



# CLOUD FOUNDRY

## Route Service

03/31/2016

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# About me



Etourneau Gwenn

Sr Solution Architect

Bef.: Platform Architect

Pivotal™



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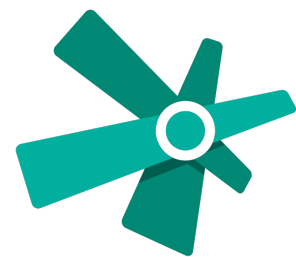


<https://github.com/shinji62>



# Pivotal

# Pivotal®



## Pivotal **Labs**

- Cloud Foundry
- Pivotal Tracker
- Gemfire
- Spring Framework
- RabbitMQ
- Concourse



# Agenda

- Cloud Foundry
- Route service
- Usage
- Demo
- Q&A



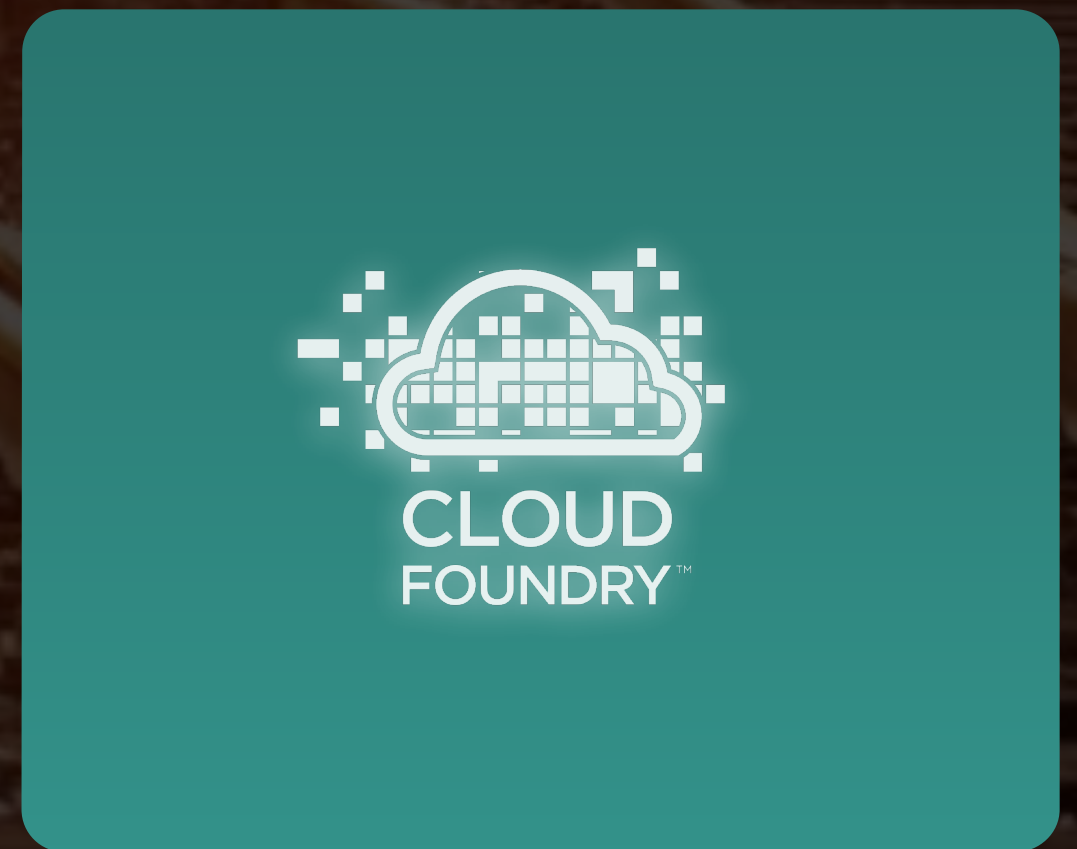
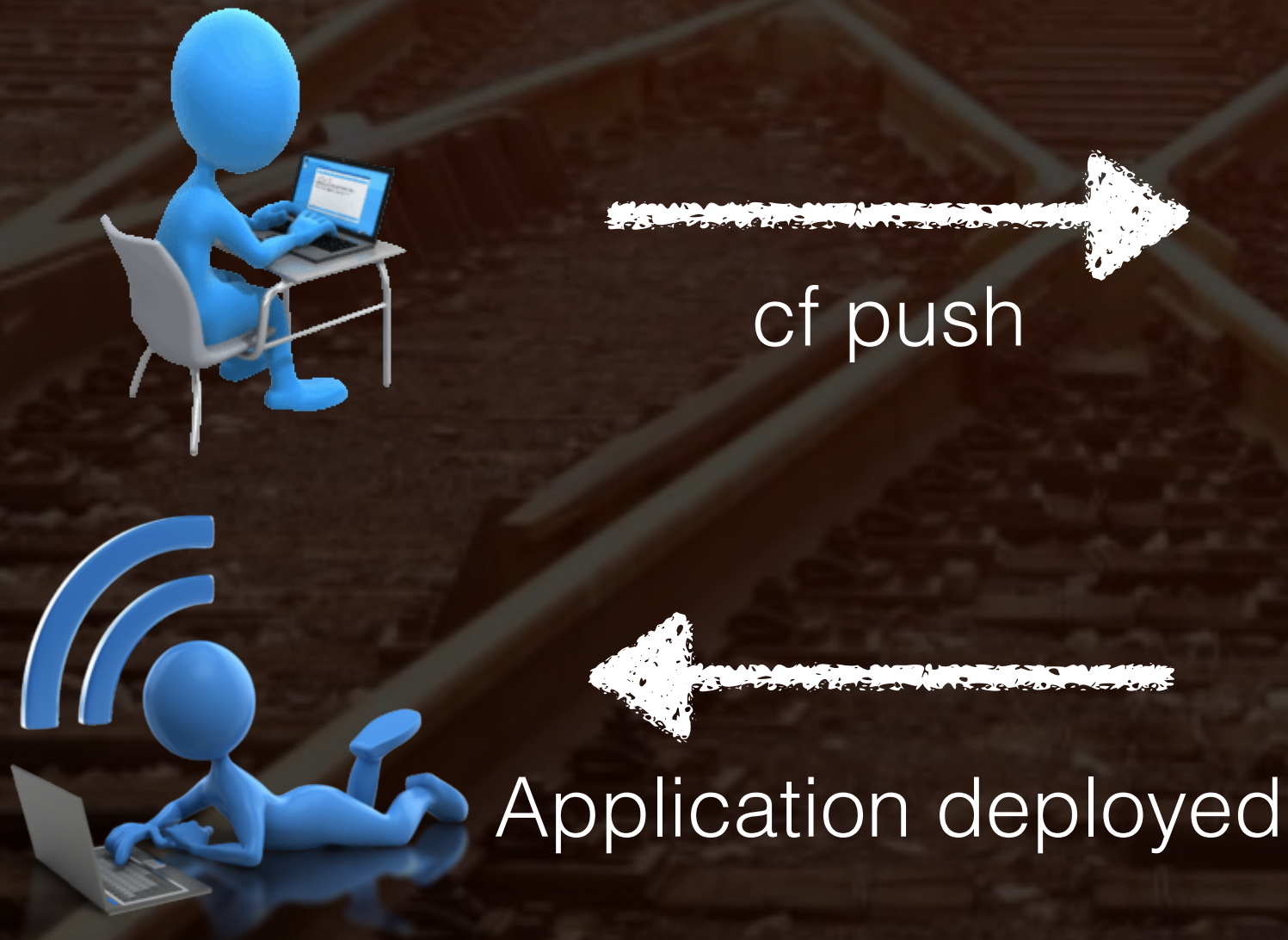
# Cloud Foundry

