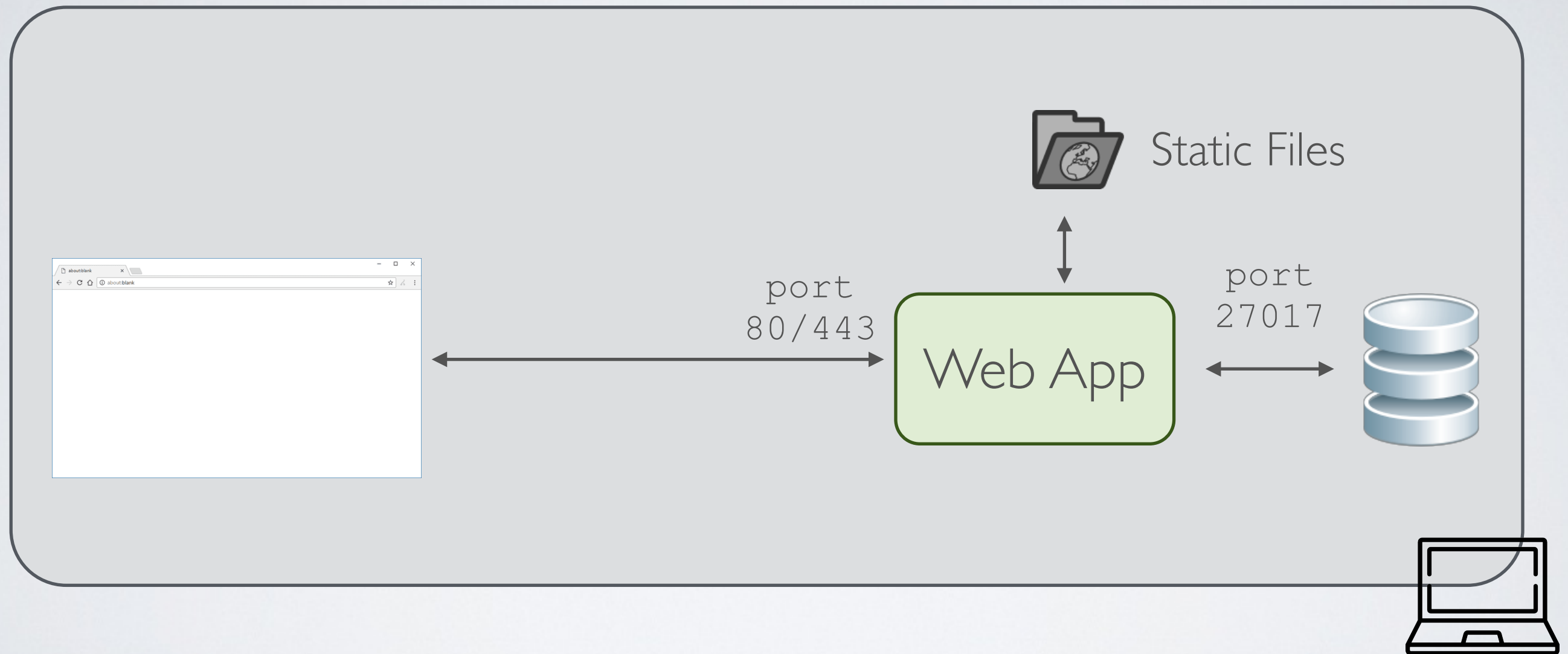


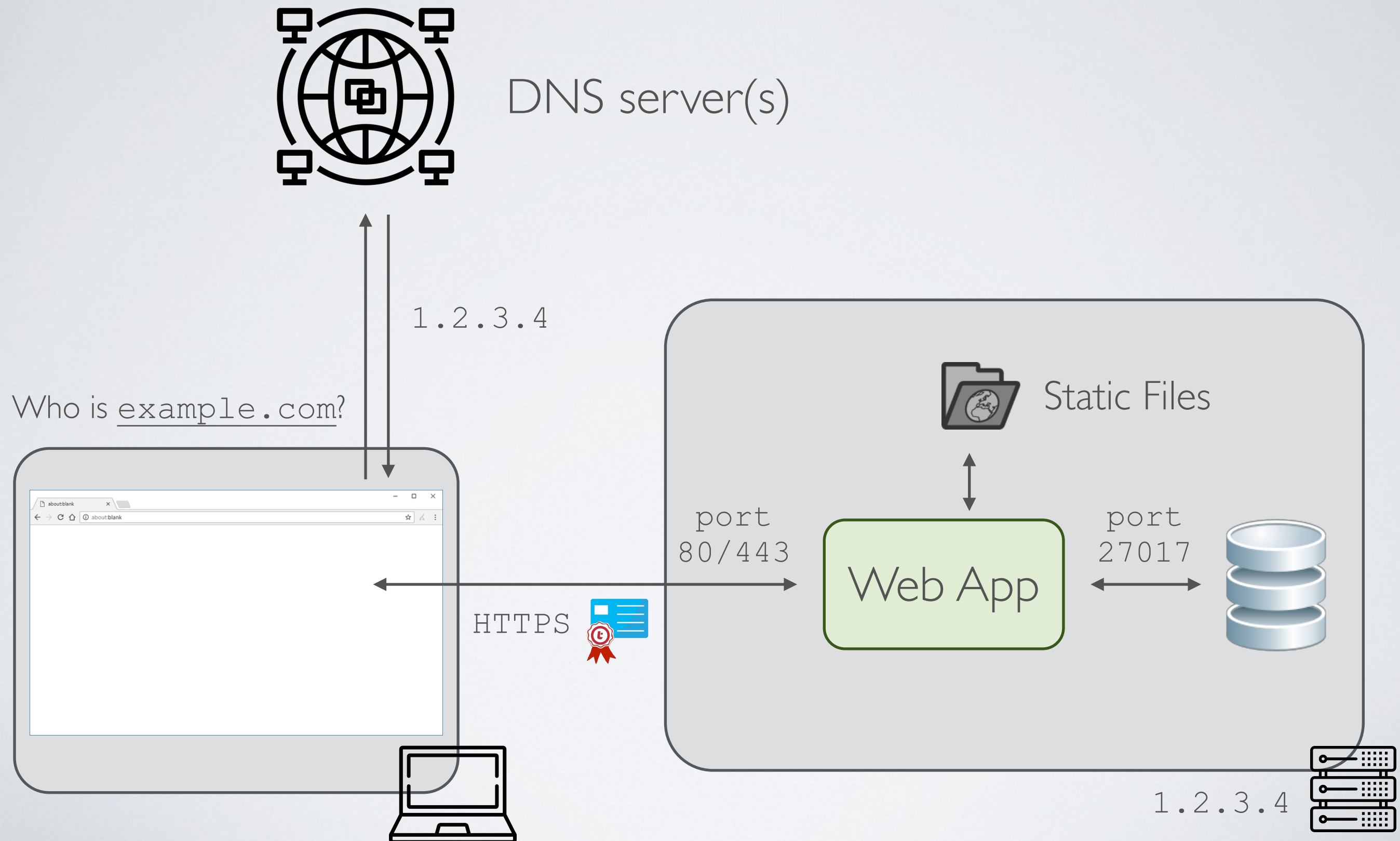
# Deploying Web Applications

Thierry Sans

# Current situation (running on our laptop)



# What we want to achieve



# What you need

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

# Web Hosting

# Development Server vs Production Server

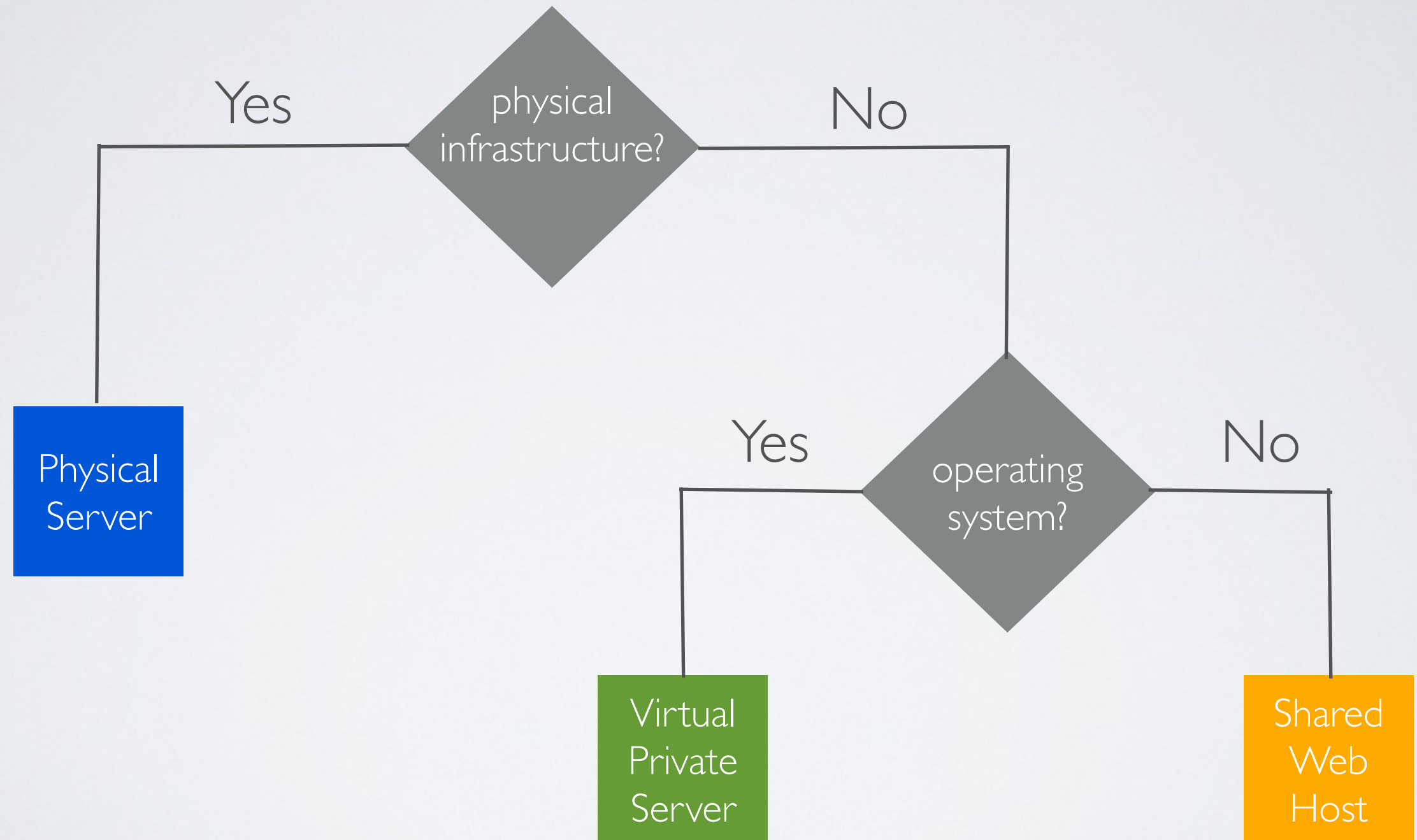
- ➔ Most web frameworks provide a development server
- Not all are production ready and might not scale with multiple requests (multi-threading)



# Web Hosting

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

# Do you want/need to manage ...





# Choosing a hosting solution

Depends on

<b>Specific needs</b>	Specific applications that your web applications uses
<b>Security</b>	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)

