

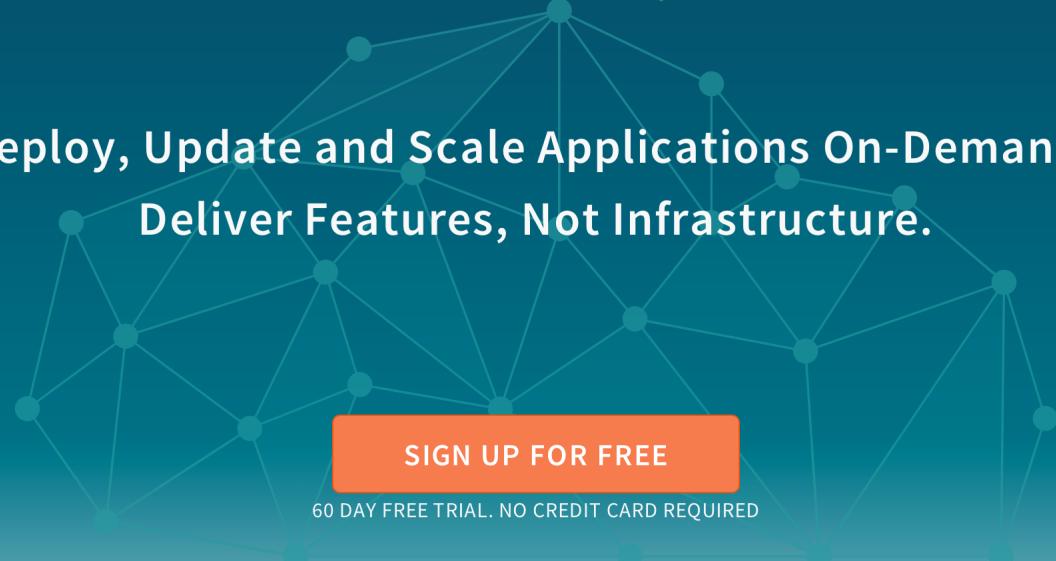
# Pivotal Cloud Platform Deep Dive

## Part 1: The Developer Experience

Pivotal CF Team

# The Developer Experience

- Target My Cloud Foundry Provider
- Push My App
- Bind My App to Backing Services
- Scale My App
- Monitor My App's Logs
- Monitor My App's Health
- Monitor My App's Performance



Deploy, Update and Scale Applications On-Demand.  
Deliver Features, Not Infrastructure.

[SIGN UP FOR FREE](#)

60 DAY FREE TRIAL. NO CREDIT CARD REQUIRED

Pivotal Web Services. Run by the **Cloud Foundry** Experts.

<https://run.pivotal.io>

Pivotal™

[Docs](#)[Support](#)[Tools](#)[Blog](#)[Status](#)

## Sign Up for a New Account

Your Email address \*

Invitation code (optional)

[SIGN UP](#)

### Pivotal Web Services account email verification

[Inbox](#)**Pivotal Web Services** admin@run.  
to me

11:40 AM (0 minutes ago)



Your email address was used to create a Pivotal Web Services account that requires verification.

[Verify your email address](#)

If you did not sign up for Pivotal Web Services, please ignore this message.

Docs

Support

Tools

Blog

Status

## Sign Up for your free trial

Username

frederico.melo+cf@gmail.com

Choose a password \*

\*\*\*\*\*

Confirm password \*

\*\*\*\*\*

Keep me up to date about Pivotal Web Services.

Send me occasional news about related Pivotal products

I have read and agree to the [Terms of Service](#) for Pivotal Web Services

Sign Up Now

(1) SIGN UP

(2) VERIFY ACCOUNT

(3) CREATE ORG

ORG

Create an Org

Docs

Support

Tools

Blog

Status

## Verify Your Account

Country \*

United States

Mobile Number \*

**SEND VERIFICATION CODE**

We require verification to protect you and us from abuse. This should only take a minute. Your number is used for verification purposes only and will never be used for marketing purposes.



ORG

Create an Org

Docs

Support

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Blog

Status

① SIGN UP

② VERIFY ACCOUNT

③ CREATE ORG

## Verify Your Account

Enter the code you received \*

511216

VERIFY ACCOUNT

We require verification to protect you and us from abuse. Enter the code you received.

•••• AT&T LTE 10:46 AM 77%   
[Back \(1\)](#) +1 (415) 805-9797 Contact

Text Message  
Today 10:45 AM

Pivotal Web Services  
Verification Code: [511216](#)

Text Message Send

(1) SIGN UP

(2) VERIFY ACCOUNT

(3) CREATE ORG

## Create an Org

Org (or Project) Name \*

roadshow-org

**Start Free Trial Now!**

Set the name of the project you'll be working on or use the name of your org. You can change this name at any time.

60 day free trial

- Up to 2GB of memory to share across app instances
- Choice of free marketplace services to try
- Unlimited collaborators

Upgrade at any time for

- Access to 10GB of memory at \$0.03/GB hr
- Premium service plans
- Pay for only what you use

ORG

roadshow-org

SPACES

development

Marketplace

Docs

Support

Tools

Blog

Status

✓ Org was successfully created

ⓘ Org roadshow-org has 2 months left in its free trial, which includes 2GB of app memory and 10 of the free Marketplace services. Upgrade now

ORG

QUOTA

Increase Quota

roadshow-org

0%

0 Bytes of 2 GB Limit

1 Space

1 Domain

1 Member

Billing

Delete

SPACE

development

APPS

0

SERVICES

0

0% of Org Quota

Add A Space



## Tools

### THE CLI. WHAT IS IT?

Cloud Foundry CLI for pushing and managing apps, creating and binding services, and more.

### MORE INFO

For more detailed instructions, please visit the [cf documentation](#)

### DOWNLOAD AND INSTALL

Windows 64 bit

Windows 32 bit

Mac OS X 64 bit

Linux 64 bit (.deb)

Linux 32 bit (.deb)

Linux 64 bit (.rpm)

Linux 32 bit (.rpm)



1. Download the CLI  
according to your OS

### GETTING STARTED

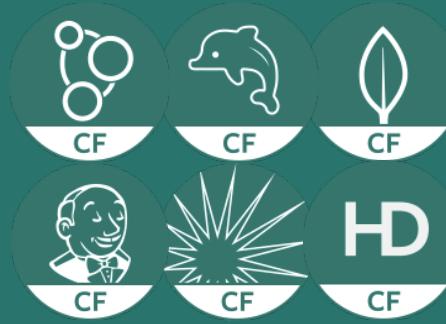
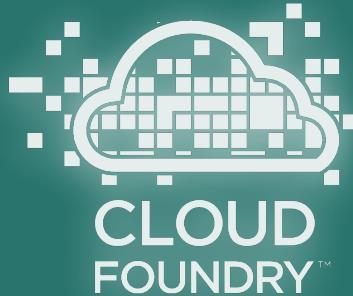
```
$ cf help
$ cf login -a https://api.run.pivotal.io
  API endpoint: https://api.run.pivotal.io
  Username> your_username
  Password> your_password
  Org> your_org
  Space> your_space
$ cf push your_app
```



2. Target the cloud

# Welcome to Cloud Foundry!

Pivotal CF



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# The Developer Experience

- ~~Target My Cloud Foundry Provider~~
- Push My App
- Bind My App to Backing Services
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- Monitor My App's Health
- Monitor My App's Performance

# Application push

```
$ cf api api.run.pivotal.io
```

Login to the CLI

Clone the app

```
$ cf login
```

Email: me@me.com

Password: \*\*\*\*\*

Push the app

Verify app is running

```
API endpoint: https://api.run.pivotal.io (API version: 2.11.0)
User: fmelo@gopivotal.com
Org: CommunityEngineering
Space: development
```

# Application push

Login to the CLI

Clone the app

Push the app

Verify app is running

Pivotal-Field-Engineering / PCF-demo

System.exit — Edit

7 commits 3 branches 0 releases 1 contributor

branch: master PCF-demo / +

Update manifest.yml

File	Description	Time
.settings	initial add	5 months ago
src/main	added small comment on main page	5 months ago
.classpath	initial add	5 months ago
.gitignore	initial add	5 months ago
.project	initial add	5 months ago
.pydevproject	initial add	5 months ago
.springBeans	initial add	5 months ago
README.md	initial add	5 months ago
manifest.yml	Update manifest.yml	7 hours ago
pom.xml	initial add	5 months ago

Clone or Download

HTTPS clone URL  
https://github.com/

You can clone with HTTPS, SSH, or Subversion.

