



# How to build a PaaS?

Berlin PaaS meetup: How to run your Apps on them

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Based in France, GDPR

**Scalingo**

```
func main() {  
    d, err := berlinpass.StartDemo()  
    if err != nil {  
        d = &please(work(err))  
    }  
    err = d.DoStuff()  
    if err != nil {  
        return !now.please  
    }  
    d.EndDemo()  
}
```

# Demo Time

```
NORMAL test.go  
8 def username  
9   if object.user  
10     object.user.username  
11   else  
12     'g/s'  
13   end  
14 end  
15 end
```





What is going on?

3 steps: You send your code, We build it, We run it



Common methodology

12factor.net





# Common methodology

[...]

**3. Store config in the environment**

[...]

**5. Strictly separate build and run stages**

**6. Execute the app as one or more stateless processes**

[...]

**8. Treat logs as event streams**

[...]

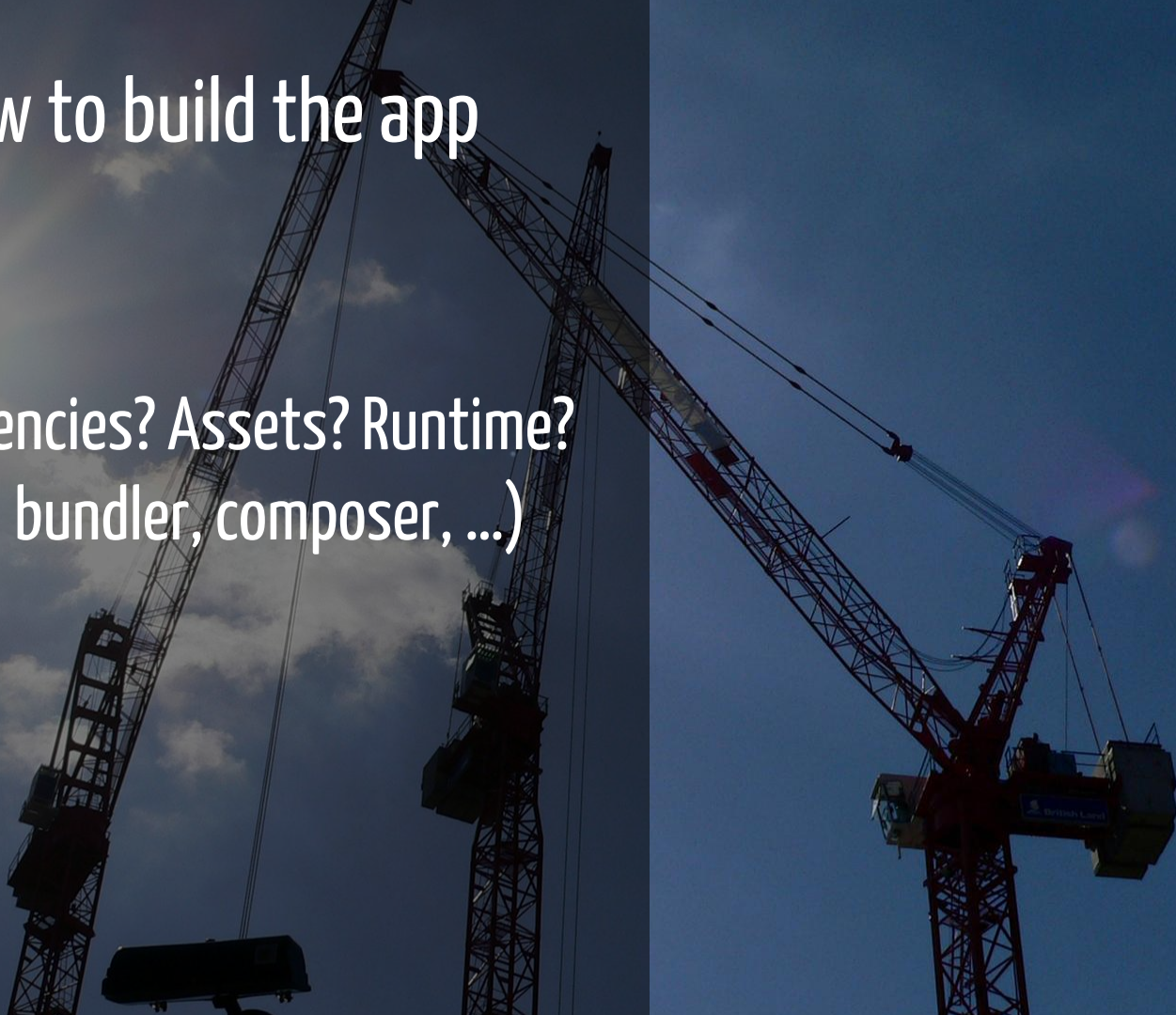
A low-angle shot of a yellow tower crane against a clear blue sky. The crane's lattice boom extends diagonally from the bottom right towards the top left. A dark blue horizontal band is superimposed across the middle of the image, containing the text "The build step" in white. The crane's base and counterweights are visible at the bottom right.