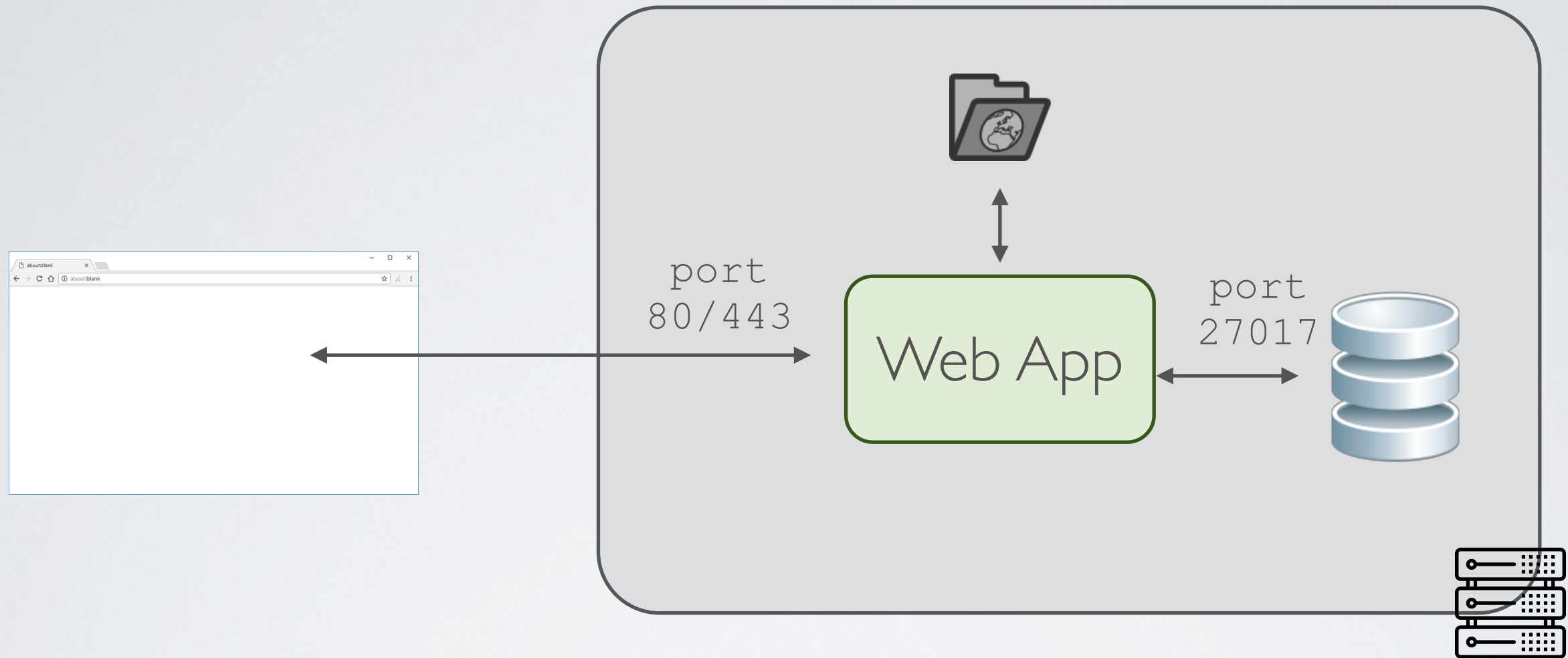
# Shared Web Host

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

Deploying on  
physical or virtual server



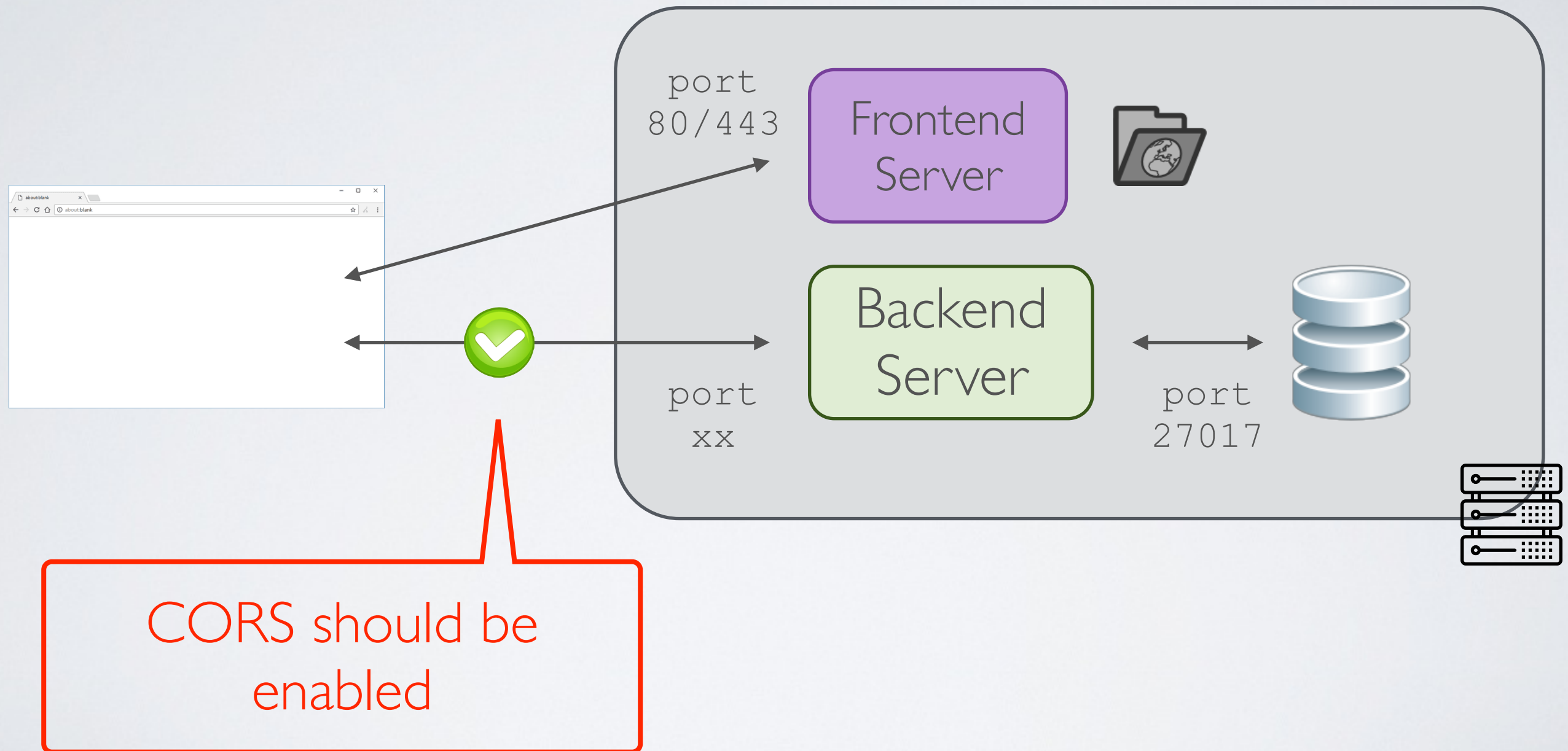