Clone in Desktop

Download ZIP

<https://github.com/Pivotal-Field-Engineering/PCF-demo>

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# Application push

\$ cd PCF-demo

Login to the CLI

PCF-demo\$ cf push

Clone the app

Push the app

Verify app is running

```
0 of 1 instances running, 1 starting
0 of 1 instances running, 1 starting
1 of 1 instances running

App started

Showing health and status for app pcfdemo in org CommunityEngineering / space development as fmelo@gopivotal.com...
OK

requested state: started
instances: 1/1
usage: 512M x 1 instances
urls: pcfdemo-interstadial-reconsecration.cfapps.io, pcfdemo-subvermiform-arborization.cfapps.io

     state      since            cpu    memory          disk
#0  running   2014-08-20 05:28:50 PM  0.0%  361.9M of 512M  124.4M of 1G
```

cf push

# Application push

Login to the CLI

Clone the app

Push the app

Verify app is running

Navigate to the PWS Web Console

The screenshot shows the PWS Web Console interface for the application 'pcfdemo'. The main view features a large circular icon containing the application name 'pcfdemo' and two small icons (blue square and blue circle). To the right of the icon are configuration settings: 1 instance, 512 MB memory limit, and 1024 MB disk limit. Below this is a status table with one row, showing 0 instances running with 0% CPU usage, 384 MB memory, 124 MB disk, and 34 min uptime. At the bottom, tabs for Activity, Services, Env Variables, and Routes are visible, along with a Delete App button.

#	Status	CPU	Memory	Disk	Uptime
0	Running	0%	384 MB	124 MB	34 min



## CONFIGURATION

[Scale App](#)

### INSTANCES

1

### MEMORY LIMIT

512 MB

### DISK LIMIT

1024 MB

## STATUS

# ▲	STATUS	CPU	MEMORY	DISK	UPTIME
0	Running	0%	384 MB	124 MB	34 min

## ABOUT

**BUILDPACK** java-buildpack=v2.4-https://github.com/cloudfon...**STACK** Ubuntu 10.04**ROUTE** pcfdemo-interstadian-reconsecration.cfapps.io a.[Activity](#)[Services](#)[Env Variables](#)[Routes](#) [Delete App](#)

Instance hosted at 10.254.2.50:61269

Data being streamed from RabbitMQ

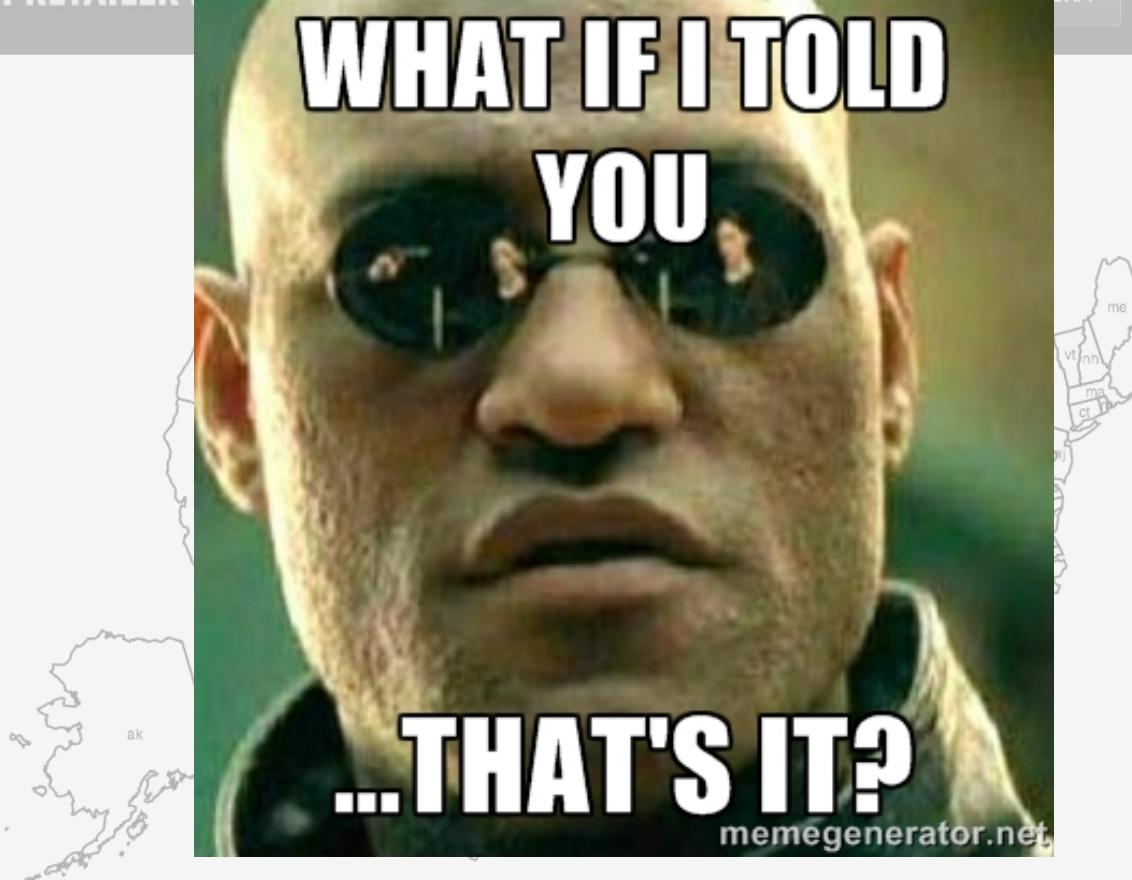
Orders density per US State (tip: click on a state for details)



**WHAT IF I TOLD  
YOU**

**...THAT'S IT?**

[memegenerator.net](http://memegenerator.net)



# The Developer Experience

- ~~Target My Cloud Foundry Provider~~
- ~~Push My App~~
- Bind My App to Backing Services
- Scale My App
- Monitor My App's Logs
- Monitor My App's Health
- Monitor My App's Performance

# Service creation and bind

Create Service

Bind service

Restart App

Verify

Click on "Marketplace"

The screenshot shows the Pivotal Web Services dashboard for the 'pcfdemo' application. On the left, the sidebar has a 'Marketplace' button highlighted with a large orange arrow pointing towards it. The main area displays the application's configuration, status, and logs.

**CONFIGURATION**

INSTANCES	MEMORY LIMIT	DISK LIMIT
1	512 MB	1024 MB

**STATUS**

#	STATUS	CPU	MEMORY	DISK	UPTIME
0	Running	0%	384 MB	124 MB	54 min

**ABOUT**

BUILDPACK: java-buildpack=v2.4-<https://github.com/cloudfoundry/java-buildpack>  
STACK: Ubuntu 10.04  
ROUTE: pcfdemo-interstatal-reconsecration.cfapps.io a...

Activity    Services    Env Variables    Routes

# Service creation and bind

Create Service

Bind service

Restart App

Verify

Choose “Cloud AMQP” (RabbitMQ)

## Services Marketplace

Get started with our free marketplace services. Upgrade to gain access to premium service plans.



Searchify

Custom search you control



BlazeMeter

The JMeter Load Testing Cloud



Redis Cloud

Enterprise-Class Redis for Developers



ClearDB MySQL Database

Highly available MySQL for your Apps.



CloudAMQP

Managed HA RabbitMQ servers in the cloud



ElephantSQL

PostgreSQL as a Service

# Service creation and bind

Create Service

Bind service

Restart App

Verify

Select the free plan

The screenshot shows a service selection interface for CloudAMQP. At the top, there's a section titled "ABOUT THIS SERVICE" with a sub-section for "PLAN FEATURES". Below this is a "SERVICE PLANS" table. The "Little Lemur" plan is highlighted as "free". To the right of the table, a call-to-action button labeled "Select this plan" is highlighted with a large orange arrow.

**ABOUT THIS SERVICE**

Decouple, distribute and scale your applications with the speed of CloudAMQP

[Documentation](#) | [Support](#)

**COMPANY**

84codes AB

**SERVICE PLANS**

Little Lemur	free
Tough Tiger	\$19.00/MONTH
Big Bunny	\$99.00/MONTH
Roaring Rabbit	\$299.00/MONTH
Power Panda	\$499.00/MONTH

**PLAN FEATURES**

- ✓ 30 MB of messages
- ✓ 3 connections

**Select this plan**

# Service creation and bind

Give it a name and bind it to the app

Create Service

Bind service

Restart App

Verify

The screenshot shows the CloudAMQP service creation and binding interface. At the top, there's a service card for "CloudAMQP" featuring a rabbit icon, the text "CloudAMQP", and the subtitle "Managed HA RabbitMQ servers in the cloud". Below this, the "ABOUT THIS SERVICE" section describes decoupling, distribution, and scaling applications using CloudAMQP. The "COMPANY" section lists "84codes AB". A "Documentation | Support" link is also present.