The build step



# How to build the app

Dependencies? Assets? Runtime?  
(npm, bundler, composer, ...)





# How to build the app

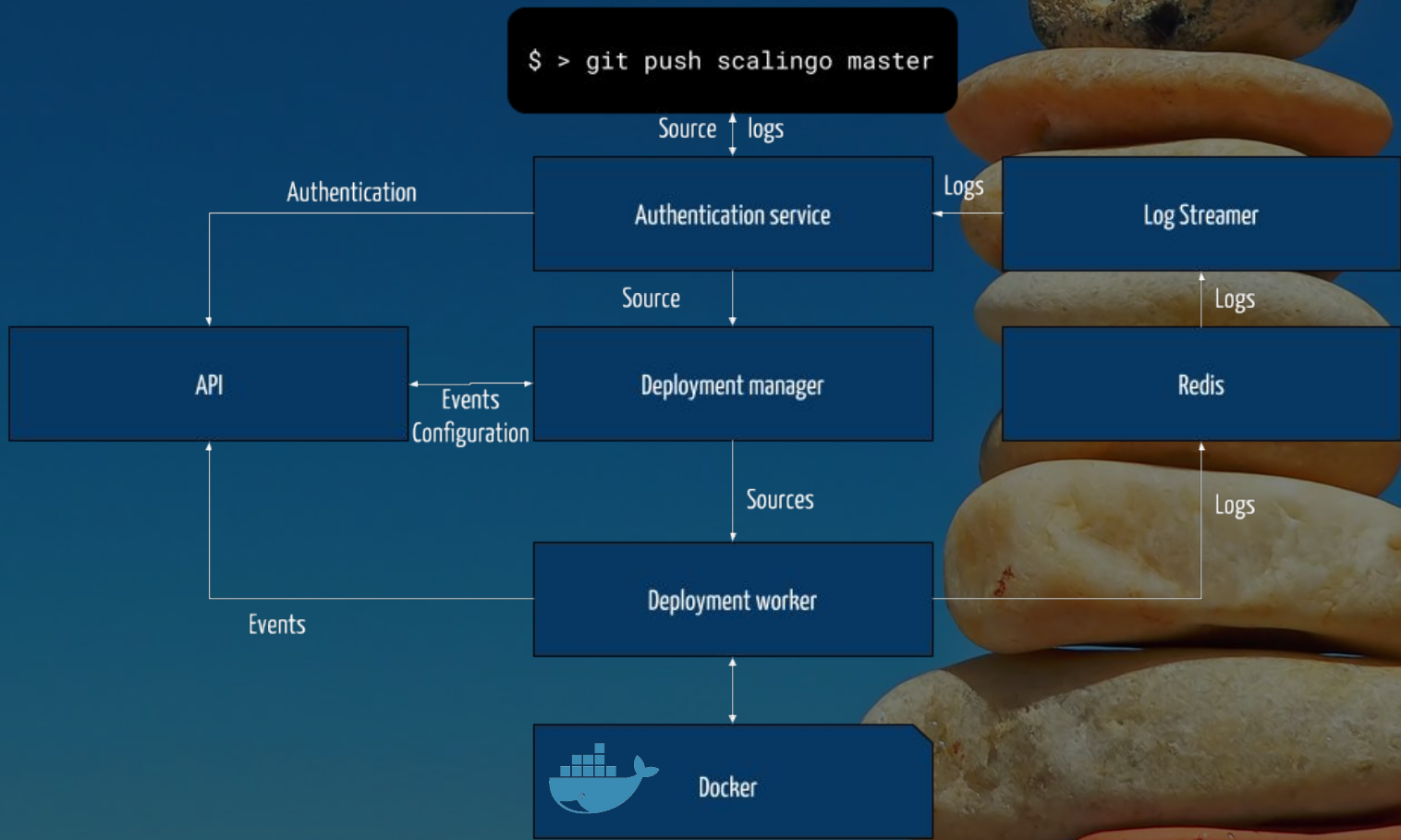
# Buildpacks !