# Current situation



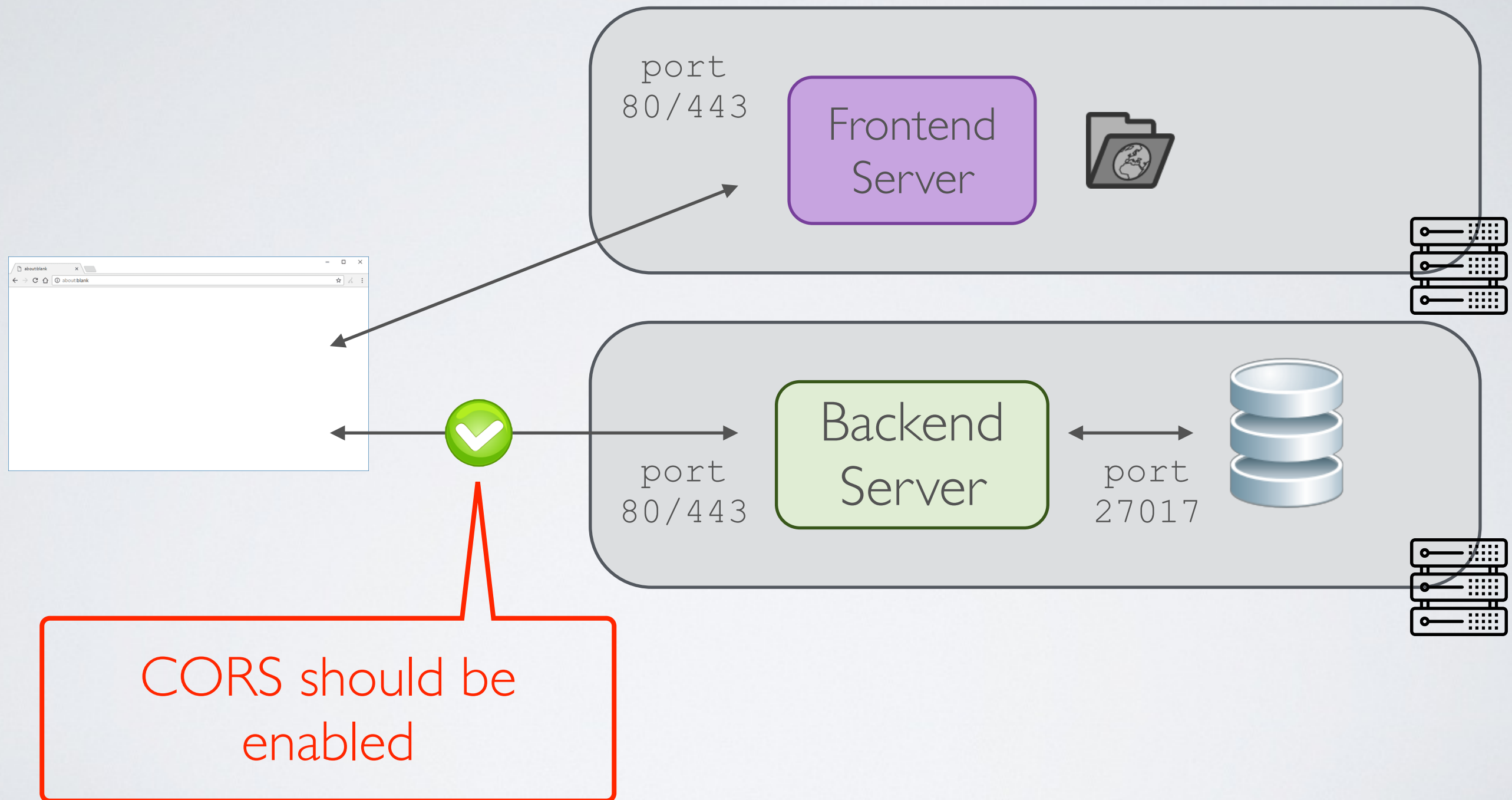
## Two types of content

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

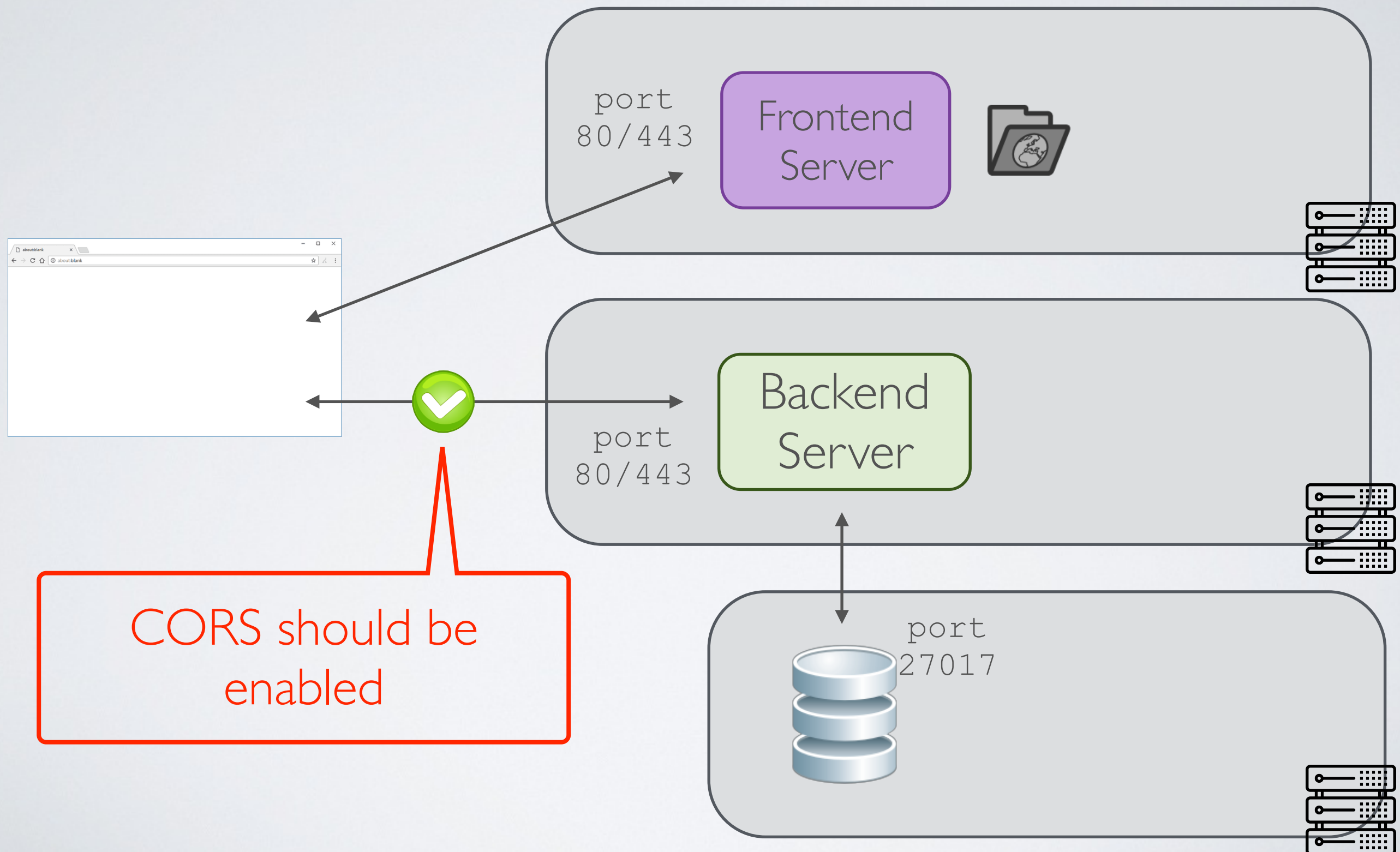
# Two servers on the same host



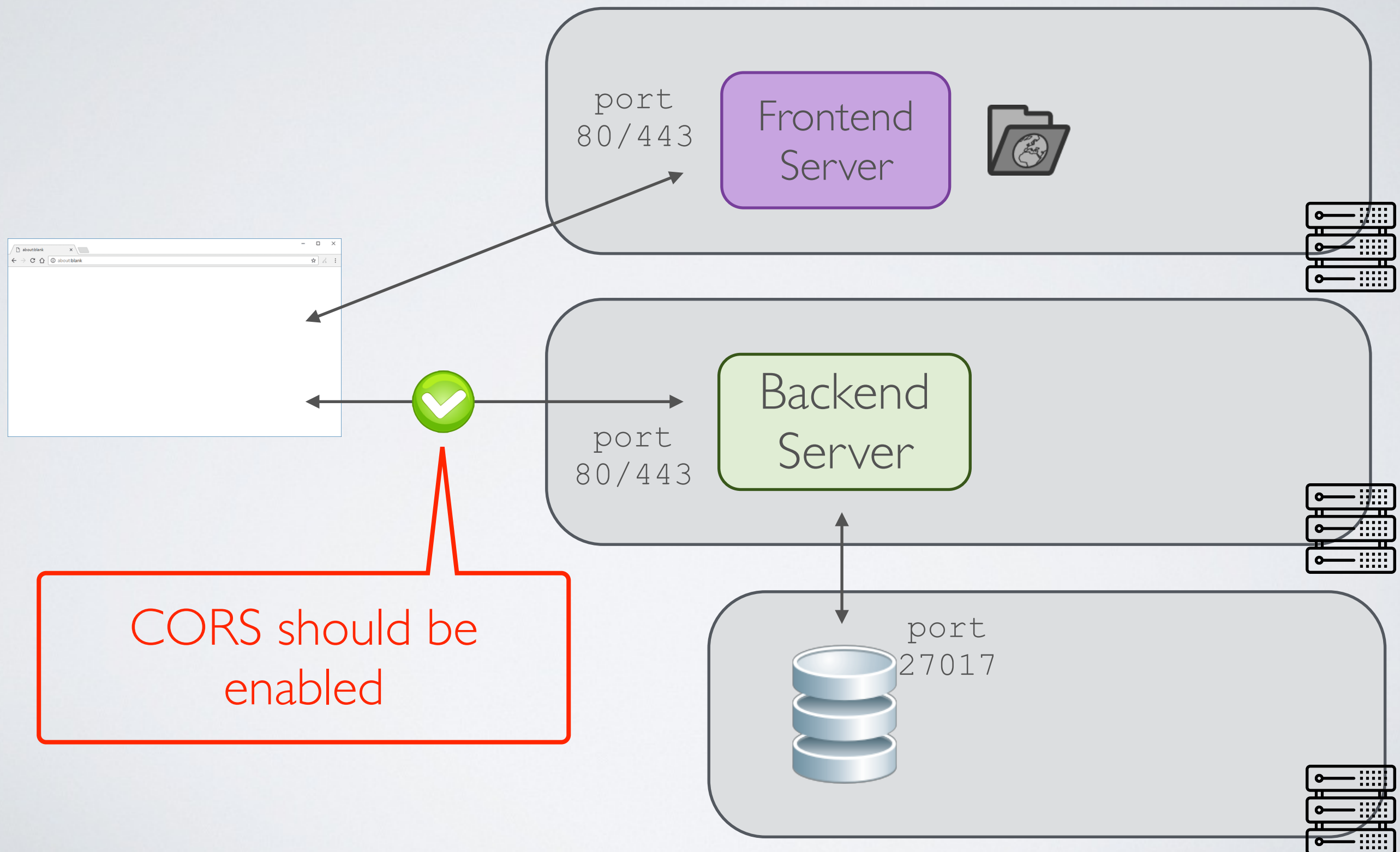
