
Environment Configuration for JavaScript Apps

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bit.ly/js-env

About Me



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bit.ly/js-env

Why?

Development

Production

Staging

Integration

Demo

Test

Pre-Production

UAT

Why?

- Move an app between environments
 - ❖ Different URLs
 - ❖ Feature flags
 - ❖ Different server names
 - ❖ Different ports
 - ❖ Different keys
 - ❖ Different certificates
- DevOps and Automation

Files

web.config

***.plist**

***.properties**

.bash_profile

***.ini**

***.yaml**

CONFIG.SYS

.zshrc

registry

Environment Variables

\$HOSTNAME

%PROGRAMFILES%

%APPDATA%

\$USER

\$PATH

\$HOME

%TEMP%

\$JAVA_HOME

%SystemRoot%

Our Problem

It runs on the client....

Some Solutions

Build Time

- .env files
- WebPack

Run Time

- Server injection
- Mapped with Docker/Kubernetes
- ~~Server-side Rendering (SSR)~~

A word about Secrets

Vault

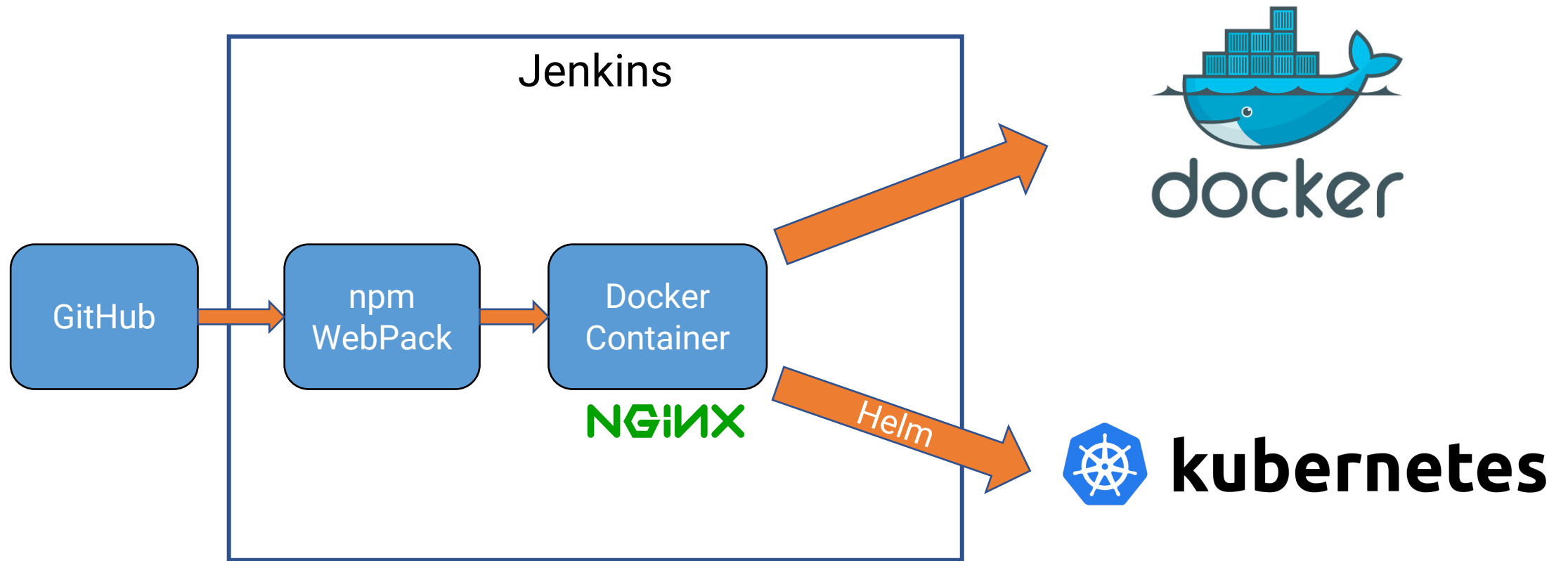
credstash

Confidant

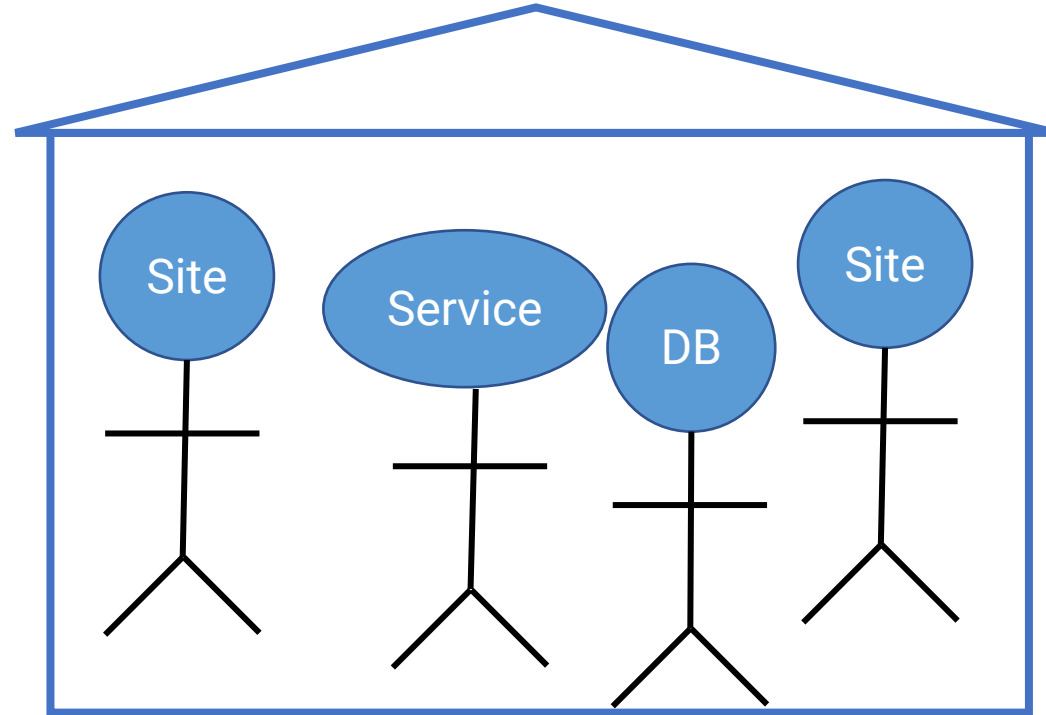
Keywhiz

Torus

Build Pipeline

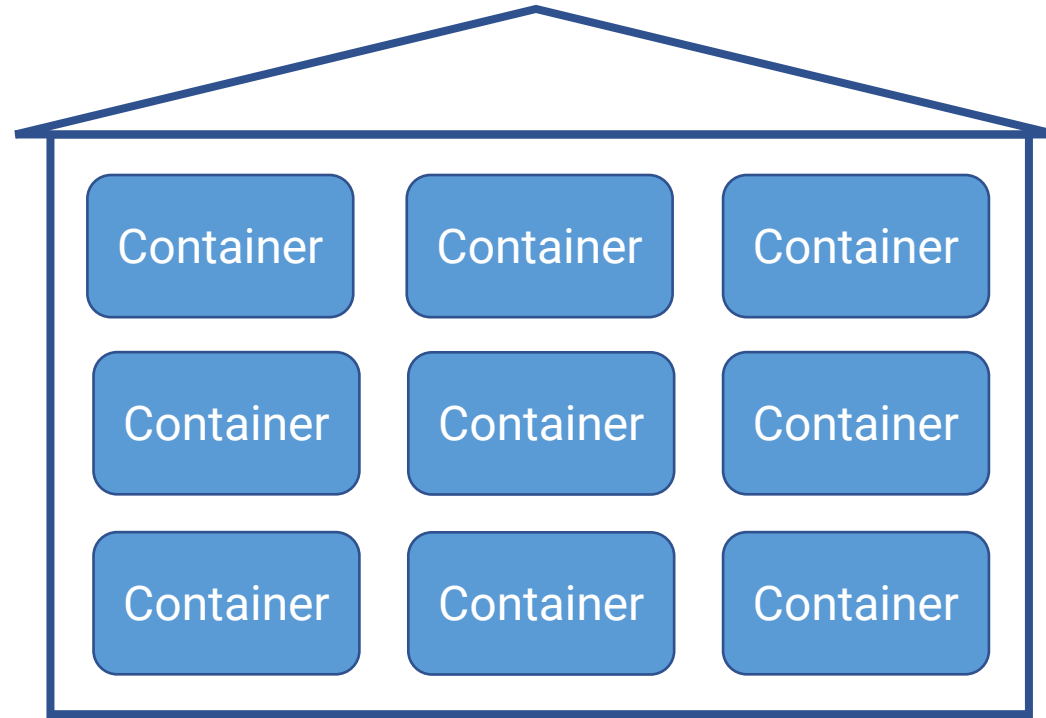


Server or Virtual Machine



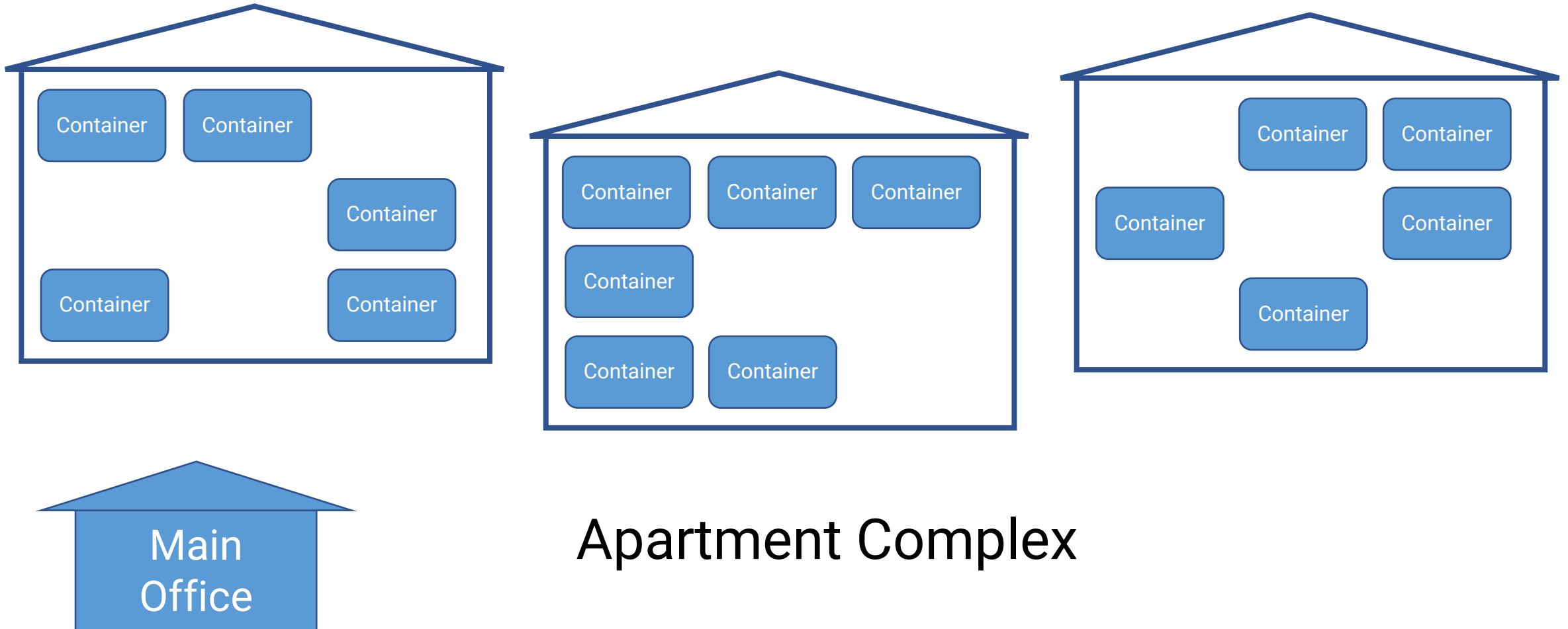
House

Docker



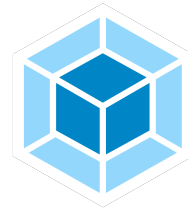
Apartment Building

Kubernetes



Build Time

.env Files



webpack

.env Files

.env

.env.local

.env.[mode] (env.production)