Open source

Virtually all technologies

```
$ > tree ruby-buildpack
ruby-buildpack
├── bin
│   ├── compile
│   ├── detect
│   └── release
└── ...
```

# The build stack







The run step

# The run step

## Scheduling:

Zero downtime deployment

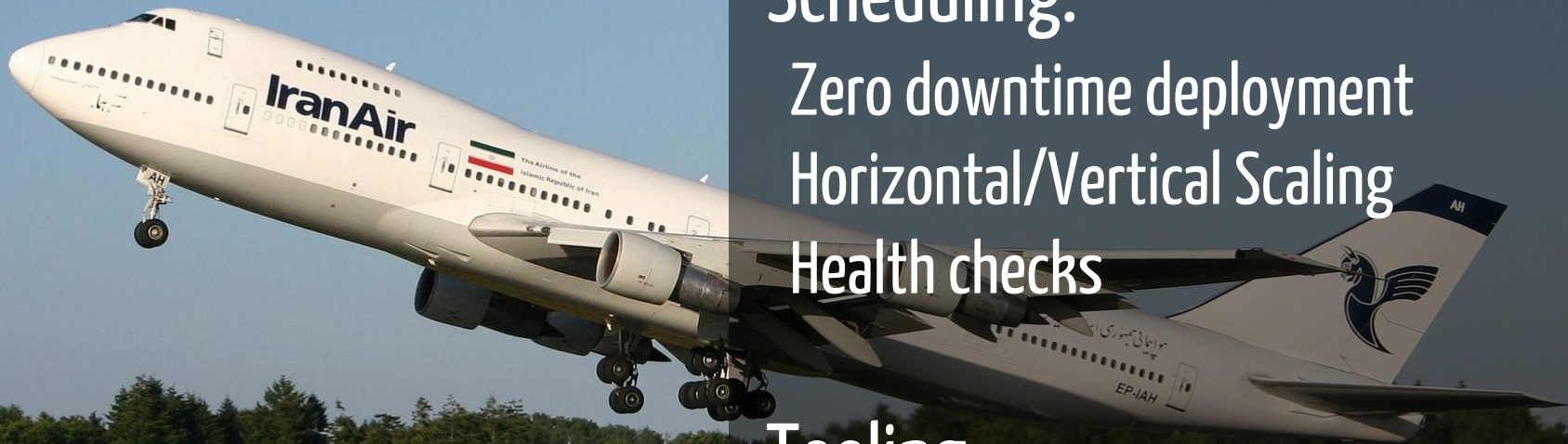
Horizontal/Vertical Scaling

Health checks

## Tooling:

Logs

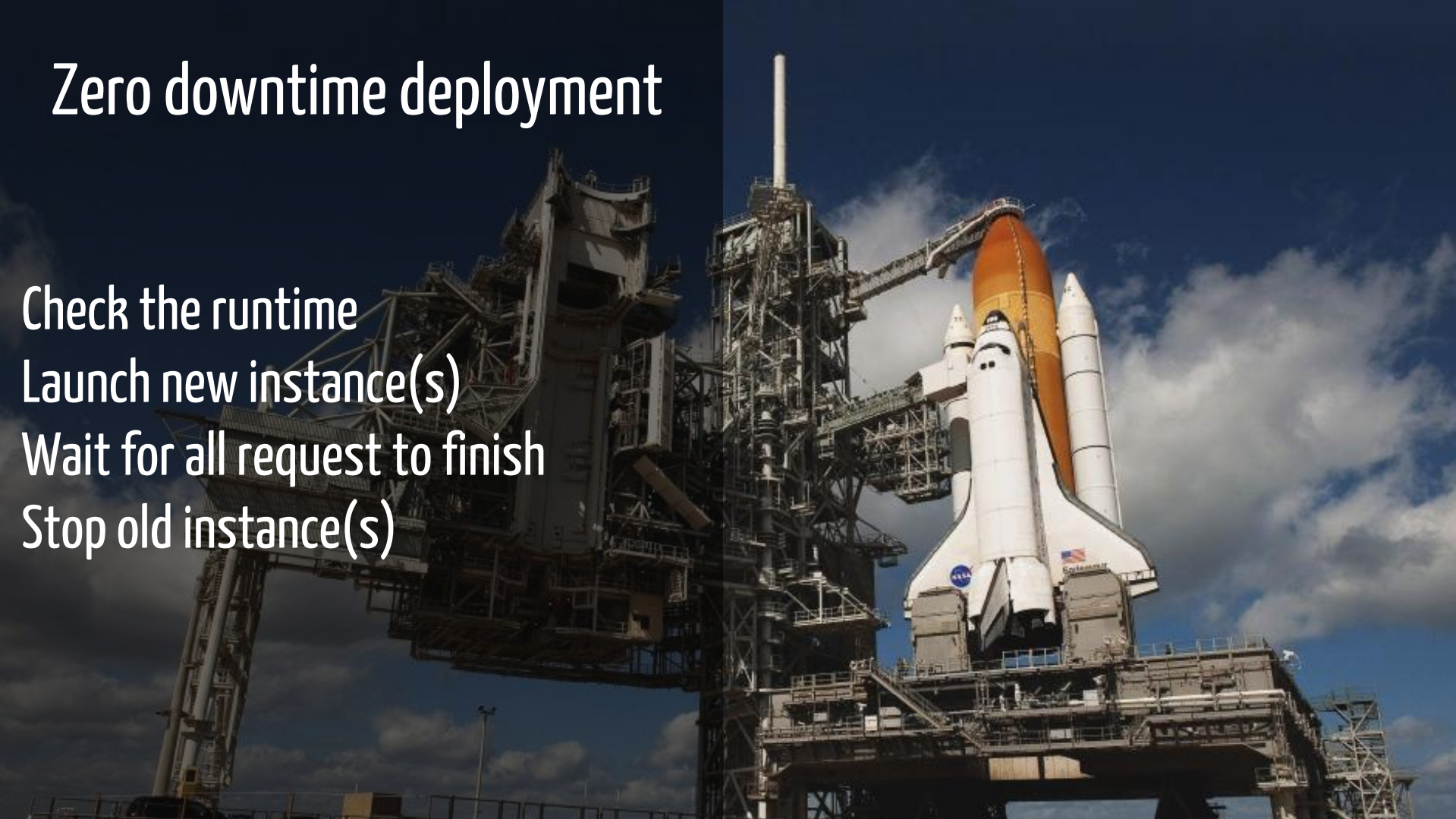
Events





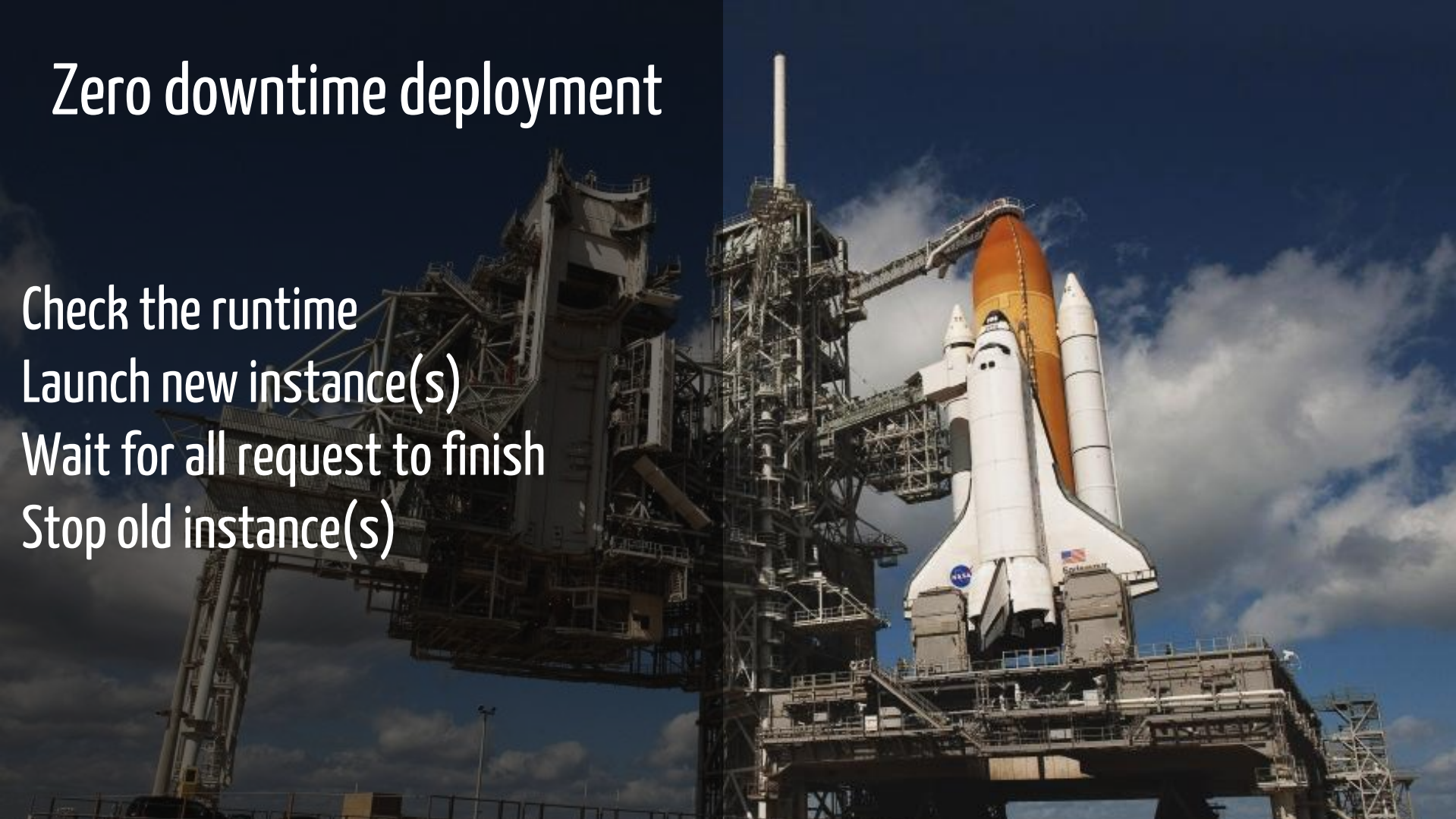
# Zero downtime deployment

- Check the runtime
- Launch new instance(s)
- Wait for all request to finish
- Stop old instance(s)

A photograph of a Space Shuttle Columbia being mated to the External Tank and Solid Rocket Boosters by the Shuttle Carrier Mechanism. The shuttle is white with orange and white boosters. The carrier mechanism is a large, complex structure made of metal scaffolding and ladders. The background is a blue sky with scattered white clouds.