# Two servers on different hosts



# Three-tiered architecture on different hosts

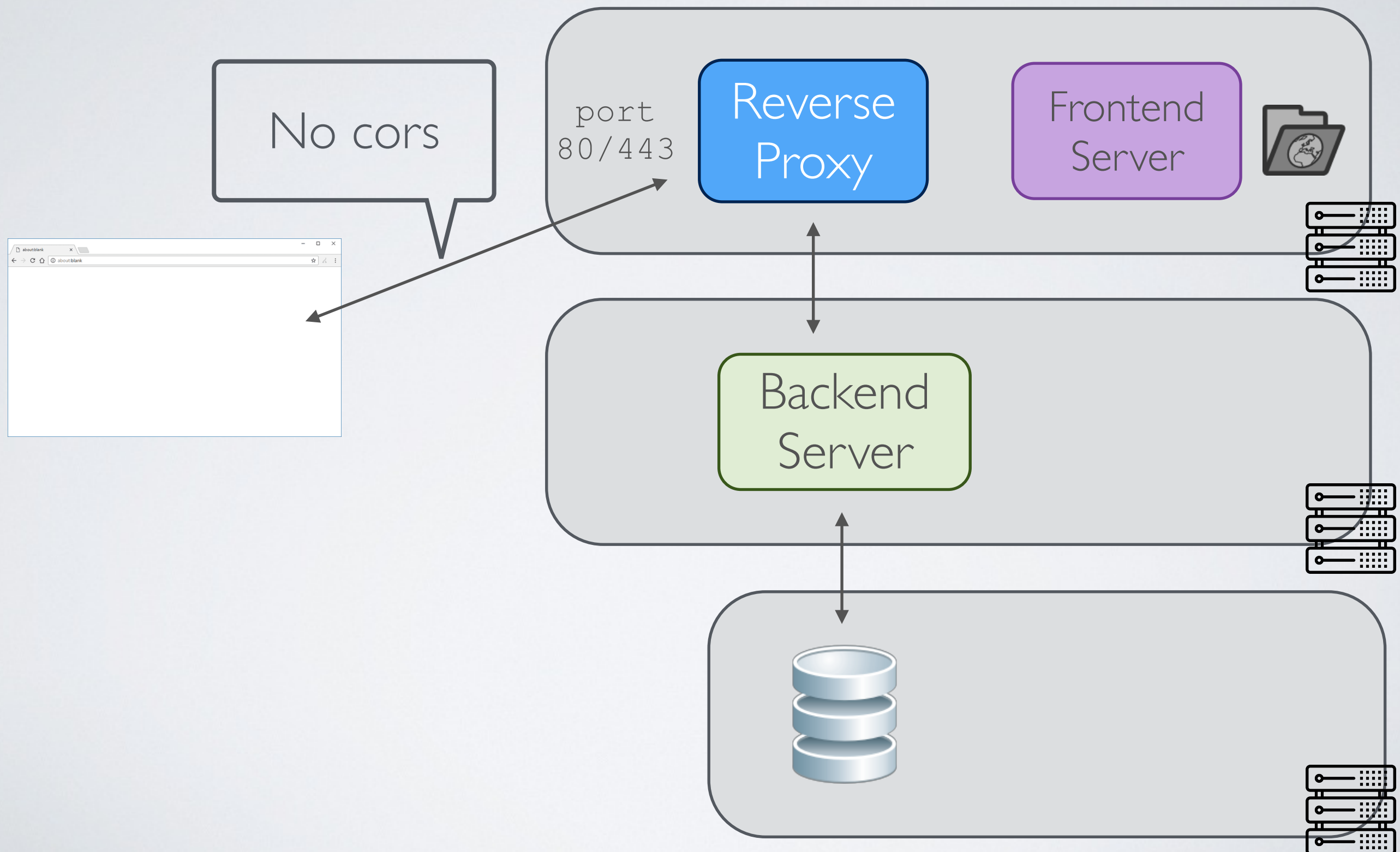


# Three-tiered architecture on different hosts





# 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