The main area is titled "SERVICE PLAN" and shows a "Little Lemur" plan with "free" status. To the right, the "CONFIGURE INSTANCE" section contains fields for "Instance Name" (set to "myrabbit-test"), "Add to Space" (set to "development"), and "Bind to App" (set to "pcfdemo").

At the bottom, the "SUBSCRIPTION TERMS" section includes a bulleted list of terms:

- A monthly subscription charge is added to the bill at the start of every monthly service period.
- Cancel a service subscription by deleting the instance.
- Credits are not issued for the unused portion of a monthly subscription period.
- Your subscription will be billed monthly starting today.

At the very bottom, there are "Cancel" and "Add" buttons.



## ABOUT THIS SERVICE

Decouple, distribute and scale your applications with the speed of CloudAMQP

## COMPANY

84codes AB

# CloudAMQP

Managed HA RabbitMQ servers in the cloud

## SERVICE PLAN

Little Lemur      free

### CONFIGURE INSTANCE

Instance Name

myrabbit-test

Add to Space

development

Bind to App

pcf demo

### SUBSCRIPTION TERMS

- A monthly subscription charge is applied to the bill at the start of every monthly service period.
- Cancel a service subscription by deleting the instance.
- Credits are not issued for the unused portion of a monthly subscription period.
- Your subscription will be billed monthly starting today.

Cancel

Add

# Service creation and bind

Create Service

Bind service

Restart App

Verify

The screenshot shows the Cloud Foundry application details for 'pcfdemo'. A teal circle highlights the application card. Inside the card, there are two icons: a blue square and a white square with a blue 'C'. Below these icons is a 'Restart' button. An orange arrow points from the text 'Bind service' to the 'C' icon. The card also includes an 'ABOUT' section with the following information:

BUILDPACK	java-buildpack=v2.4-https://github.com/cloudfoundry/java-buildpack.git#v2.4
STACK	Ubuntu 10.04
ROUTE	pcfdemo-interstadial-reconsecration.cfapps.io

On the right side of the screen, the application's configuration and status are displayed:

**CONFIGURATION**

INSTANCES	MEMORY LIMIT
1	512 MB

**STATUS**

#	STATUS	CPU	MEMORY	DISK
0	Running	0%	383 MB	124 MB

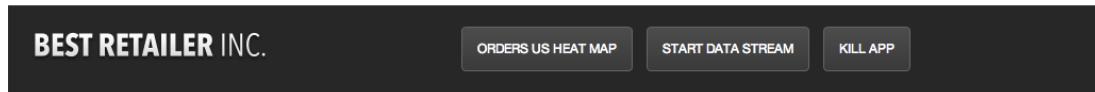
# Service creation and bind

Create Service

Bind service

Restart App

Verify





Click here

Instance hosted at 10.254.2.50:61269

Data being streamed from RabbitMQ

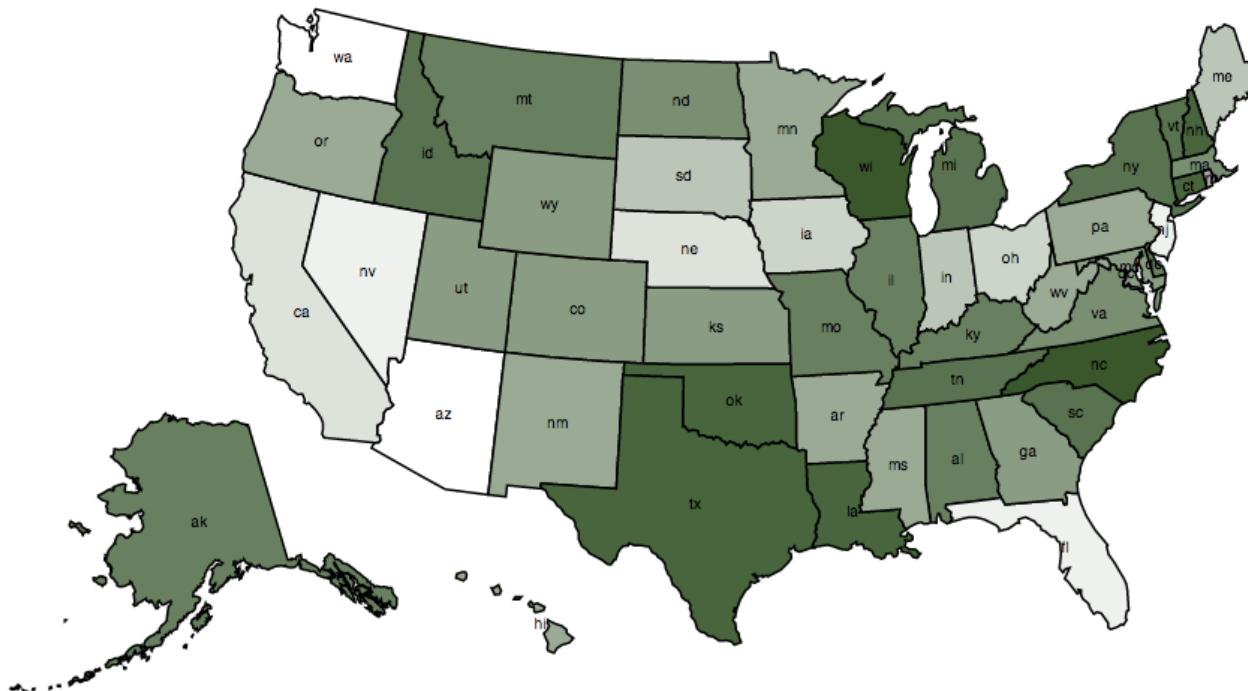
Orders density per US State (tip: click on a state for details)



Instance hosted at 10.254.2.50:61269

Data being streamed from RabbitMQ

Orders density per US State (tip: click on a state for details)



Heat Map gets  
activated as  
orders come

# BEST RETAILER INC.

ORDERS US HEAT MAP

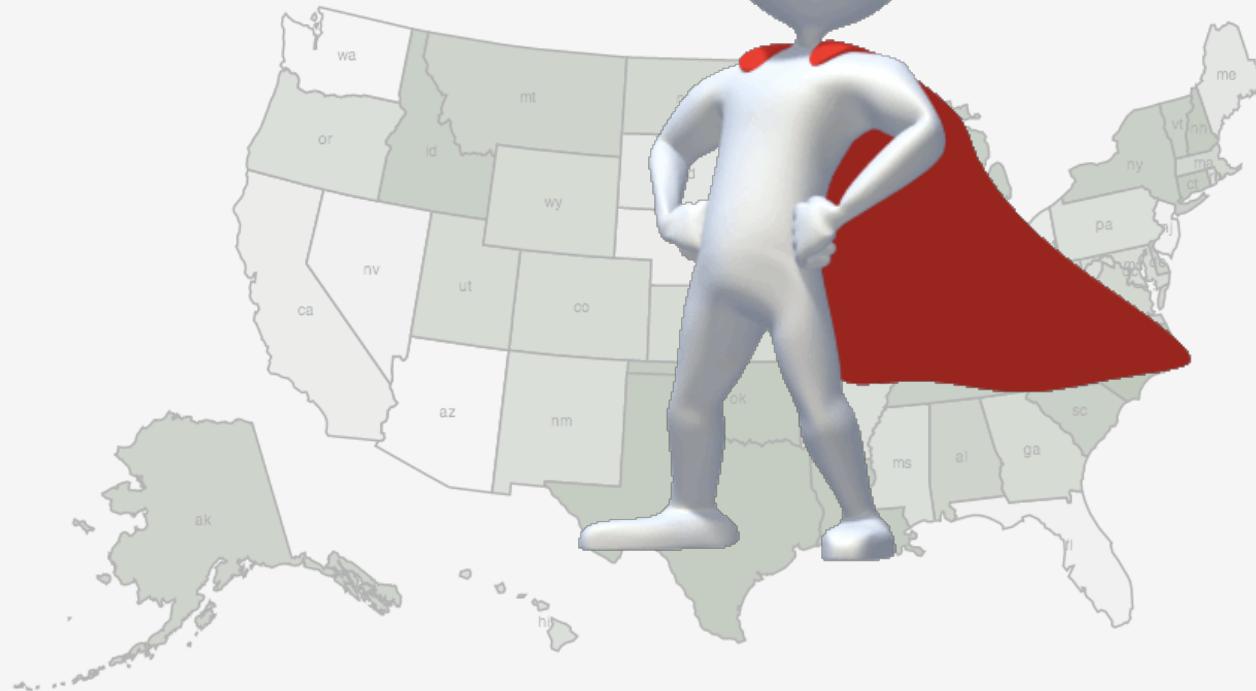
START DATA STREAM

KILL APP

Instance hosted at

Data being stream

Orders density per US State (click on state for more details)