.env.[mode].local

Demo

Using .env files

.env files

Pros

- Built-in plumbing

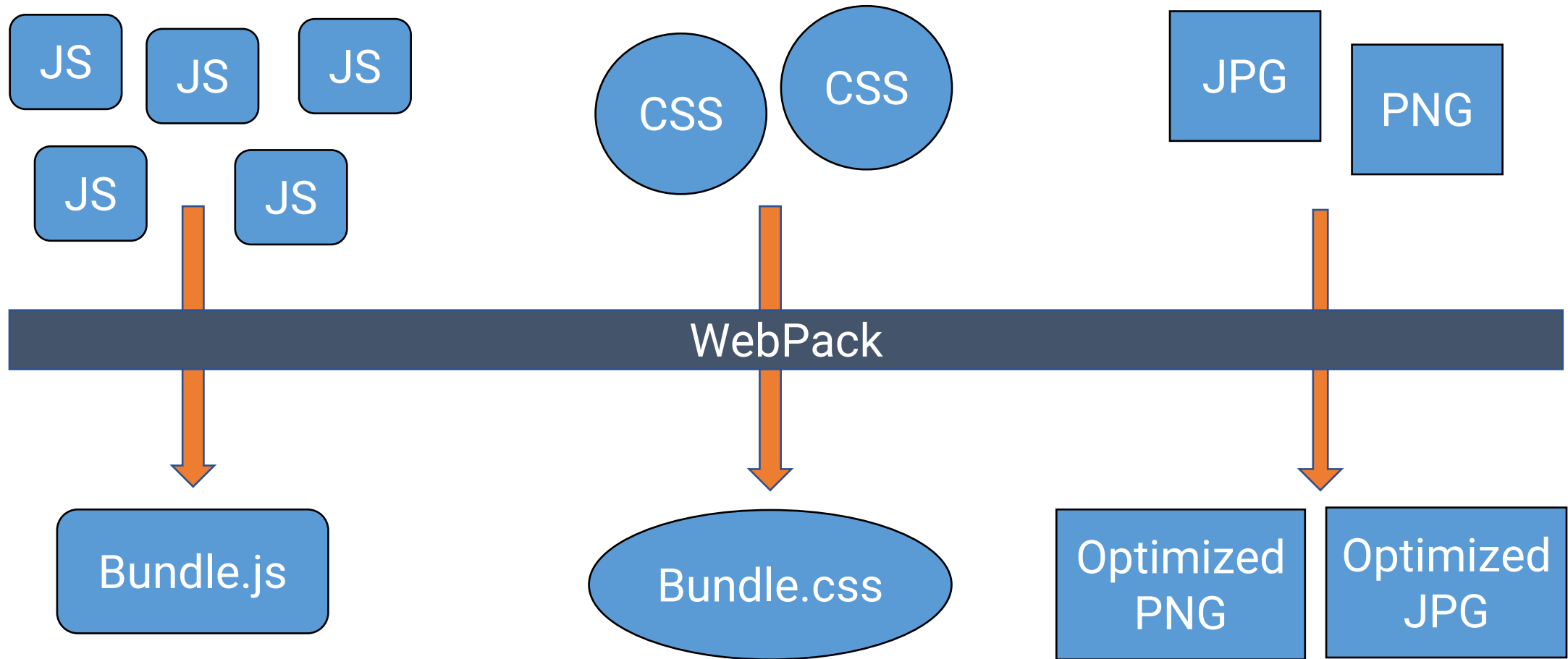
Cons

- Managed manually
- Changes not propagated
- New devs
- Ops problem
- Environment-specific builds