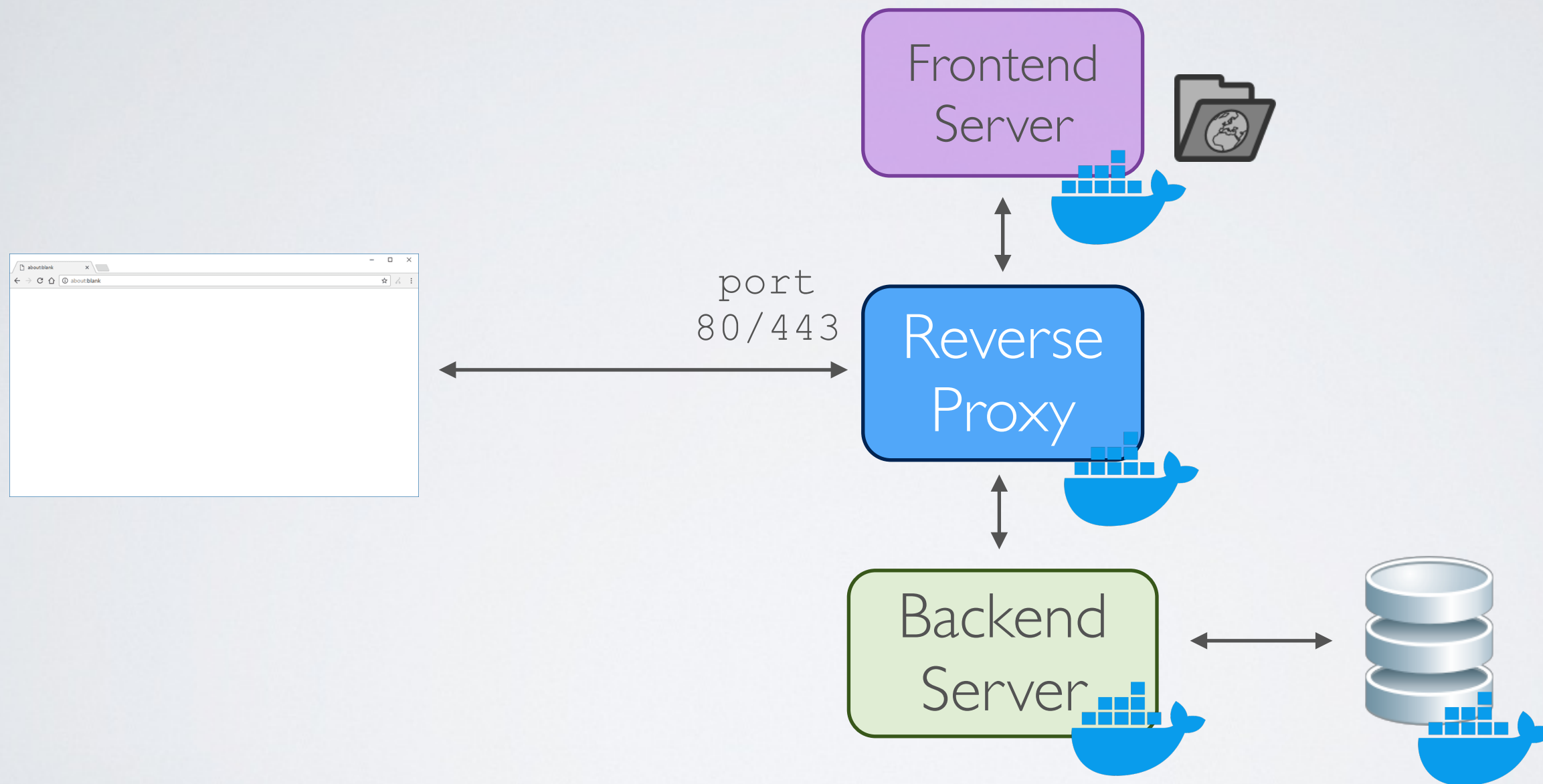
- ✓ Easier to maintain and more reliable

- But having several servers has a cost!

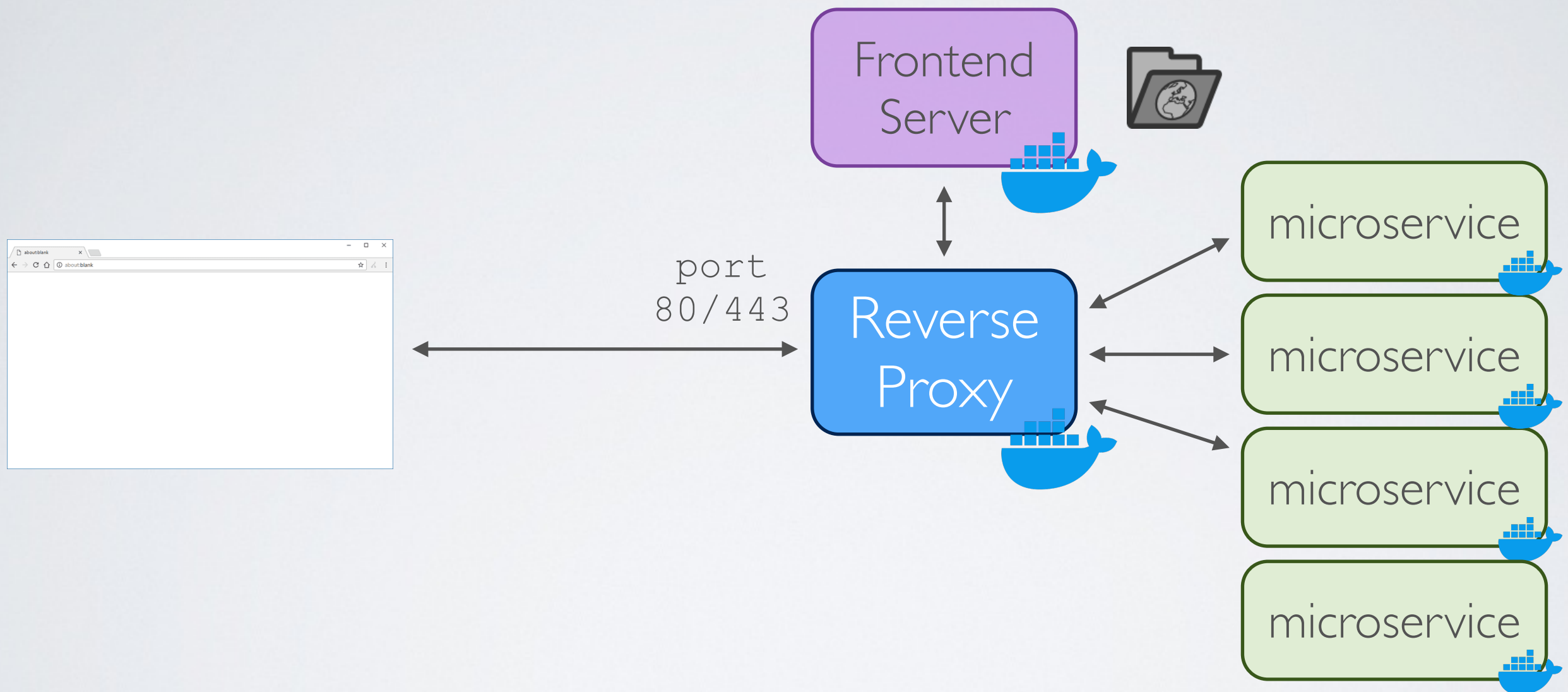
- ➔ Use virtual servers (or containerized servers)