# Service creation and bind

Create Service

Bind service

Restart App

Verify

```
$ cf env pcfdemo
```

```
System-Provided:  
{  
  "VCAP_SERVICES": {  
    "cloudamqp": [  
      {  
        "credentials": {  
          "uri": "amqp://witkwbsg:W38uMiYygeSC-GZEJsUdDVbcqujjPv-T@tiger.cloudamqp.com/witkwbsg"  
        },  
        "label": "cloudamqp",  
        "name": "rabbit-pcfd",  
        "plan": "lemur",  
        "tags": [  
          "amqp",  
          "Messaging",  
          "IT Management",  
          "New Product",  
          "Backup",  
          "rabbitmq",  
          "Messaging and Queuing"  
        ]  
      }  
    ],  
  }  
}
```

System-Provided:

{

"VCAP\_SERVICES": {

  "cloudamqp": [

  {

    "credentials": {

      "uri": "amqp://witkwbsg:W38uMiYygeSC-GZEJsUdDVbcqujjPv-T@tiger.cloudamqp.com/witkwbsg"

    },

    "label": "cloudamqp",

    "name": "rabbit-pcf",

    "plan": "lemur",

    "tags": [

      "amqp",

      "Messaging",

      "IT Management",

      >New Product",

      "Backup",

      "rabbitmq",

      "Messaging and Queuing"

    ]

}

],



# The Magic is in Spring Cloud Connectors

[DOCS](#)[GUIDES](#)[PROJECTS](#)[BLOG](#)[FORUM](#)[PROJECTS](#)

## Spring Cloud Connectors

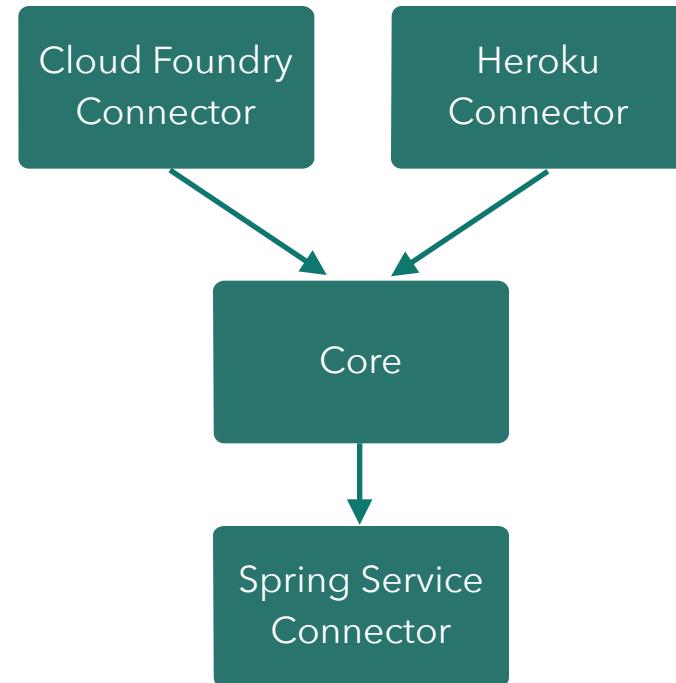


Spring Cloud Connectors simplifies connecting to services and gaining operating environment awareness in cloud platforms like Cloud Foundry and Heroku. Special support for Spring application through Java and XML config makes it trivial for apps to connect to cloud services. Designed for extensibility, you can use one of the existing cloud connectors (Cloud Foundry and Heroku) or write one for your cloud platform. While supporting commonly used services (relational databases, MongoDB, Redis, Rabbit) out of the box, it allows extending it to your own services. Neither of these require modifying Spring Cloud itself; all you need to do is add jars for your extensions to your classpath.

[QUICK START](#)

<http://cloud.spring.io/spring-cloud-connectors>

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# Spring Cloud Connectors Modules



# From VCAP\_SERVICES to Connection Bean

```
<cloud:rabbit-connection-factory id="connectionFactory" service-name="myrabbitmq"/>  
  
<rabbit:template id="amqpTemplate" connection-factory="connectionFactory" />  
  
<rabbit:admin connection-factory="connectionFactory" />  
  
<rabbit:queue name="ingest.queue" />  
  
<rabbit:direct-exchange name="ingest.exchange">  
  <rabbit:bindings>  
    <rabbit:binding queue="ingest.queue" key="ingest.binding" />  
  </rabbit:bindings>  
</rabbit:direct-exchange>
```

# The Developer Experience

- ~~Target My Cloud Foundry Provider~~
- ~~Push My App~~
- ~~Bind My App to Backing Services~~
- Scale My App
- Monitor My App's Logs
- Monitor My App's Health
- Monitor My App's Performance

# Scale my App

Scale instances

Verify

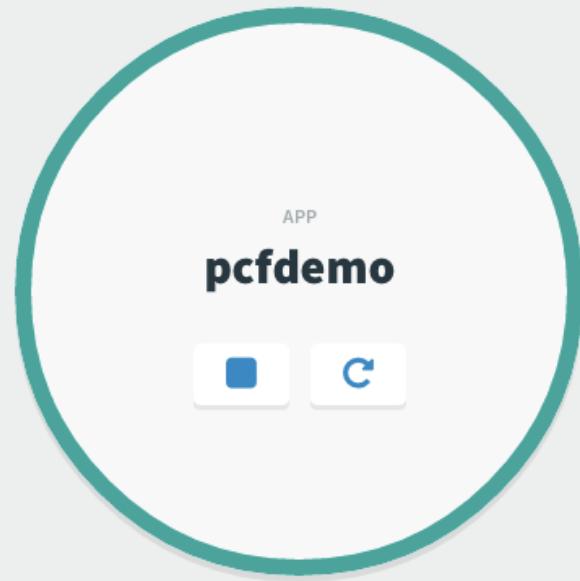
The screenshot shows the Pivotal Cloud Foundry (pcf) application interface. On the left, there's a large circular icon containing the word "APP" above "pcfdemo", with two small blue icons below it. Below this is a section titled "ABOUT" with details: BUILDPACK (java-buildpack=v2.4-https://github.com/cloudfoundry/java-buildpack.git), STACK (Ubuntu 10.04), and ROUTE (pcfdemo-interstadian-reconsecration.cfapps.io a...). At the bottom, there are tabs for Activity, Services, Env Variables, and Routes, with "Services" currently selected.

**CONFIGURATION**

INSTANCES	MEMORY LIMIT	DISK LIMIT
1	512 MB	1024 MB

**STATUS**

#	STATUS	CPU	MEMORY	DISK	UPTIME
0	Running	3%	391 MB	124 MB	3 hr 3



## ABOUT

BUILDPACK java-buildpack=v2.4-<https://github.com/cloudfoundry/java-buildpack>

STACK Ubuntu 10.04

ROUTE pcfdemo-interstadian-reconsecration.cfapps.io a...

## CONFIGURATION

[Scale App](#)

### INSTANCES

1

### MEMORY LIMIT

+ 12 MB  
-

### DISK LIMIT

1024 MB

## STATUS

# ▲	STATUS	CPU	MEMORY	DISK	UPTIME
0	Running	3%	391 MB	124 MB	3 hr 36 min

Activity

Services

Env Variables

Routes

[Delete App](#)

## CONFIGURATION

[Cancel](#)[Save](#)**INSTANCES****MEMORY LIMIT****DISK LIMIT**

3



512 MB



1024 MB

## STATUS

# ▲	STATUS	CPU	MEMORY	DISK	UPTIME
0	Running	2%	391 MB	124 MB	3 hr 45 min

# Scale my App

Scale instances

Verify

**CONFIGURATION**

INSTANCES      MEMORY LIMIT      DISK LIMIT

3	+ -	512 MB	1024 MB
---	--------	--------	---------

**STATUS**

# ▲	STATUS	CPU	MEMORY	DISK	UPTIME
0	Running	2%	391 MB	124 MB	3 hr 50 min
1	Starting	0%	0 Bytes	0 Bytes	0min
2	Starting	0%	0 Bytes	0 Bytes	0min