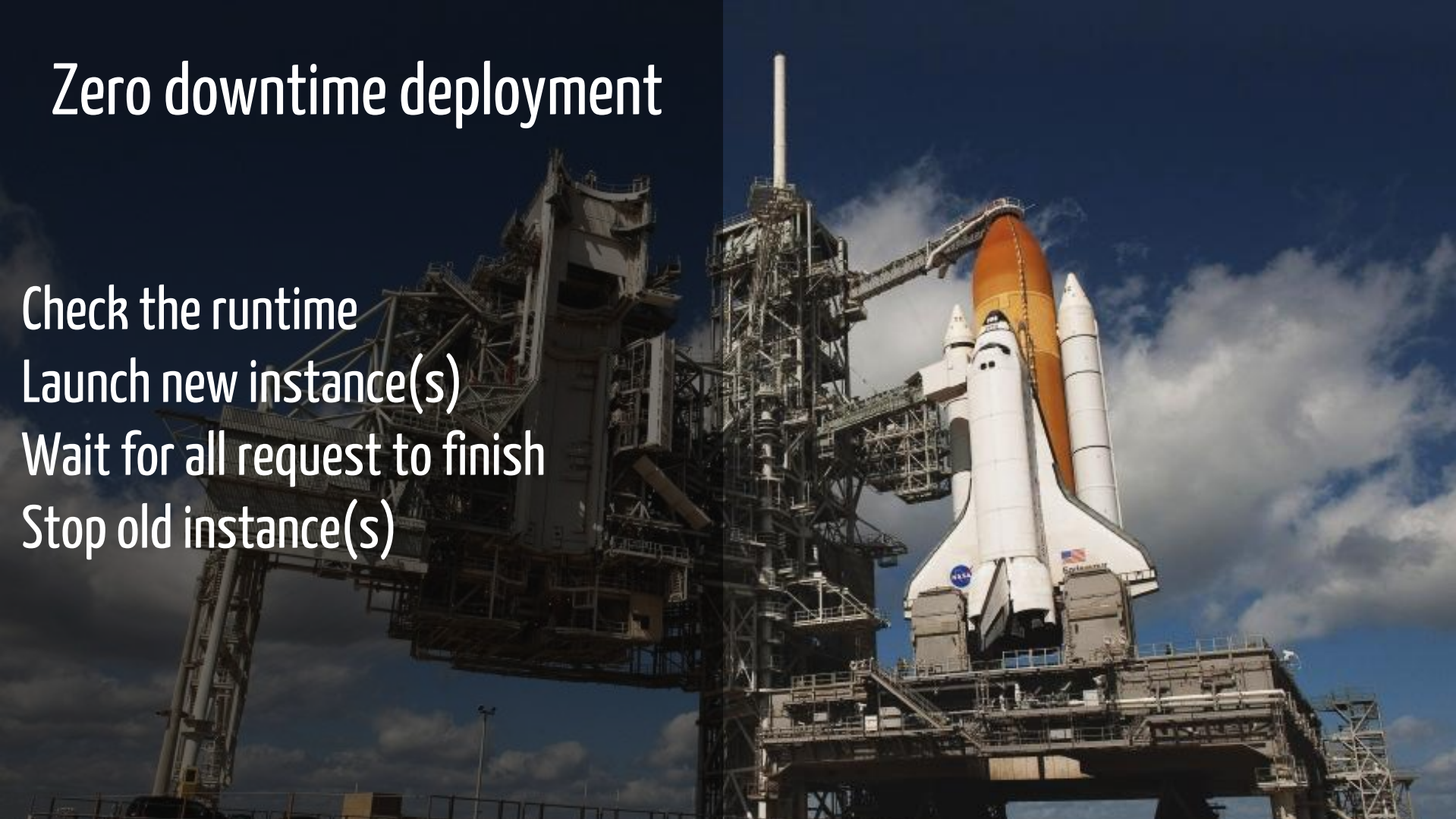
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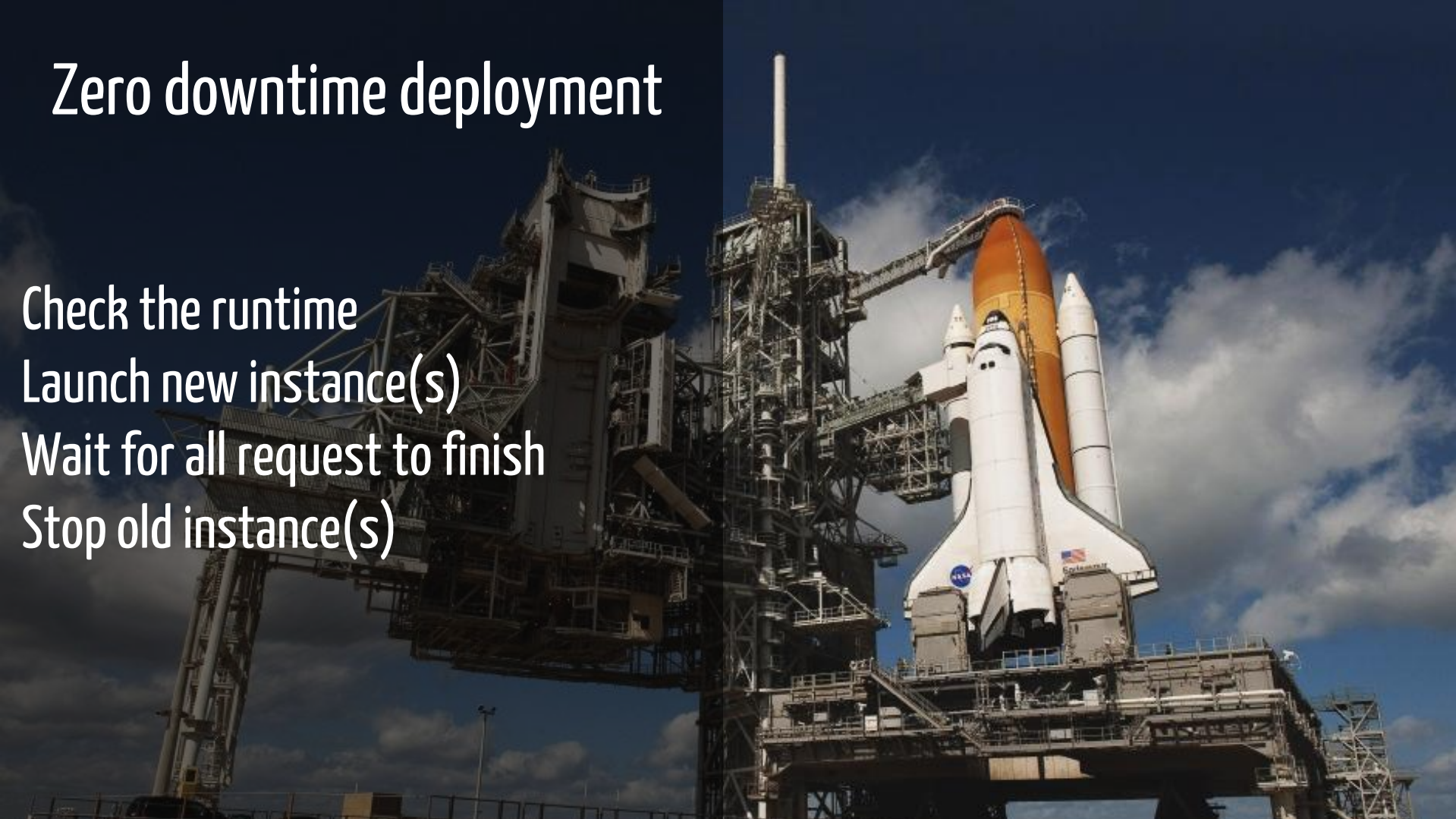
