

# HTTPS with Nginx

# The Problem

- We want to use HTTPS
- Prefer not to modify your app code
  - Makes our code more modular and portable
  - Your HTTPS setup can change without changing your app
- Use a reverse proxy

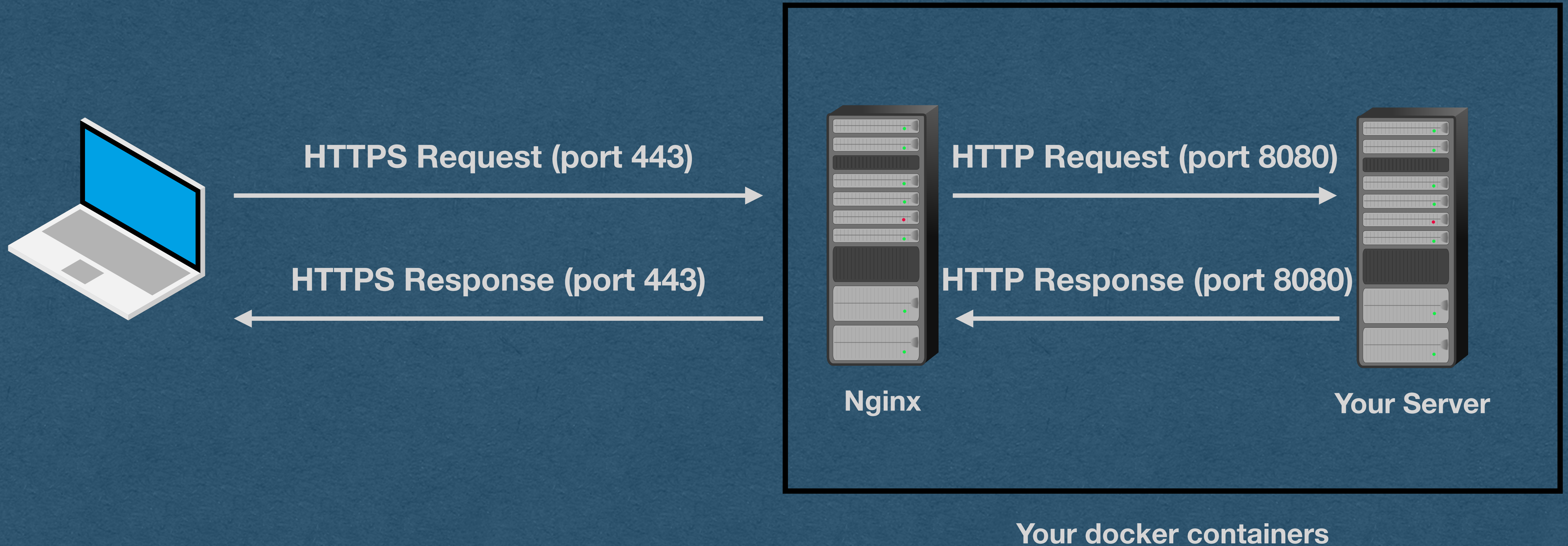
# Nginx

- Nginx has many uses and is very powerful software
- We'll use it a reverse proxy with TLS (AO1)
  - Demonstrated today
- And as an HTTP server of static files (AO2)
  - As a research objective

# Nginx - HW Strategy

- Use Nginx to listen for HTTPS requests
  - Nginx needs a cert and private key
- Nginx will decrypt requests and forward them to your server as HTTP requests
  - These unencrypted requests are sent over a local network and never touch the Internet
- Your server sends HTTP responses to Nginx
  - Nginx encrypts and sends the HTTPS response over the Internet
- If Nginx gets an HTTP request (port 80) redirect the user to HTTPS (port 443)

# Nginx - HW Strategy



# Nginx - HW Strategy

- We'll need:
  - Generate a self-signed cert and private key
  - Copy the cert and private key into the container and configure Nginx to use them
  - Create a docker container to run Nginx and listen on ports 80 and 443
  - Redirect port 80 to 443
  - Reconfigure WebSockets to work with the new setup