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# Scale my App

Scale instances

Verify

**CONFIGURATION**

**INSTANCES**      **MEMORY LIMIT**      **DISK LIMIT**

3      +      -      512 MB      ▾      1024 MB

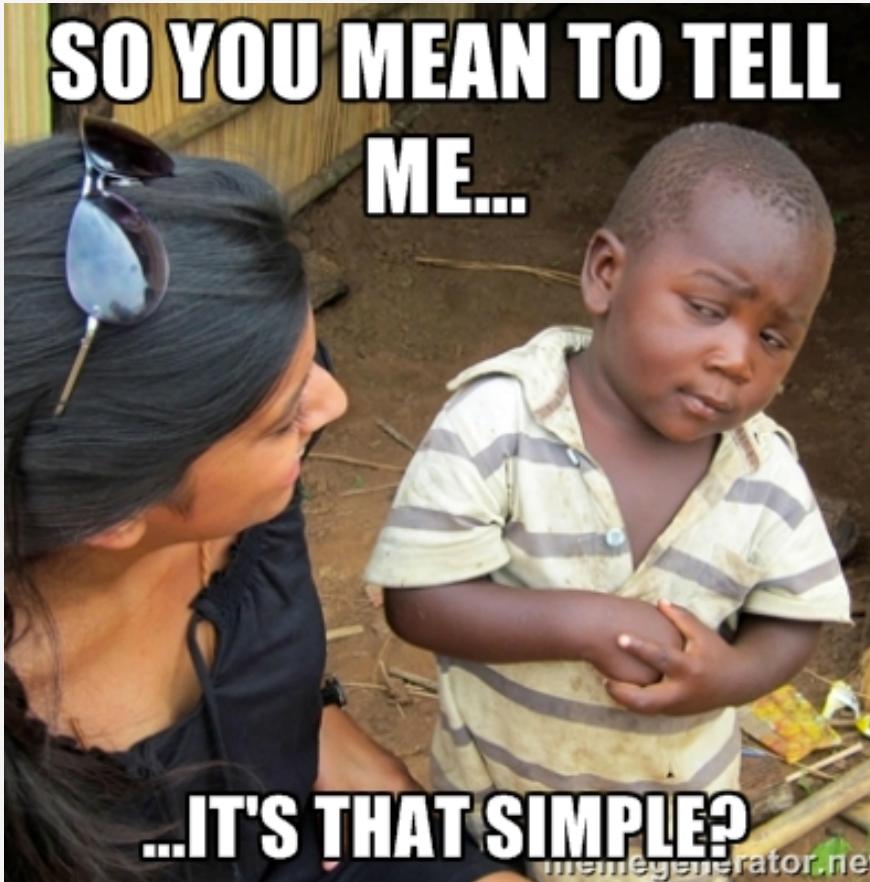
**STATUS**

#	STATUS	CPU	MEMORY	DISK	UPTIME
0	Running	0%	391 MB	124 MB	3 hr 52 min
1	Running	1%	379 MB	124 MB	1 min
2	Running	1%	368 MB	124 MB	1 min

# Scale my Ap

Scale instances

Verify



Scale App

DISK LIMIT

1024 MB

UPTIME

3 hr 52 min

1 min

1 min

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# The Developer Experience

- ~~Target My Cloud Foundry Provider~~
- ~~Push My App~~
- ~~Bind My App to Backing Services~~
- ~~Scale My App~~
- Monitor My App's Logs
- Monitor My App's Health
- Monitor My App's Performance

# Logs, Events and Health Management

cf logs

cf events

Kill app

Verify fail-over

Recover failed instance

```
$ cf logs pcfdemo
```

```
Connected, tailing logs for app pcfdemo in org CommunityEngineering / space development as fmelo@gopivotal.com...
2014-08-20T21:27:10.99-0700 [RTR]      OUT pcfdemo-interstadial-reconsecration.cfapps.io - [21/08/2014:04:27:10 +0000] "GET /getData?state=undefined HTTP/1.1" 200 3 "http://pcfdemo-interstadial-reconsecration.cfapps.io/" "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_9_4) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/36.0.1985.143 Safari/537.36" 10.10.66.34:35390 x_forwarded_for:"172.19.131.165, 10.20.123.165, 12.130.116.71" vcap_request_id:211bf672-df22-41ca-441b-e601eefa961b response_time:0.008426912 app_id:b8f966e2-5e2a-4a9f-bd57-04b21b4de498
2014-08-20T21:27:11.02-0700 [RTR]      OUT pcfdemo-interstadial-reconsecration.cfapps.io - [21/08/2014:04:27:11 +0000] "GET /getHeatMap HTTP/1.1" 200 2709 "http://pcfdemo-interstadial-reconsecration.cfapps.io/" "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_9_4) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/36.0.1985.143 Safari/537.36" 10.10.66.34:35470 x_forwarded_for:"172.19.131.165, 10.20.123.165, 12.130.116.71" vcap_request_id:0fb0bcd4-5499-48aa-768c-fa040553a14c response_time:0.018207474 app_id:b8f966e2-5e2a-4a9f-bd57-04b21b4de498
2014-08-20T21:27:13.25-0700 [RTR]      OUT pcfdemo-interstadial-reconsecration.cfapps.io - [21/08/2014:04:27:13 +0000] "GET /getHeatMap HTTP/1.1" 200 2767 "http://pcfdemo-interstadial-reconsecration.cfapps.io/" "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_9_4) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/36.0.1985.143 Safari/537.36" 10.10.66.34:35470 x_forwarded_for:"172.19.131.165, 10.20.123.165, 12.130.116.71" vcap_request_id:5a643432-3a56-4ac0-74bb-51c96f489841 response_time:0.005112468 app_id:b8f966e2-5e2a-4a9f-bd57-04b21b4de498
2014-08-20T21:27:13.28-0700 [RTR]      OUT pcfdemo-interstadial-reconsecration.cfapps.io - [21/08/2014:04:27:13 +0000] "GET /getData?state=undefined HTTP/1.1" 200 3 "http://pcfdemo-interstadial-reconsecration.cfapps.io/" "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_9_4) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/36.0.1985.143 Safari/537.36" 10.10.2.122:11138 x_forwarded_for:"172.19.131.165, 10.20.123.165, 12.130.116.71" vcap_request_id:6c62dd19-c15d-46ef-5937-5ee5ce4cce18 response_time:0.006179206 app_id:b8f966e2-5e2a-4a9f-bd57-04b21b4de498
2014-08-20T21:27:14.37-0700 [RTR]      OUT pcfdemo-interstadial-reconsecration.cfapps.io - [21/08/2014:04:27:14 +0000] "GET /getData?state=undefined HTTP/1.1" 200 3 "http://pcfdemo-interstadial-reconsecration.cfapps.io/" "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_9_4) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/36.0.1985.143 Safari/537.36" 10.10.2.122:11138 x_forwarded_for:"172.19.131.165, 10.20.123.165, 12.130.116.71" vcap_request_id:6c62dd19-c15d-46ef-5937-5ee5ce4cce18 response_time:0.006179206 app_id:b8f966e2-5e2a-4a9f-bd57-04b21b4de498
```

# Logs, Events and Health Management

cf logs

cf events

Kill app

Verify fail-over

Recover failed instance

\$ cf events pcfdemo

time	event	actor	description
2014-08-20T21:19:01.00-0700	audit.app.update	fmelo@gopivotal.com	instances: 3
2014-08-20T17:27:53.00-0700	audit.app.update	fmelo@gopivotal.com	state: STARTED
2014-08-20T17:27:41.00-0700	audit.app.update	fmelo@gopivotal.com	state: STOPPED
2014-08-20T17:27:20.00-0700	audit.app.update	fmelo@gopivotal.com	
2014-08-20T17:27:17.00-0700	audit.app.update	fmelo@gopivotal.com	instances: 1, memory: 512, environment_json : PRIVATE DATA HIDDEN
2014-08-20T12:09:24.00-0700	audit.app.update	fmelo@gopivotal.com	state: STARTED
2014-08-20T12:09:22.00-0700	audit.app.update	fmelo@gopivotal.com	state: STOPPED
2014-08-20T12:06:59.00-0700	audit.app.update	fmelo@gopivotal.com	
2014-08-20T12:06:55.00-0700	audit.app.update	fmelo@gopivotal.com	
2014-08-20T12:06:51.00-0700	audit.app.update	fmelo@gopivotal.com	
2014-08-20T12:06:48.00-0700	audit.app.update	fmelo@gopivotal.com	
2014-08-20T12:06:46.00-0700	audit.app.update	fmelo@gopivotal.com	
2014-08-20T12:06:14.00-0700	audit.app.update	fmelo@gopivotal.com	state: STARTED
2014-08-20T12:06:12.00-0700	audit.app.update	fmelo@gopivotal.com	state: STOPPED
2014-08-20T12:05:42.00-0700	audit.app.update	fmelo@gopivotal.com	state: STARTED
2014-08-20T12:05:40.00-0700	audit.app.update	fmelo@gopivotal.com	state: STOPPED
2014-08-20T12:03:55.00-0700	audit.app.update	fmelo@gopivotal.com	state: STARTED
2014-08-20T12:03:48.00-0700	audit.app.update	fmelo@gopivotal.com	state: STOPPED

# Logs, Events and Health Management

cf logs

cf events

Kill app

Verify fail-over

Recover failed instance

The screenshot shows the Cloud Foundry application dashboard for the 'pcf demo' application. At the top right, there is a 'Scale App' button. Below it, the 'CONFIGURATION' section includes fields for 'INSTANCES' (set to 3), 'MEMORY LIMIT' (512 MB), and 'DISK LIMIT' (1024 MB). The 'STATUS' section displays three instances, all of which are running. The table below shows the following data:

#	STATUS	CPU	MEMORY	DISK	UPTIME
0	Running	0%	391 MB	124 MB	4 hr 1 min
1	Running	1%	381 MB	124 MB	11 min
2	Running	0%	371 MB	124 MB	11 min

The 'ACTIVITY' tab is selected, showing two entries: 'scaled app instances to 3' and 'started app'. The 'EVENTS' and 'RECENT LOGS' sections are also visible at the bottom.