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

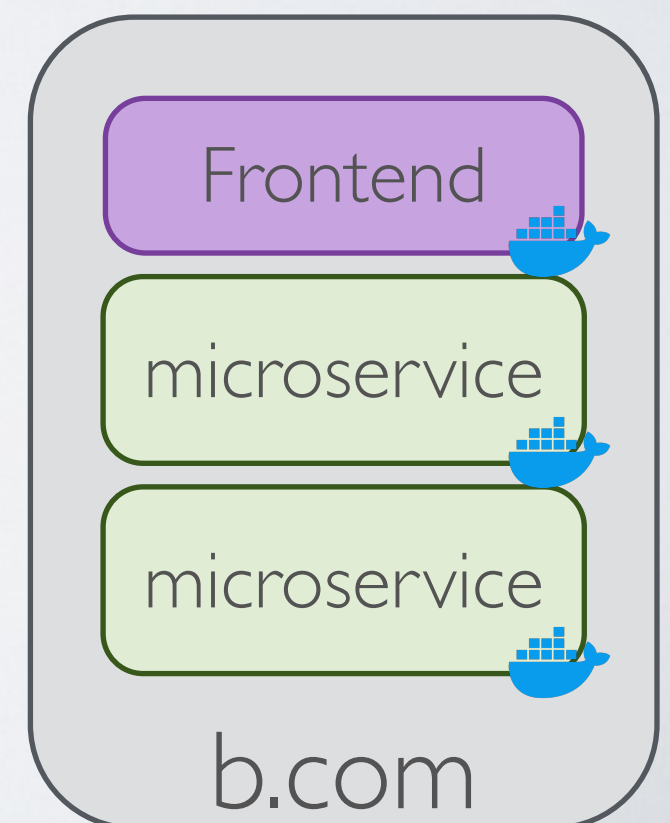
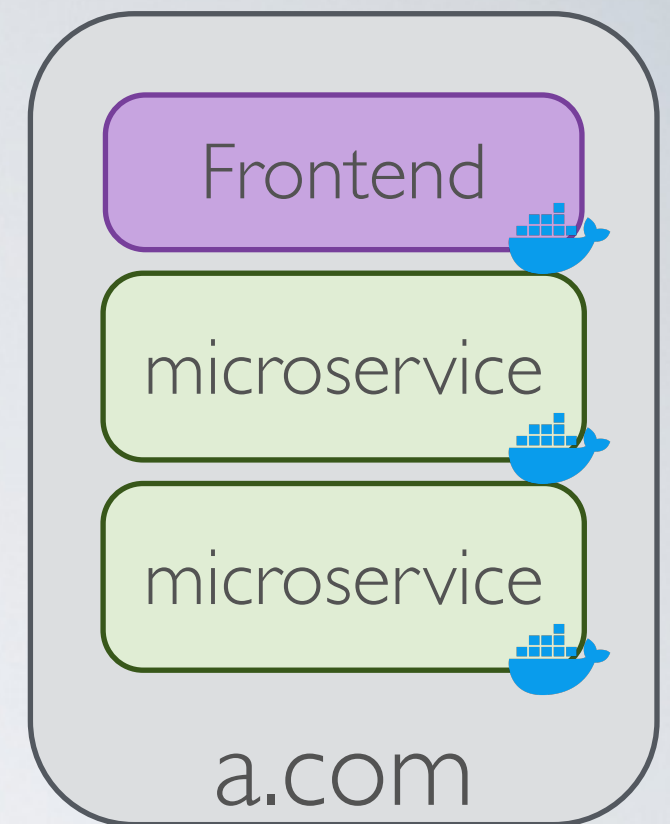
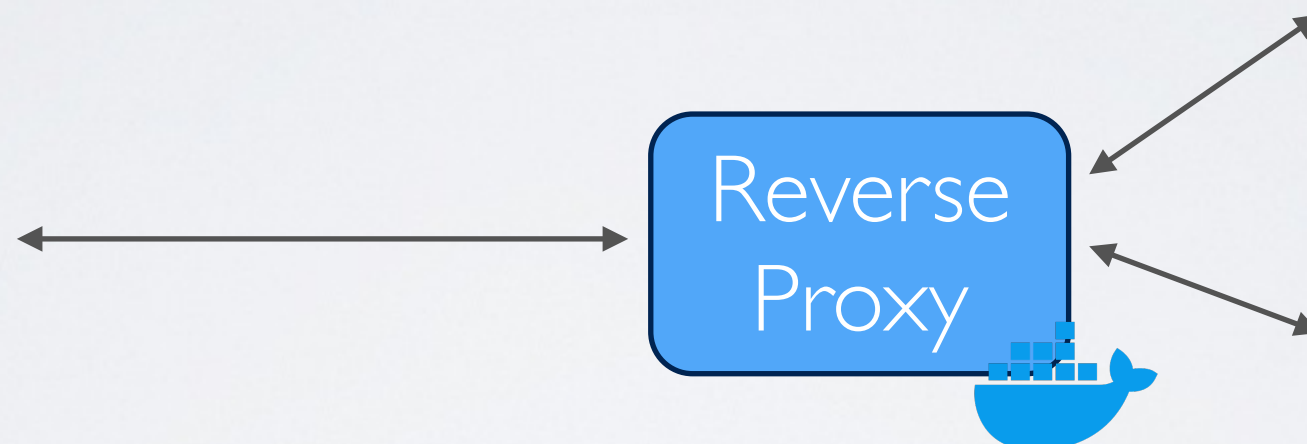
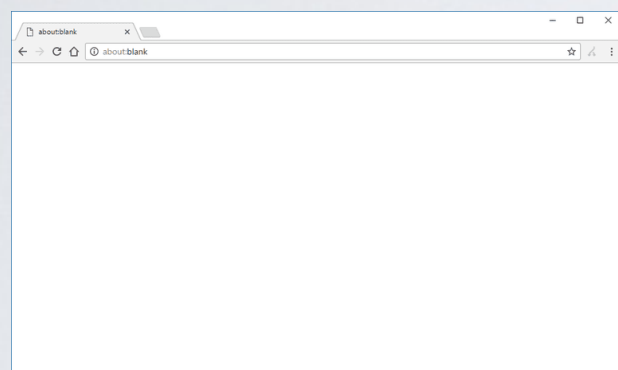
# Dockerized three-tiered architecture