- Truly OpenSource Platform as a Service
- Aim to be de-facto enterprise PaaS
- Huge community
- Authentication, Log Agg., LB, Service, High Availability ...
- Support Buildpack and Docker as well
- IaaS Agnostic (Bosh)





# Deploying to Cloud Foundry







# Route Service



# What's that ?!

*As a Cloud Foundry user I want to be able to forward  
all my request  
for my.domain.com to my.service.com*

*I want to forward every request to **test.local.pcfdev.io** through https://  
rproxy.mydomain.io*

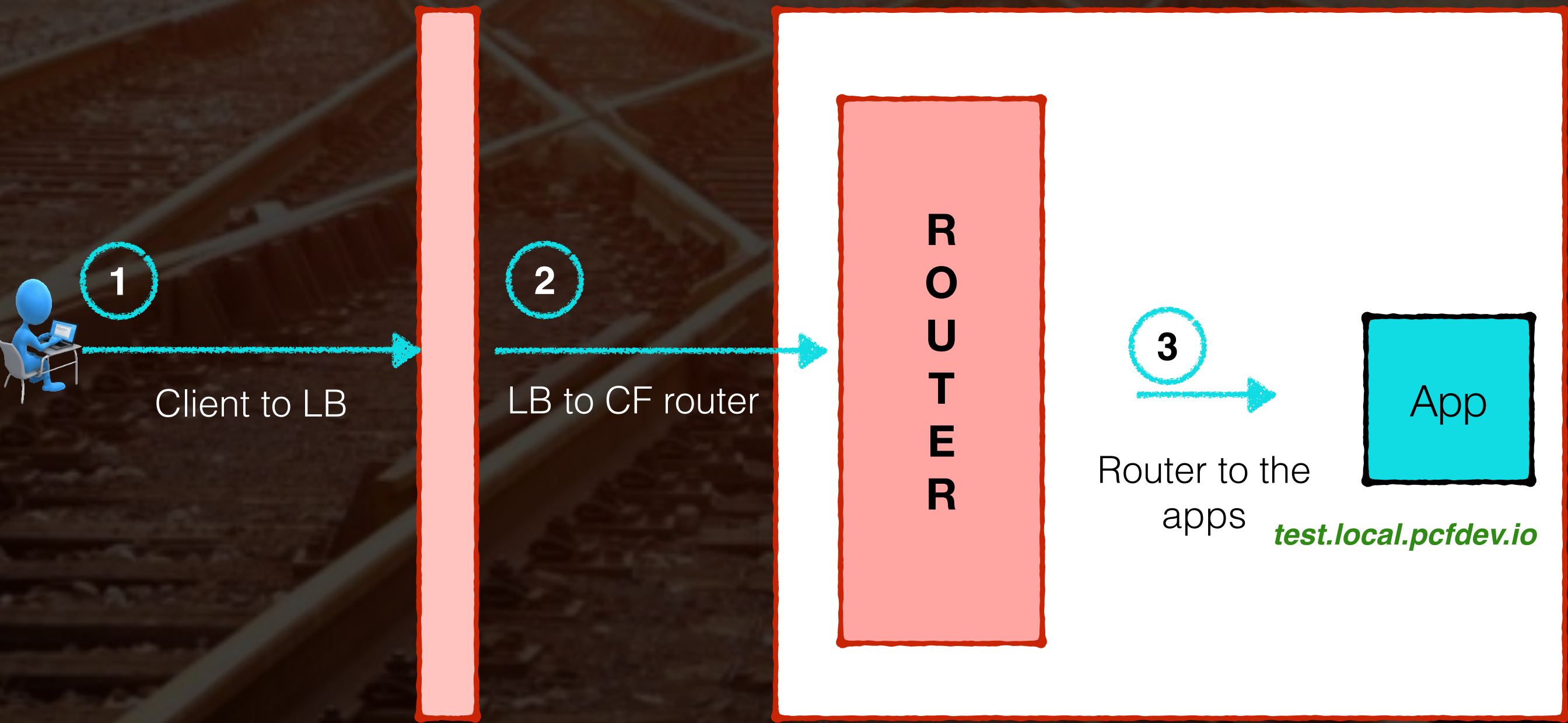


# Why?!

- Off-load authentication
- Rate-limiting
- Inspect request
- Plug with your internal system
- etc ...