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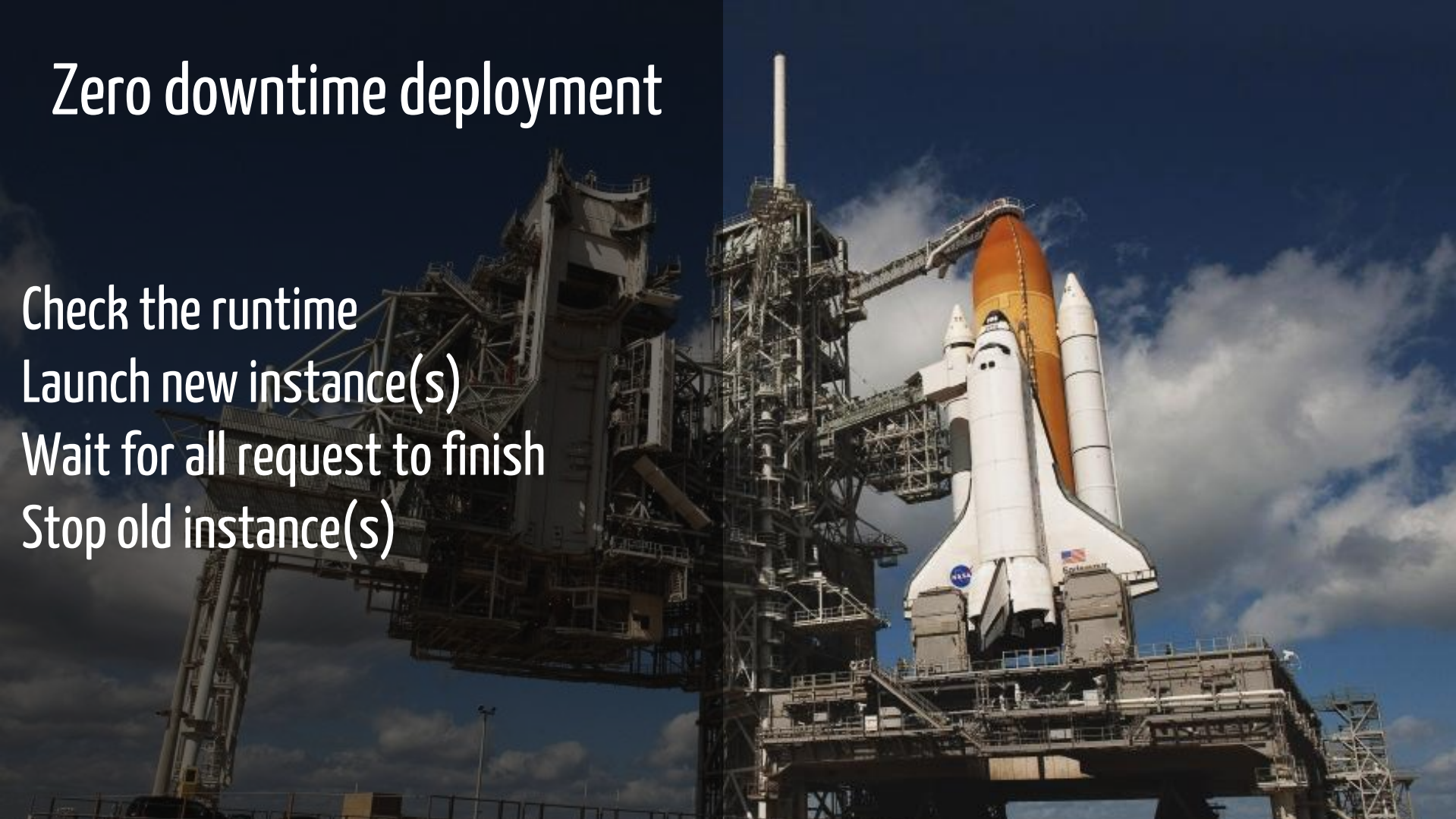
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