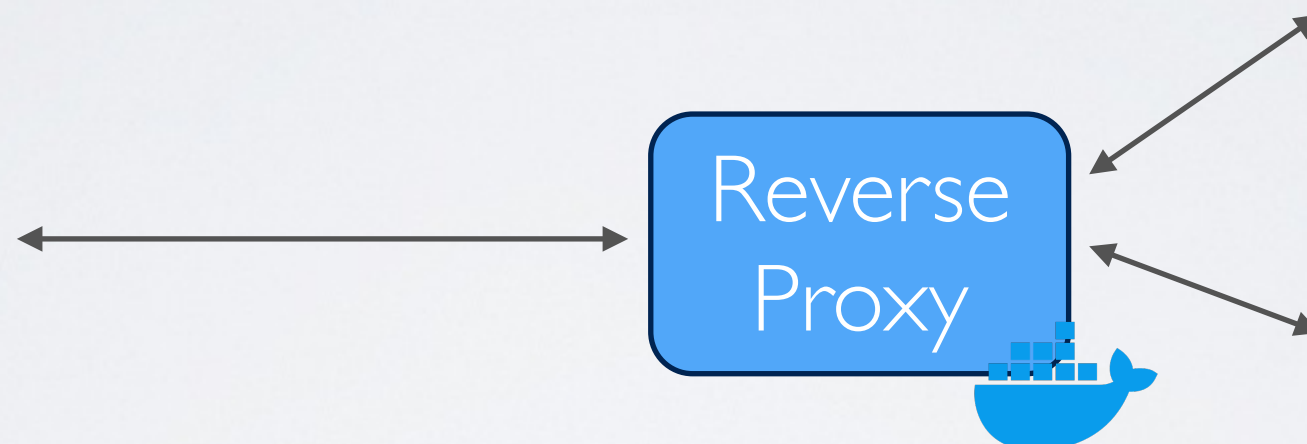
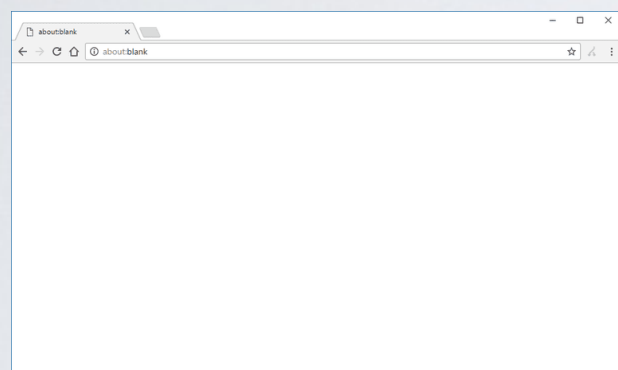
Dockerized three-tiered architecture



Dockerized micro-service architecture



Multi-hosting



Domain Name

Internet Top Level Names

See *List of Internet top-level domains* (Wikipedia)

How to get a domain name?