# Normal Request



Load Balancer

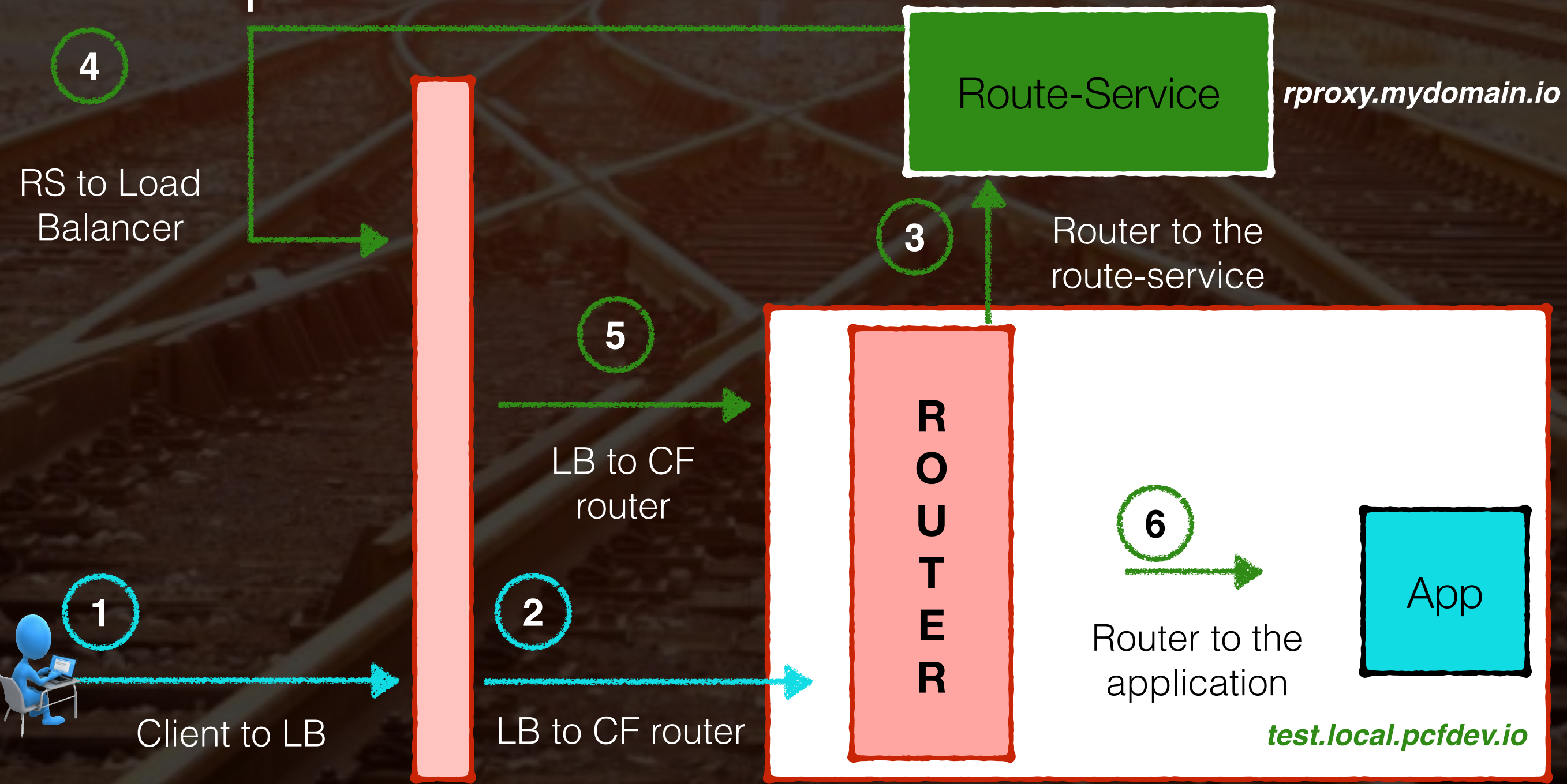


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# Request with RS outside CF