Configuration:

- INSTANCES: 3
- MEMORY LIMIT: 512 MB
- DISK LIMIT: 1024 MB

Status:

#	STATUS	CPU	MEMORY	DISK	UPTIME
0	Running	0%	391 MB	124 MB	4 hr 1 min
1	Running	1%	381 MB	124 MB	11 min
2	Running	0%	371 MB	124 MB	11 min

Activity:

- scaled app instances to 3
- started app

Events:

- scaled app instances to 3
- started app

Recent Logs:

```
2014-08-21 04:27:08 +0000 [RTR] OUT pcfdemo-interstadial-reconsecration.cfapps.io - [21/08/2014:04:27:08 +0000] "GET /getHeatMap HTTP/1.1" 200 2709 "http://pcfdemo-interstadial-reconsecration.cfapps.io/" "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_9_4) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/36.0.1985.143 Safari/537.36" 10.10.66.34:35381 x_forwarded_for:"172.19.131.165, 10.20.123.165, 12.130.116.71" vcap_request_id:c1496e95-2c71-4e66-5b6f-b199f15178af response_time:0.008475600 app_id:b8f966e2-5e2a-4a9f-bd57-04b21b4de498
```

**EVENTS****scaled app instances to 3**

fmelo@gopivotal.com

08/21/2014 at 04:19 AM UTC

**started app**

fmelo@gopivotal.com

08/21/2014 at 12:27 AM UTC

**stopped app**

fmelo@gopivotal.com

08/21/2014 at 12:27 AM UTC

**updated app**

fmelo@gopivotal.com

08/21/2014 at 12:27 AM UTC

**updated app**

fmelo@gopivotal.com

08/21/2014 at 12:27 AM UTC

**started app**

fmelo@gopivotal.com

08/20/2014 at 07:09 PM UTC

**RECENT LOGS**

```
2014-08-21 04:27:08 +0000 [RTR] OUT pcfdemo-interstadial-reconsecration.cfapps.io - [21/08/2014:04:27:08 +0000]
"GET /getHeatMap HTTP/1.1" 200 2709 "http://pcfdemo-interstadial-reconsecration.cfapps.io/" "Mozilla/5.0
(Macintosh; Intel Mac OS X 10_9_4) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/36.0.1985.143 Safari/537.36"
10.10.66.34:35381 x_forwarded_for:"172.19.131.165, 10.20.123.165, 12.130.116.71" vcap_request_id:c1496e95-2c71-
4e66-5b6f-b199f15178af response_time:0.008475600 app_id:b8f966e2-5e2a-4a9f-bd57-04b21b4de498
```

```
2014-08-21 04:27:06 +0000 [RTR] OUT pcfdemo-interstadial-reconsecration.cfapps.io - [21/08/2014:04:27:06 +0000]
"GET /getData?state=undefined HTTP/1.1" 200 3 "http://pcfdemo-interstadial-reconsecration.cfapps.io/"
"Mozilla/5.0 (Macintosh; Intel Mac OS X 10_9_4) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/36.0.1985.143
Safari/537.36" 10.10.66.34:35321 x_forwarded_for:"172.19.131.165, 10.20.123.165, 12.130.116.71"
vcap_request_id:2d0101b5-ece2-4936-4c85-2b98662fd37e response_time:0.007587804 app_id:b8f966e2-5e2a-4a9f-bd57-
04b21b4de498
```

```
2014-08-21 04:26:55 +0000 [RTR] OUT pcfdemo-interstadial-reconsecration.cfapps.io - [21/08/2014:04:26:55 +0000]
"GET /getData?state=undefined HTTP/1.1" 200 3 "http://pcfdemo-interstadial-reconsecration.cfapps.io/"
"Mozilla/5.0 (Macintosh; Intel Mac OS X 10_9_4) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/36.0.1985.143
Safari/537.36" 10.10.66.34:35107 x_forwarded_for:"172.19.131.165, 10.20.123.165, 12.130.116.71"
vcap_request_id:56a51626-27a7-4997-755c-8184fc90c99 response_time:0.005212373 app_id:b8f966e2-5e2a-4a9f-bd57-
04b21b4de498
```

```
2014-08-21 04:26:53 +0000 [RTR] OUT pcfdemo-interstadial-reconsecration.cfapps.io - [21/08/2014:04:26:53 +0000]
"GET /getData?state=undefined HTTP/1.1" 200 3 "http://pcfdemo-interstadial-reconsecration.cfapps.io/"
"Mozilla/5.0 (Macintosh; Intel Mac OS X 10_9_4) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/36.0.1985.143
Safari/537.36" 10.10.66.34:35076 x_forwarded_for:"172.19.131.165, 10.20.123.165, 12.130.116.71"
vcap_request_id:5ca2c27d-4fde-4b64-53ab-8e0b91ea3998 response_time:0.003956400 app_id:b8f966e2-5e2a-4a9f-bd57-
04b21b4de498
```

```
2014-08-21 04:26:50 +0000 [RTR] OUT pcfdemo-interstadial-reconsecration.cfapps.io - [21/08/2014:04:26:50 +0000]
```

EVENTS



scaled app instances to 3

fmelo@gopivotal.com

08/21/2014 at 04:19 AM UTC

► started app

fmelo@gopivotal.com

08/21/2014 at 12:27 AM UTC

■ stopped app

fmelo@gopivotal.com

08/21/2014 at 12:27 AM UTC

⌚ updated app

fmelo@gopivotal.com

08/21/2014 at 12:27 AM UTC

⌚ updated app

fmelo@gopivotal.com

08/21/2014 at 12:27 AM UTC

► started app

fmelo@gopivotal.com

08/20/2014 at 07:09 PM UTC

# LET'S MAKE SOMETHING HAPPEN



memegenerator.net

Pivotal™

# Logs, Events and Health Management

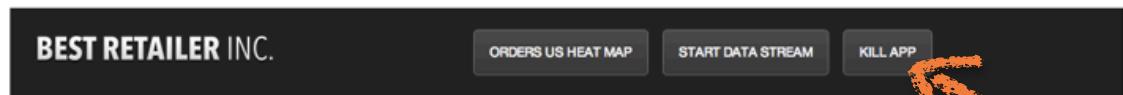
cf logs

cf events

Kill app

Verify fail-over

Recover failed instance



Instance hosted at 10.254.0.158:61032

Data being streamed from RabbitMQ

Orders density per US State (tip: click on a state for details)