You need to buy one from a Domain Name Registrar

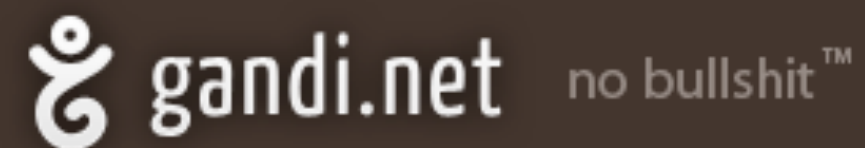


whois

Get information about a website

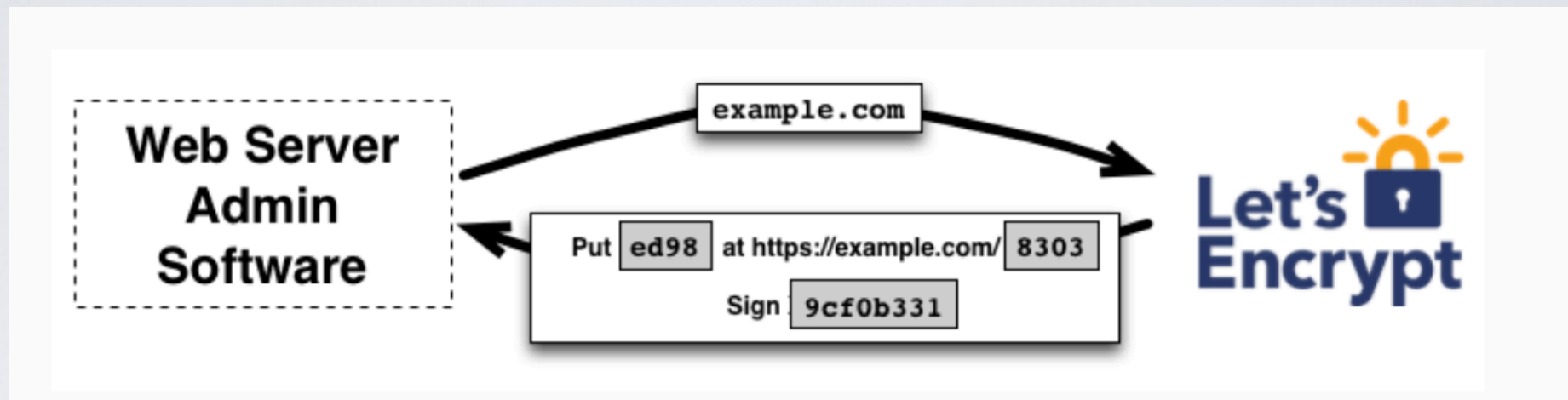
A valid certificate

Getting a signed SSL certificate

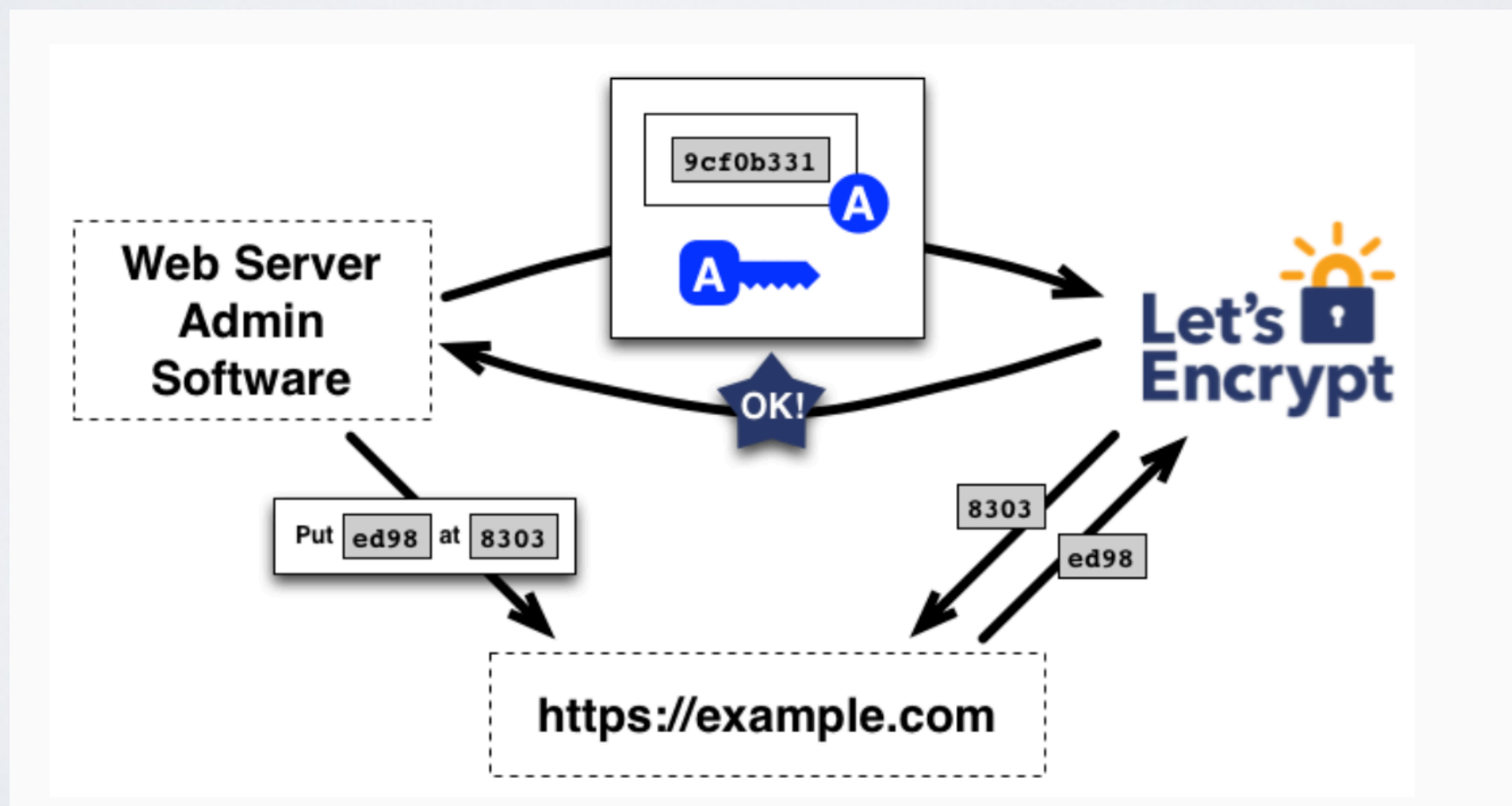


Let's encrypt

Step 1



Step 2



Certificate Manager in the Dockerized architecture