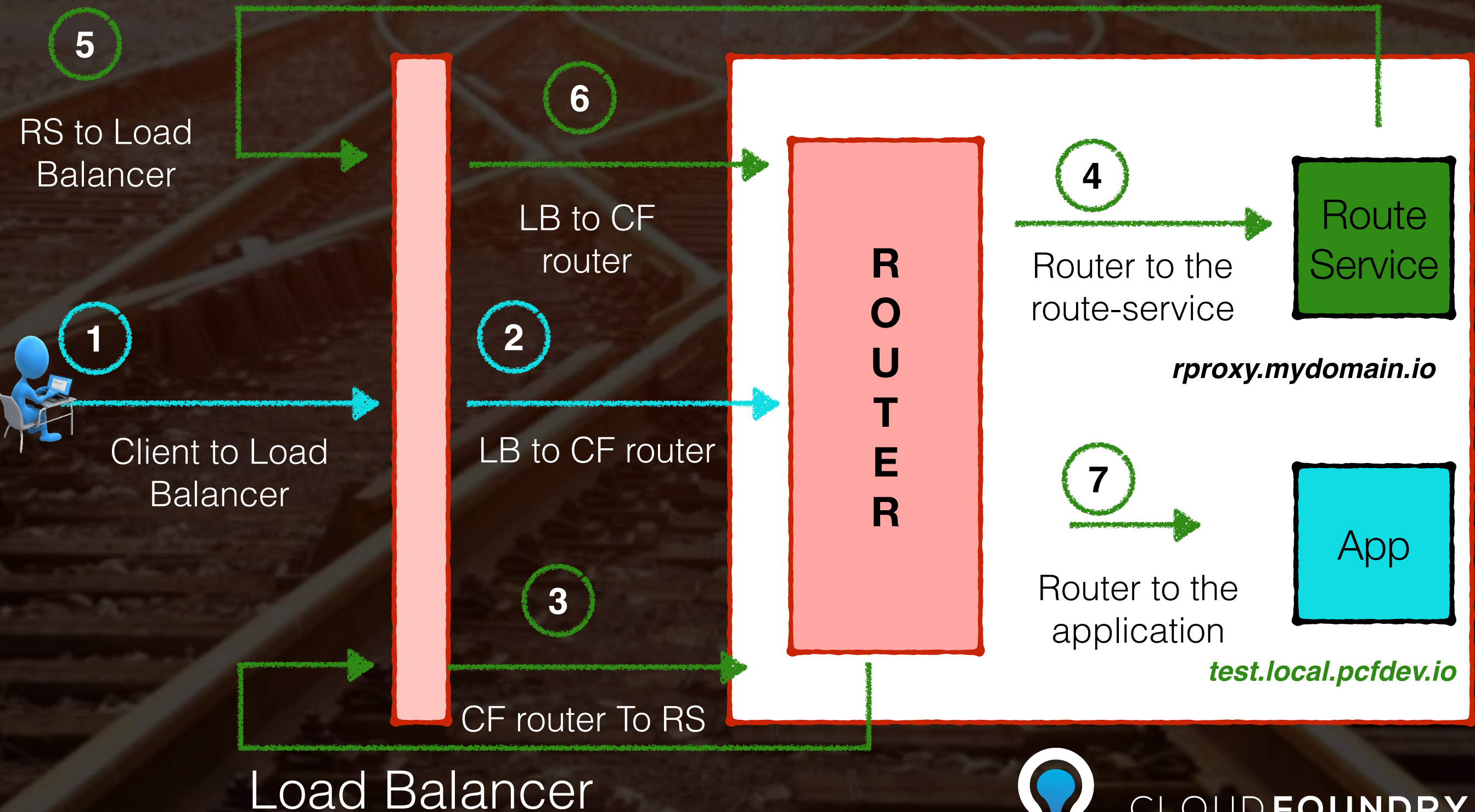


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# Request with RS in CF



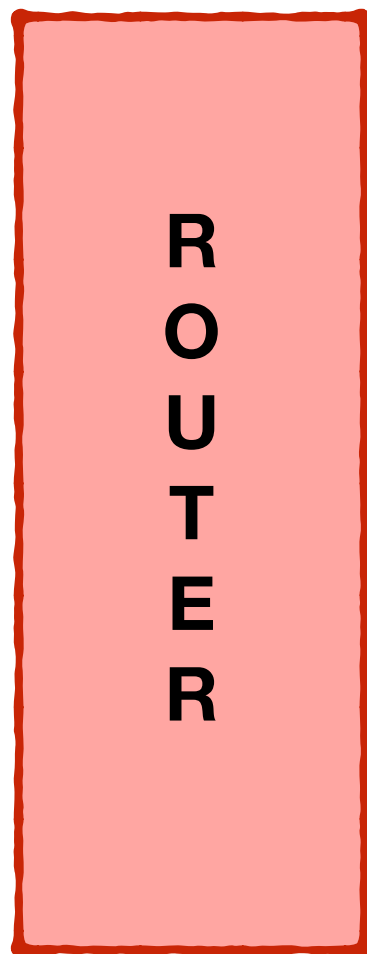
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# Request with RS

Router forward original request to RS



X-CF-Forwarded-Url ==> *test.local.pcfdev.io*

X-CF-Proxy-Signature

X-CF-Proxy-Metadata



*rproxy.mydomain.io*



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# Headers by CF routers

## **X-CF-Forwarded-Url**

*test.local.pcfdev.io*

Contains the URL of the application route. The route service should forward the request to this URL.