Pivotal™

# Logs, Events and Health Management

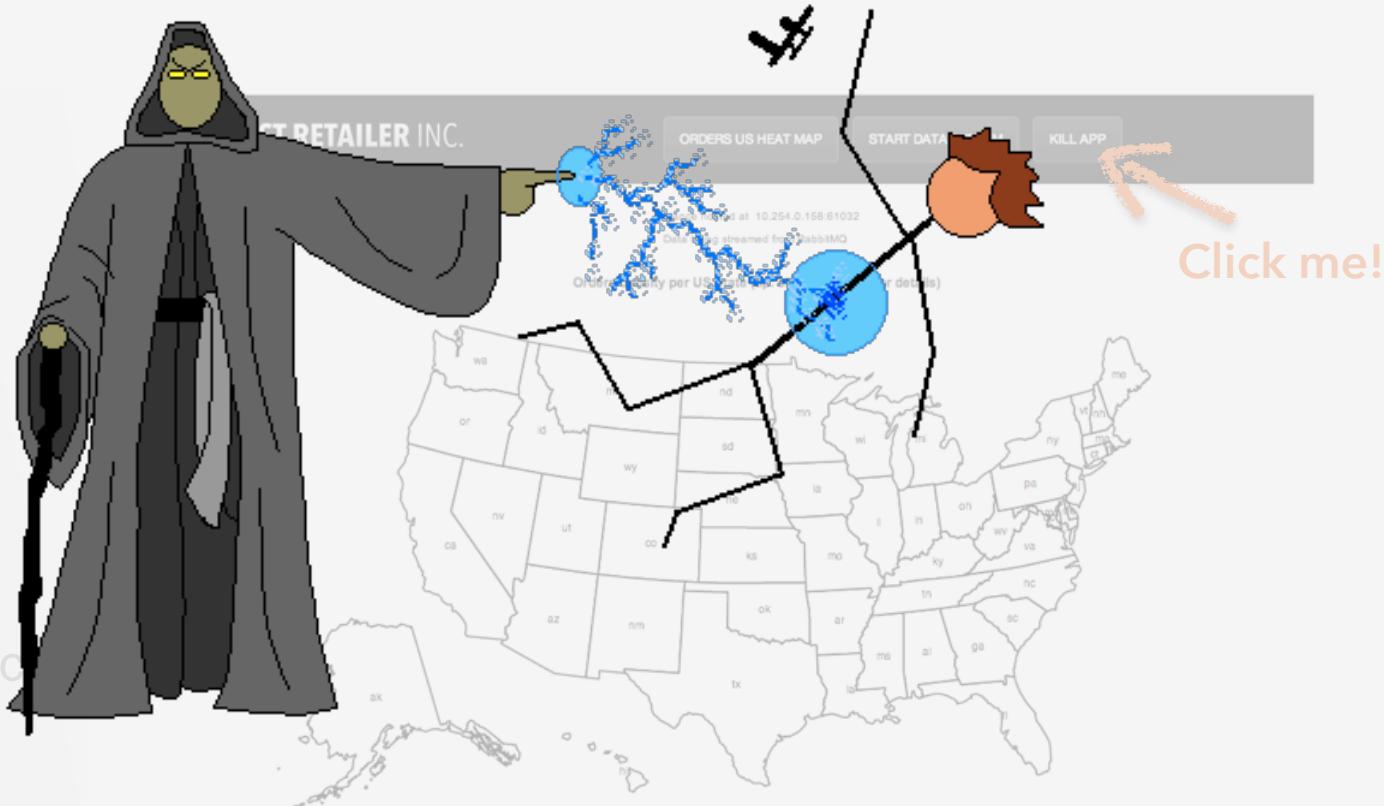
cf logs

cf events

Kill app

Verify fail-over

Recover failed instance



Pivotal™

 Scale AppAPP  
**pcf demo**

## ABOUT

BUILDPACK java-buildpack=v2.4-<https://github.com/cloudfoundry/java-buildpack>  
STACK Ubuntu 10.04  
ROUTE pcfdemo-interstadial-reconsecration.cfapps.io a...

## CONFIGURATION

## INSTANCES

3

## MEMORY LIMIT

512 MB

## DISK LIMIT

1024 MB

## STATUS

#	STATUS	CPU	MEMORY	DISK	UPTIME
0	Down	-	-	-	-
1	Running	1%	368 MB	124 MB	1 min
2	Running	0%	372 MB	124 MB	23 min

## Activity

Services

Env Variables

Routes

 Delete App

## EVENTS

## RECENT LOGS

 app crashed

08/21/2014 at 04:41 AM UTC

2014-08-21 04:40:26 +0000 [RTR] OUT pcfdemo-interstadial-reconsecration.cfapps.io - [21/08/2014:04:40:26 +0000]  
"GET /getData?state=undefined HTTP/1.1" 200 3 "http://pcf demo-interstadial-reconsecration.cfapps.io/"

# Logs, Events and Health Management

but... App is still up !!!

cf logs

cf events

Kill app

Verify fail-over

Recover failed instance

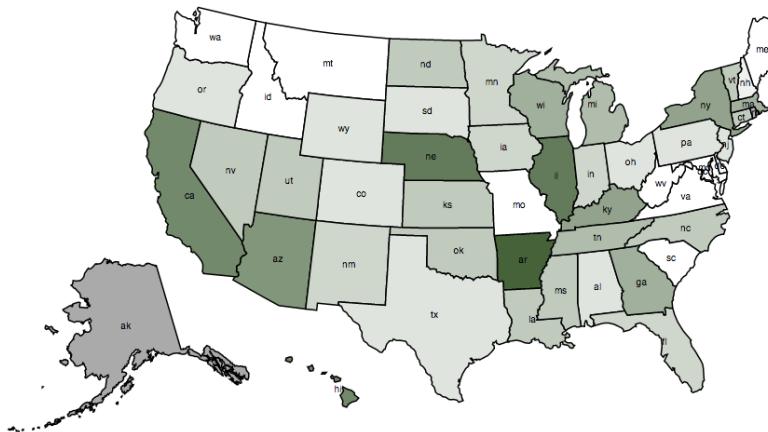
BEST RETAILER INC.

ORDERS US HEAT MAP   START DATA STREAM   KILL APP

Instance hosted at 10.254.2.50:61269

Data being streamed from RabbitMQ

Orders density per US State (tip: click on a state for details)



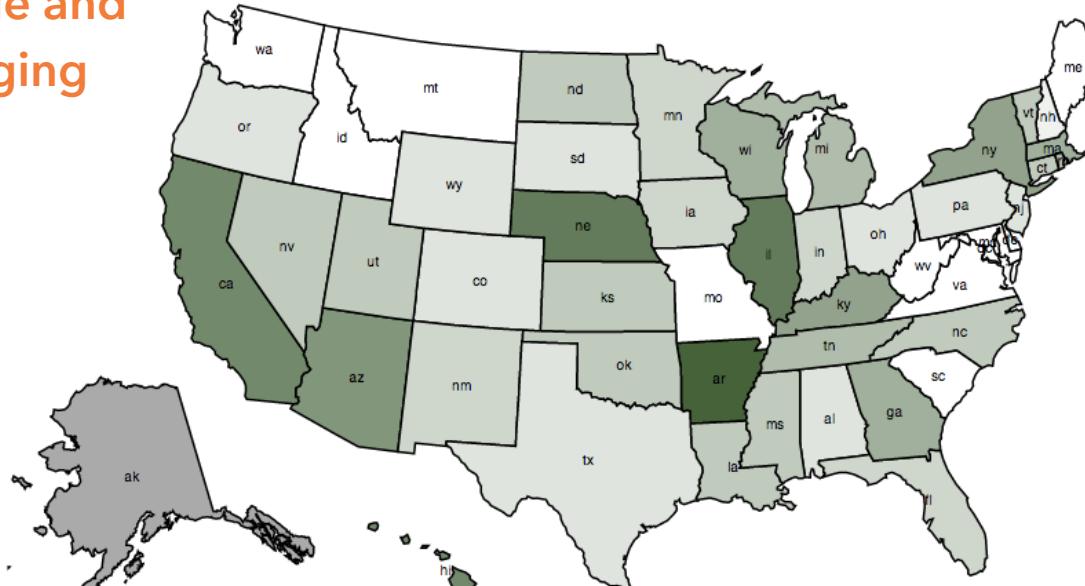
BEST RETAILER INC.

ORDERS US HEAT MAP START DATA STREAM KILL APP

Instance hosted at 10.254.2.50:61269  
Data being streamed from RabbitMQ

Orders density per US State (tip: click on a state for details)

Refresh page and see IP changing



# Logs, Events and Health Management

cf logs

cf events

Kill app

Verify fail-over

Recover failed instance

The screenshot shows the Cloud Foundry interface for the **pcfdemo** application. The top right corner has a "Scale App" button.

**CONFIGURATION**

INSTANCES	MEMORY LIMIT	DISK LIMIT
3	512 MB	1024 MB

**STATUS**

#	STATUS	CPU	MEMORY	DISK	UPTIME
0	Running	3%	382 MB	124 MB	6 min
1	Running	0%	369 MB	124 MB	8 min
2	Running	0%	372 MB	124 MB	29 min

**Activity** | Services | Env Variables | Routes | Delete App

**EVENTS**

**RECENT LOGS**

**app crashed**  
08/21/2014 at 04:41 AM UTC

2014-08-21 04:43:52 +0000 [App/0] OUT INFO : org.springframework.beans.factory.support.DefaultListableBeanFactory - Pre-instantiating singletons in org.springframework.beans.factory.support.DefaultListableBeanFactory@304e4edb: defining beans

 Scale App

## pcf demo



### ABOUT

BUILDPACK java-buildpack=v2.4-https://github.com/cloudfoundry/heroku-buildpack-java.git

STACK Ubuntu 10.04

ROUTE pcfdemo-interstadial-reconsecration.cfapps.io a...