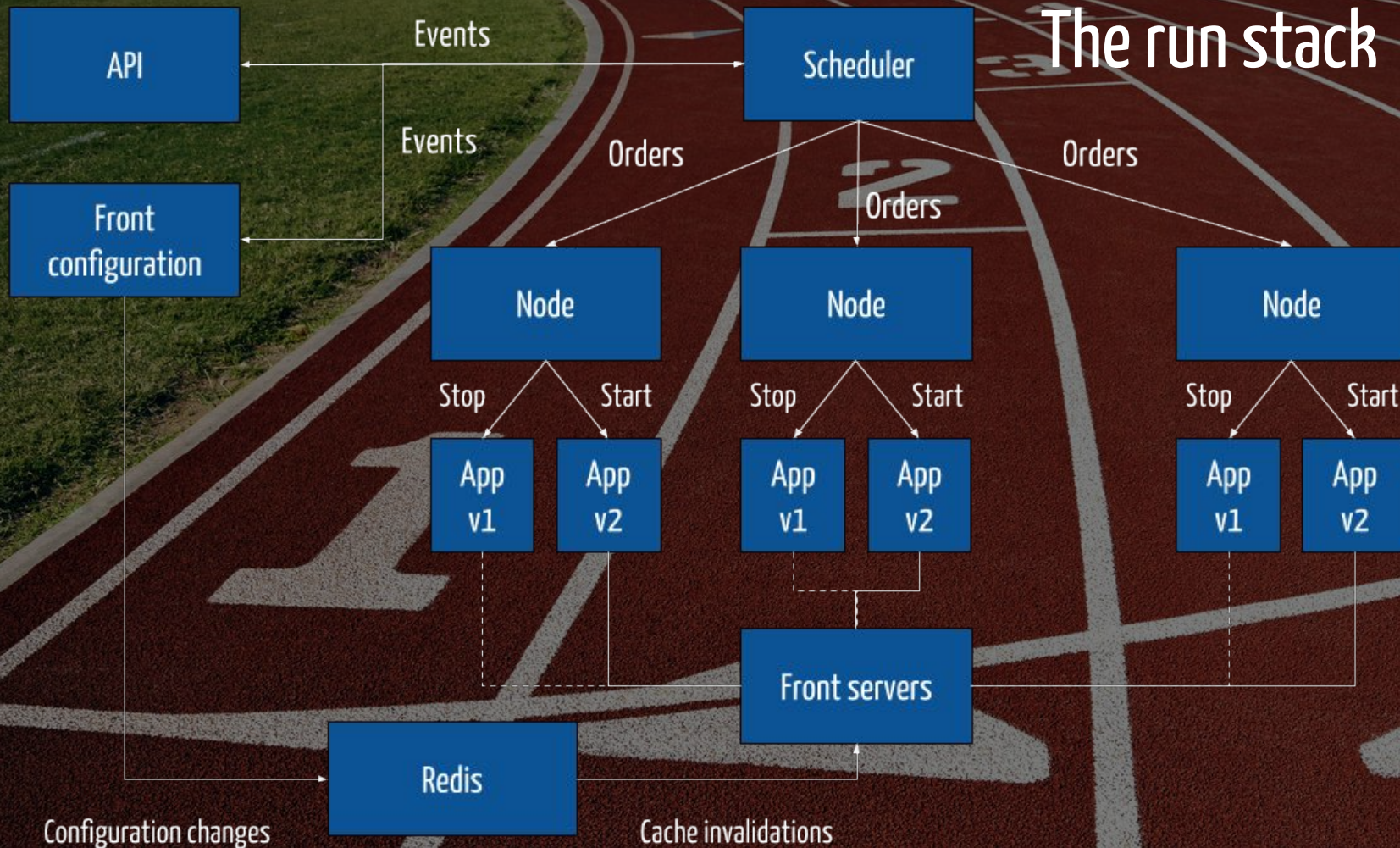
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# The run stack







Final thoughts

Building a PaaS is hard!

Addons (DB, FS)?  
Tooling?

Any questions ?

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**Scalingo**