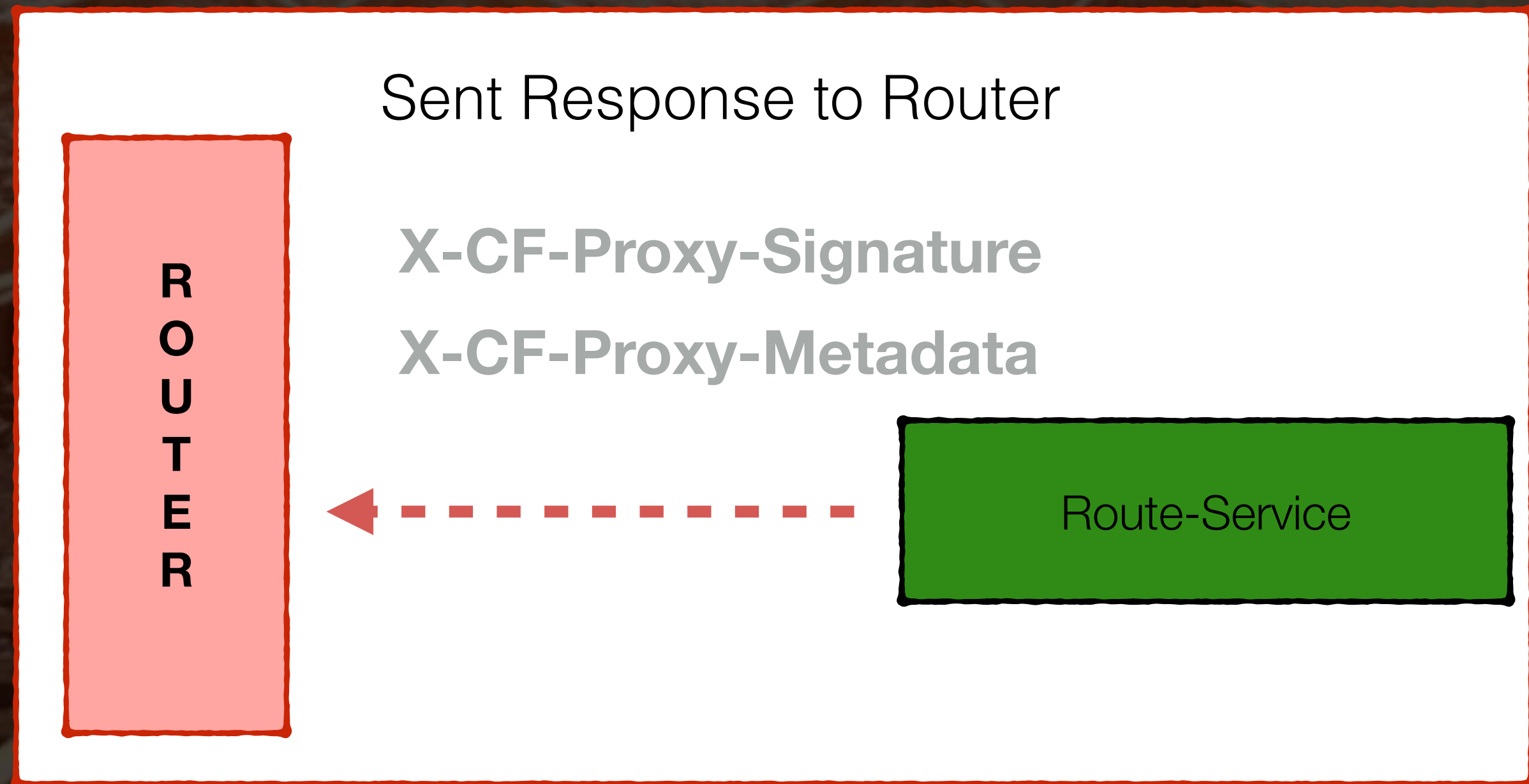
## **X-CF-Proxy-Signature**

## **X-CF-Proxy-Metadatas**

Every request is signed by the goRouter.  
Used by the router to validate the request.



# Response with RS



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# Requirements

- CF-Release  $\geq$  231
- Cloud Foundry CLI  $\geq$  6.16.0
- Router secret should be configure in the CF manifest.

```
properties:  
  router:  
    route_services_secret: yourSecret
```



# Manifest properties

Properties names	Description
<code>route_services_secret</code>	Secret use to encrypt the signature
<code>route_services_recommend_https</code>	Scheme recommended between RS and final domain
<code>route_services_secret_decrypt_only</code>	Use to rotate the secret Key
<code>route_services_timeout</code>	Route services must forward the request to the application route within this timeout
<code>ssl_skip_validation</code>	CF router only forward over HTTPS Use this to skip ssl validation



# Usage with User Provided

- Don't need service broker
- Simply create an user provided instances
- Bind the service to the hostname and domain !
- Not the application !

```
>$ cf create-user-provided-service my-route-service -r https://rproxy.mydomain.io  
>$ cf bind-route-service local.pcfdev.io my-route-service -n test
```

*I want to forward every request to **test.local.micropcf.io** through the service “my-route-service” (<https://rproxy.mydomain.io>)*