Activity

Services

Env Variables

Routes

### CONFIGURATION

#### INSTANCES

3

#### MEMORY LIMIT

512 MB

#### DISK LIMIT

1024 MB

### STATUS

#	STATUS	CPU	MEMORY	DISK	UPTIME
0	Running	3%	382 MB	124 MB	6 min
1	Running	0%	369 MB	124 MB	8 min
2	Running	0%	341 MB	124 MB	29 min



Few seconds and all instances are back again. No intervention needed.

 app crashed

08/21/2014 at 04:41 AM UTC

### RECENT LOGS

```
2014-08-21 04:43:52 +0000 [App/0] OUT INFO : org.springframework.beans.factory.support.DefaultListableBeanFactory
- Pre-instantiating singletons in org.springframework.beans.factory.support.DefaultListableBeanFactory@304e4edb:
defining beans...
```

Scale App

 Rename  
**pcfdemo**



## ABOUT

BUILDPACK java-buildpack=v2.4-https://github.com/cloudfoundry/heroku-buildpack-java.git

STACK Ubuntu 10.04

ROUTE pcfdemo-interstadial-reconsecration.cfapps.io a...

## CONFIGURATION

## MEMORY LIMIT

512 MB

## DISK LIMIT

1024 MB

STATUS	CPU	MEMORY	DISK	UPTIME
Running	3%	382 MB	124 MB	6 min
RUNNING	0%	369 MB	124 MB	8 min
RUNNING	3%	372 MB	124 MB	29 min

Activity

Services

Env Variables

Routes

 Delete App

EVENTS

RECENT LOGS

 app crashed

08/21/2014 at 04:41 AM UTC

```
2014-08-21 04:43:52 +0000 [App/0] OUT INFO : org.springframework.beans.factory.support.DefaultListableBeanFactory
- Pre-instantiating singletons in org.springframework.beans.factory.support.DefaultListableBeanFactory@304e4edb:
defining beans...
```

# The Developer Experience

- ~~Target My Cloud Foundry Provider~~
- ~~Push My App~~
- ~~Bind My App to Backing Services~~
- ~~Scale My App~~
- ~~Monitor My App's Logs~~
- ~~Monitor My App's Health~~
- Monitor My App's Performance

# Monitor App Performance

Create/Bind New Relic

Re-push app

Check New Relic

The screenshot shows the Heroku Marketplace interface. On the left, a sidebar lists 'SPACES' (development, mstolz, production, staging) and links to 'Docs', 'Support', 'Tools', 'Blog', and 'Status'. The main area displays a grid of add-ons:

- Searchify**: Custom search you control.
- Redis Cloud**: Enterprise-Class Redis for Developers.
- CloudAMQP**: Managed HA RabbitMQ servers in the cloud.
- New Relic**: Manage and monitor your apps.
- BlazeMeter**: The JMeter Load Testing Cloud.
- ClearDB MySQL Database**: Highly available MySQL for your Apps. (with 'VIEW PLAN OPTIONS' button)
- ElephantSQL**: PostgreSQL as a Service.
- MongoLab**: Fully-managed MongoDB-as-a-Service.
- Load Impact**: Automated and on-demand performance testing.

A red arrow points from the 'New Relic' box to the 'Load Impact' box.



# New Relic

Manage and monitor your apps

## ABOUT THIS SERVICE

New Relic is the all-in-one web app performance tool that lets you see performance from the end user experience, through servers, and down to the line of code.

[Documentation](#) | [Support](#)

## COMPANY

New Relic

## SERVICE PLANS

Standard

free

### PLAN FEATURES

- ✓ JVM Performance analyzer
- ✓ Database call response time & throughput
- ✓ Performance data API access

[Select this plan](#)



## CONFIGURE INSTANCE

Instance Name

nr-pcfdemo

Add to Space

development



Bind to App

pcf demo



## SUBSCRIPTION TERMS

- A monthly subscription charge is added to the bill at the start of every monthly service period.
- Cancel a service subscription by deleting the instance.
- Credits are not issued for the unused portion of a monthly subscription period.
- Your subscription will be billed monthly starting today.

[Cancel](#)

[Add](#)

Pivotal™

# Monitor App Performance

Create/Bind New Relic

PCF-demo\$ cf push

Re-push app

Check New Relic

```
0 of 1 instances running, 1 starting
0 of 1 instances running, 1 starting
1 of 1 instances running

App started

Showing health and status for app pcfdemo in org CommunityEngineering / space development as fmelo@gopivotal.com...
OK

requested state: started
instances: 1/1
usage: 512M x 1 instances
urls: pcfdemo-interstadial-reconsecration.cfapps.io, pcfdemo-subvermiform-arborization.cfapps.io

     state      since            cpu    memory          disk
#0  running   2014-08-20 05:28:50 PM  0.0%  361.9M of 512M  124.4M of 1G
```

# Monitor App Performance

Create/Bind New Relic

Re-push app

Check New Relic

The screenshot shows the Cloud Foundry application dashboard for the app **pcfdemo**. The top section displays the app icon (a green circle with a white outline) and the app name **pcfdemo**. Below the icon, there are two small buttons: a blue square and a blue circle.

**ABOUT**

BUILDPACK: java-buildpack=v2.4-https://github.com/cloudfoundry/java-buildpack.git  
STACK: Ubuntu 10.04  
ROUTE: pcfdemo-interstadial-reconsecration.cfapps.io a...

**CONFIGURATION**

INSTANCES: 3 | MEMORY LIMIT: 512 MB | DISK LIMIT: 1024 MB | [Scale App](#)

#	STATUS	CPU	MEMORY	DISK	UPTIME
0	Running	0%	391 MB	124 MB	1 hr 22 min
1	Running	0%	372 MB	124 MB	1 hr 24 min
2	Running	0%	373 MB	124 MB	1 hr 45 min

**ACTIVITY** | **Services** | **Env Variables** | **Routes** | [Delete App](#)

**BOUNDED SERVICES**

**newrelic-pcfdemo** | [Manage](#) | [Support](#) | [Docs](#) | [Unbind](#)

**Show credentials**

 Scale App

# pcf demo



APP

## ABOUT

BUILDPACK java-buildpack=v2.4-https://github.com/cloudfoundry/java-buildpack.git#v2.4

STACK Ubuntu 10.04

ROUTE pcfdemo-interstadian-reconsecration.cfapps.io a...

## CONFIGURATION

### INSTANCES

3

### MEMORY LIMIT

512 MB

### DISK LIMIT

1024 MB

## STATUS

# ▲	STATUS	CPU	MEMORY	DISK	UPTIME
0	Running	0%	391 MB	124 MB	1 hr 22 min
1	Running	0%	372 MB	124 MB	1 hr 24 min
2	Running	0%	373 MB	124 MB	1 hr 45 min

[Activity](#)[Services](#)[Env Variables](#)[Routes](#)[!\[\]\(cf521dfd45dbf6beffbf3b628f66ed07\_img.jpg\) Delete App](#)

## BOUND SERVICES

[!\[\]\(a5ffb9cb3dab2074dbdf3caefb5b3c71\_img.jpg\) Bind a Service](#)**newrelic-pcfdemo**

New Relic Standard

[Show credentials](#)[Manage](#) [Export](#) [Docs](#)

Applications

Browser

Transactions

Mobile

Servers

Dashboards

Plugins

Tools

pcf demo

Monitoring

Events

Reports

Settings

JVMs  
All JVMs (3)Last 30 minutes  
Ending now

Overview

Map

Transactions

External services

JVMs

*(i)* New alerting notification levels. Get notified for all critical events, first critical event, or downtime events only. Learn more about notification levels. [Hide this](#)

## Web transactions response time ▾

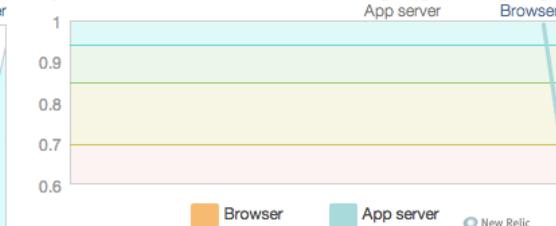


## Apdex score ⓘ

0.69 [0.5]\*

NS [7.0]\*

App server Browser



## Throughput (rpm)

 Compare with yesterday and last week



# The Developer Experience

- ~~Target My Cloud Foundry Provider~~
- ~~Push My App~~
- ~~Bind My App to Backing Services~~
- ~~Scale My App~~
- ~~Monitor My App's Logs~~
- ~~Monitor My App's Health~~
- ~~Monitor My App's Performance~~

# Coming Up

- Break (11:30 - 11:45)
- Part Two (11:45 - 1:00)
  - Architecture and Operations
- Lunch and Keynote (1:00 - 2:30)
- Break (2:30 - 2:45)
- Part Three (2:45 - 4:00)
  - Enabling Continuous Delivery
- Break (4:00 - 4:15)
- Part Four (4:15 - 5:30)
  - Custom Buildpacks & Data Services
  - DEMO: Write and Deploy a Service Broker

# THANK YOU!

See you after the break!

# Pivotal

A NEW PLATFORM FOR A NEW ERA