# 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

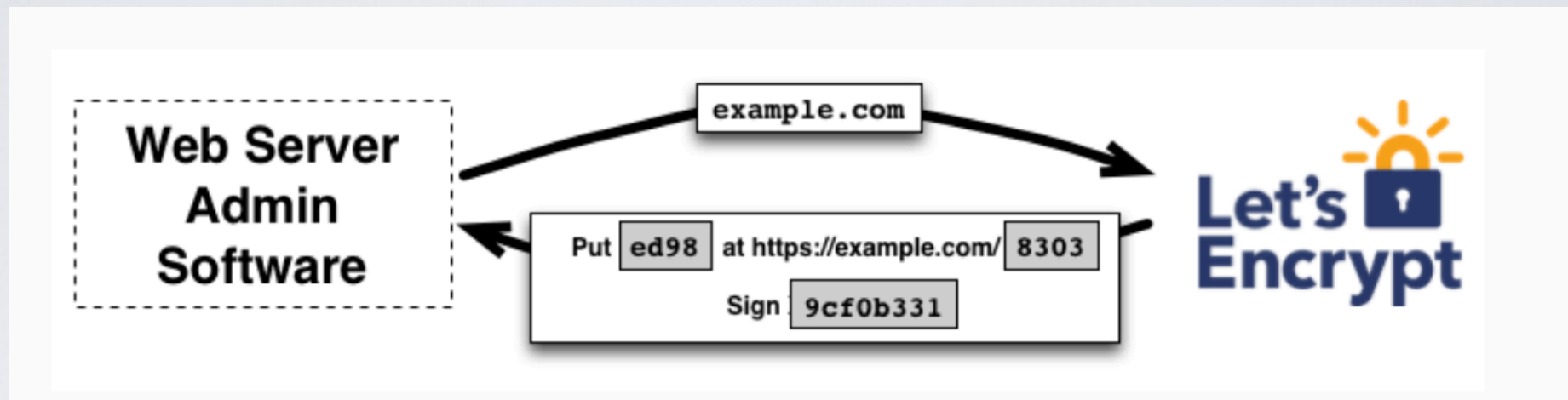


# Getting a signed SSL certificate

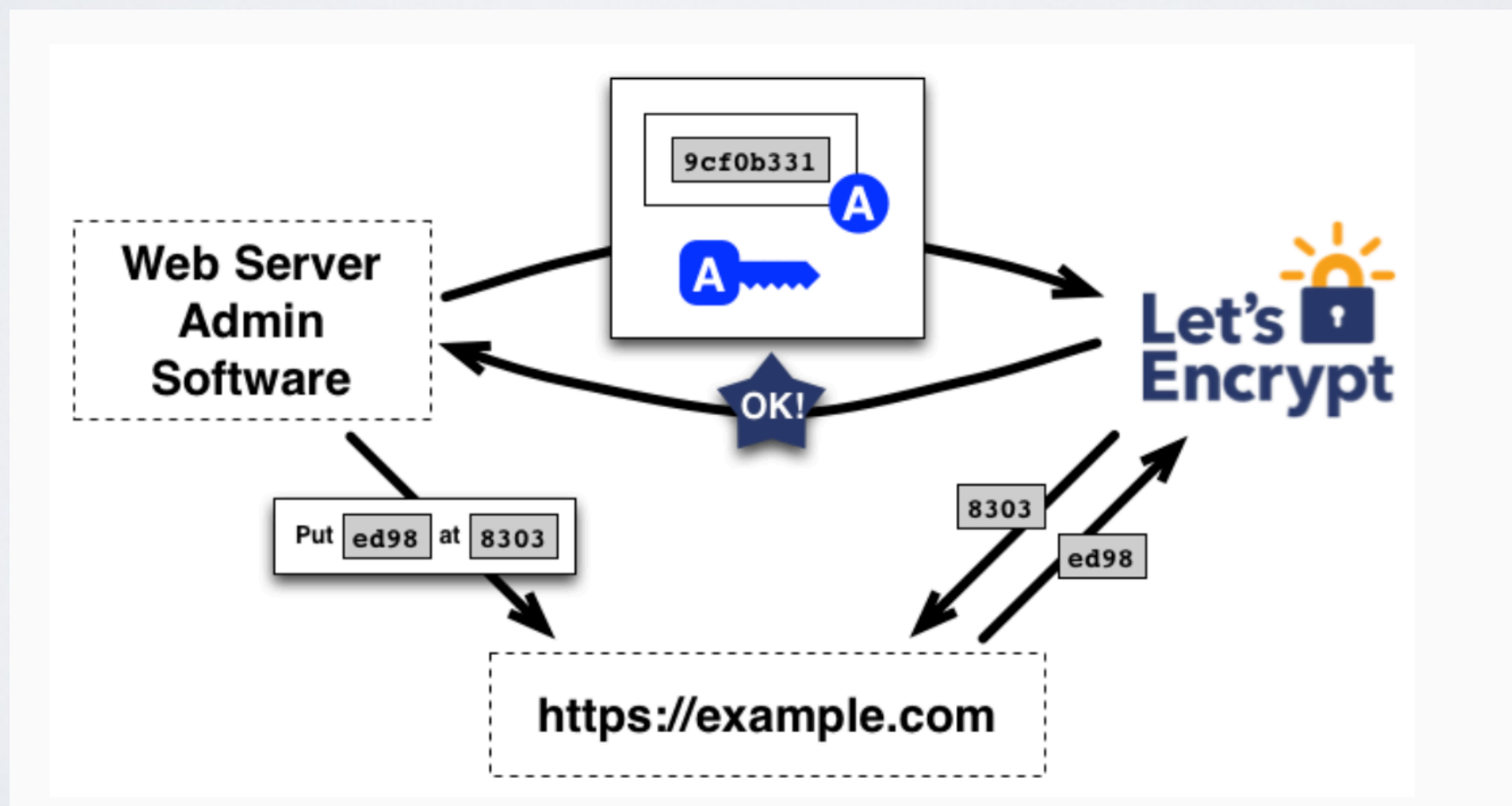


# Let's encrypt

Step 1



Step 2



# Certificate Manager in the Dockerized architecture