# Usage with Service Broker

- Catalog should include “**requires:route\_forwarding**”
- Bind response should include  
“**route\_service\_url:my.endpoint.com**”

```
>$ cf create-service service-broker plan my-route-service
```

```
>$ cf bind-route-service local.micropcf.io route-service -n test
```

*I want to forward every request to **test.local.micropcf.io** through the service “route-service” (<https://rproxy.mydomain.io>)*

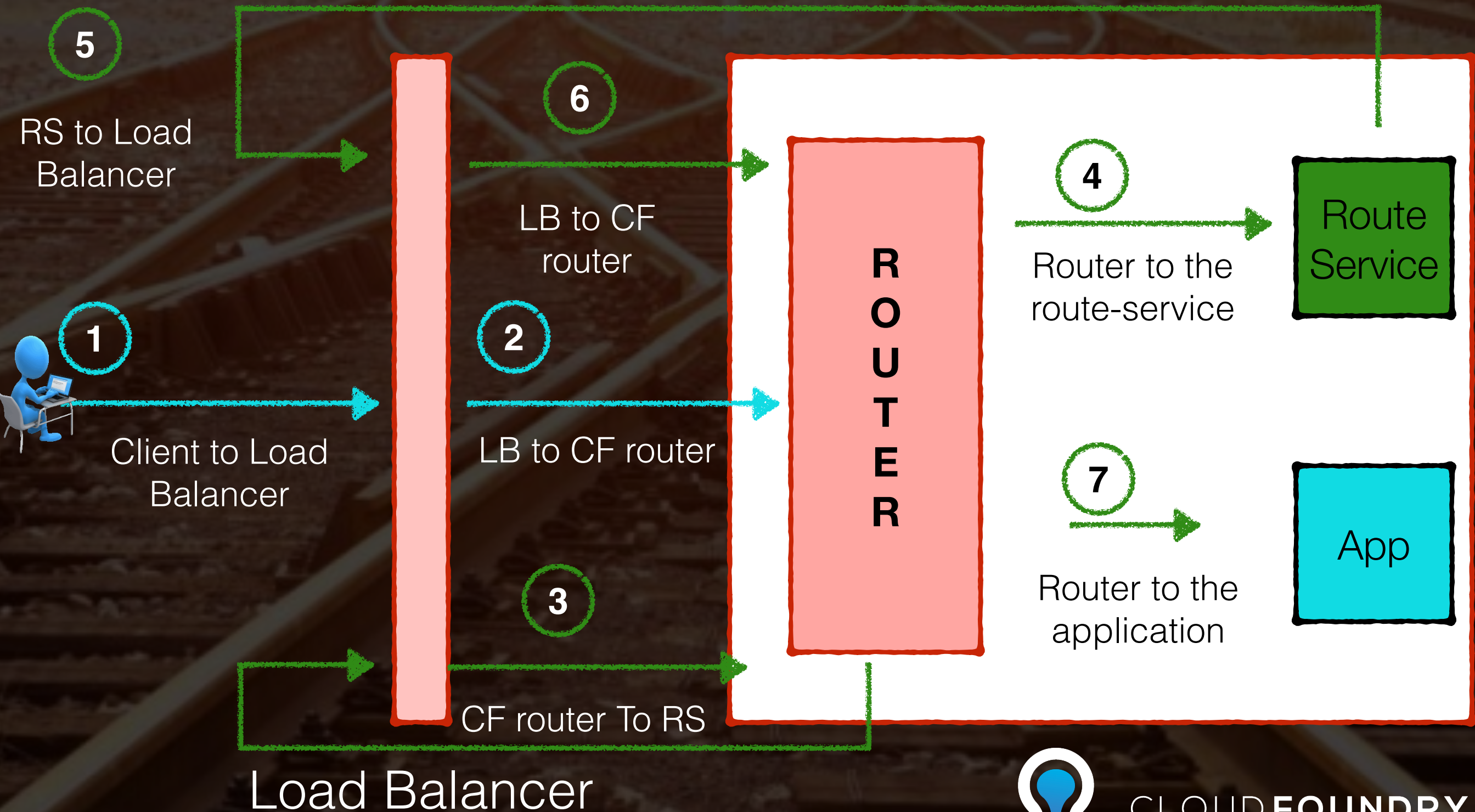




# Demo



# Request with RS in CF



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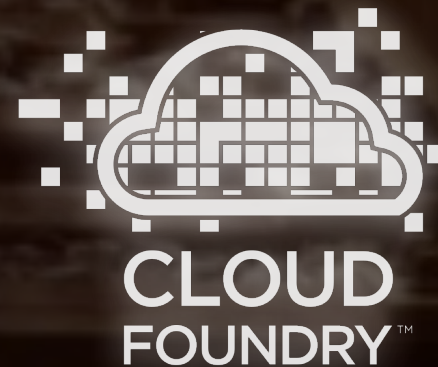
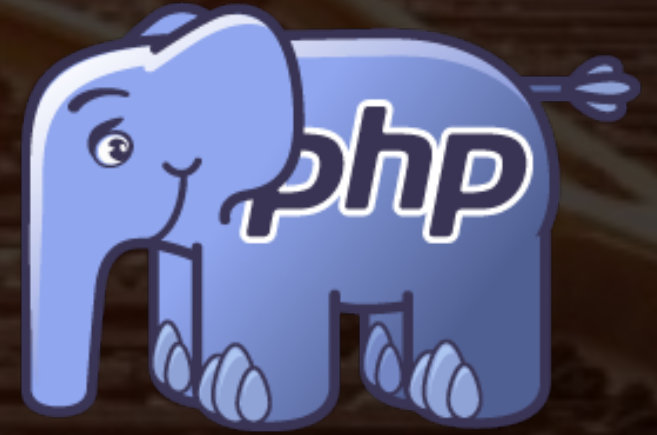
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# Without RS

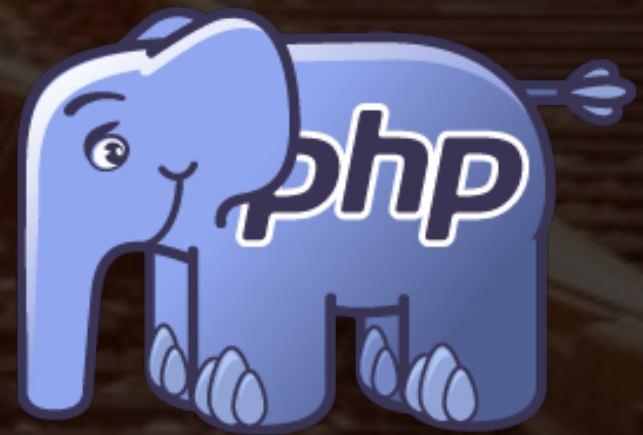