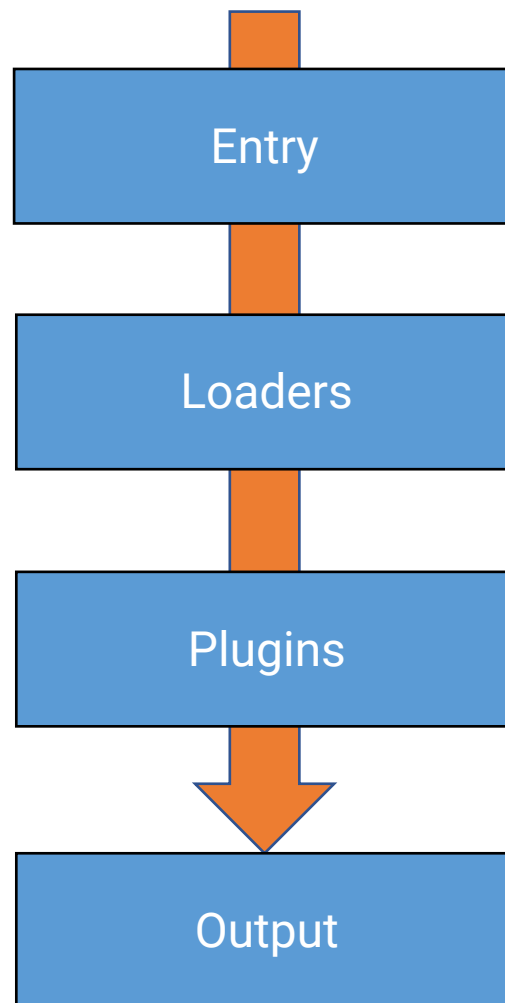


webpack

WebPack Basics



Webpack Basics



Demo

Webpack-based configuration

WebPack Configuration

Pros

- New team members
- Changes propagate
- Flexibility
- Least moving parts
- No deployment steps
- Default of 2 environments

Cons

- Hack-y for React
 - Manual config or eject
- Environment-specific builds
-> many images
- Information may be in the repo
- Default of 2 environments

Run-time

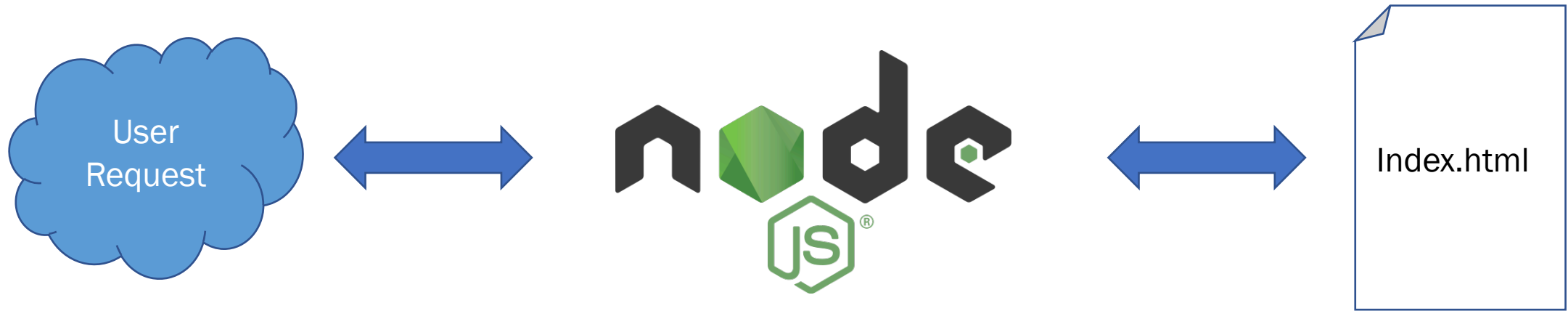
Server-Side Injection



Cluster Injection



Server-Side Injection



Demo

Server-side Injection

Server-Side Injection

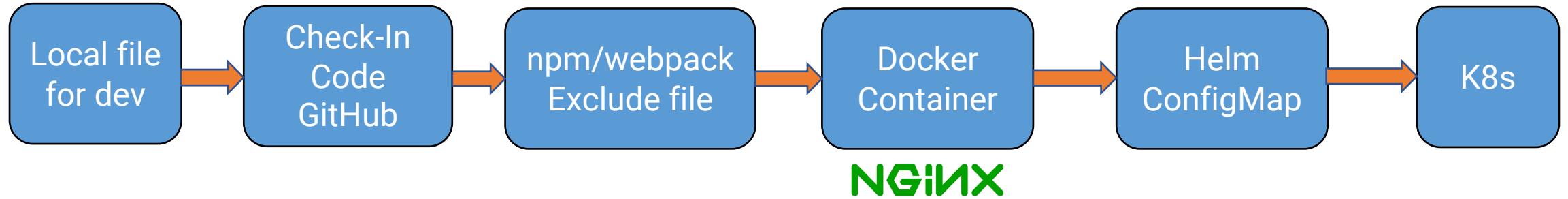
Pros

- New team members
- Changes propagate
- Management of data
- Many environments easier

Cons

- Node.js vs nginx
- Server-side is now code
- Server needed for local dev
- Hot reloading

Kubernetes



Demo

Runtime Injection in Kubernetes

K8s Injection

Pros

- New team members
- Changes propagate
- Management of data
- One Image -> many environments
- Local vs server separation

Cons

- Complexity
- Testing locally

JavaScript Environment Configuration

Build Time

- .env files
- WebPack

Runtime

- Server injection
- Mapped with
Docker/Kubernetes

Shameless Plug



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