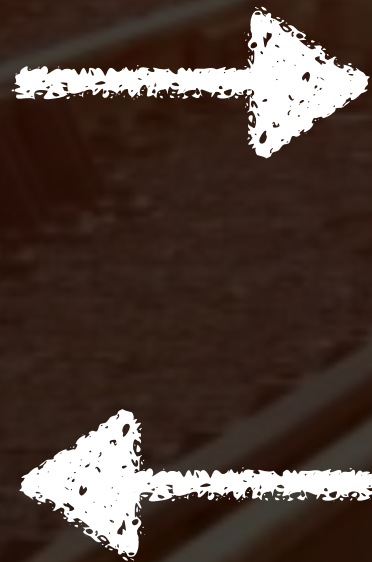


hello cf meetup



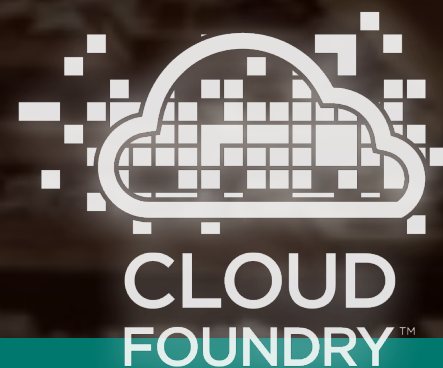


# With RS



```
hello cf meetup
```

```
hello cf meetup
```



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# D Documentation

- Route-Service
  - <http://docs.cloudfoundry.org/services/route-services.html>
- Blog post about Route-Service
  - <https://www.cloudfoundry.org/route-services/>



# Examples

- Rate Limiting (Java)
  - <https://github.com/cloudfoundry-samples/ratelimit-service>
- Sleeping (Go)
  - <https://github.com/cloudfoundry-samples/logging-route-service>
- Simple reverse proxy (Go)
  - <https://github.com/shinji62/route-service-cf>



# Today materials

- materials
  - <https://github.com/shinji62/cf-meetup-tokyo-2016-03-01--1>



# Q & A



# Thank You !!

