

# Deploying and Scaling a Simple Application

# Topics

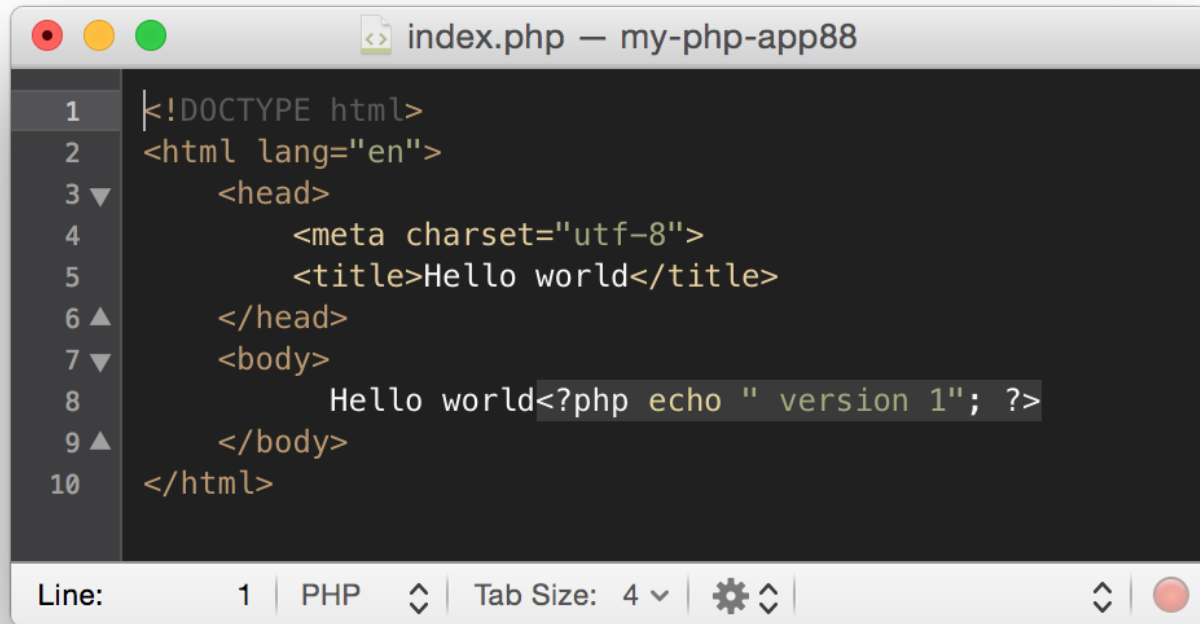
- **Deploy a Simple Application**
- Containers
- Application Logs and Events
- Introduction to Buildpacks

# Deploy an Application Using the cf CLI

- You need a deployable application
  - For example with Java: a jar or war
    - Can build with tools like Ant, Maven or Gradle
    - Cloud Foundry doesn't care how you build your application
  - Non-compiled languages (Ruby, Node.js, PHP, etc.) just use the source code

# Deploy a Simple PHP Application to Cloud Foundry (1 of 4)

1) Create a simple html file including PHP:



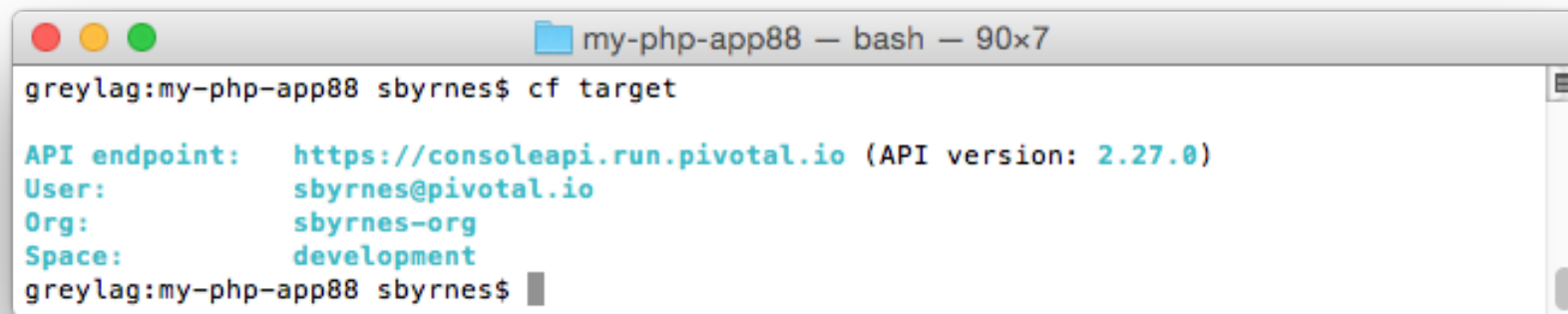
The screenshot shows a code editor window titled "index.php — my-php-app88". The editor contains the following code:

```
1 |<!DOCTYPE html>
2 |<html lang="en">
3 |   <head>
4 |     <meta charset="utf-8">
5 |     <title>Hello world</title>
6 |   </head>
7 |   <body>
8 |     Hello world<?php echo " version 1"; ?>
9 |   </body>
10| </html>
```

The status bar at the bottom indicates "Line: 1", "PHP", "Tab Size: 4", and a settings icon.

# Deploy a Simple PHP Application to Cloud Foundry (2 of 4)

- 2) In a terminal/command window, navigate to the directory containing the PHP file
- 3) Make sure you are targeting the org and space that you want

A terminal window titled 'my-php-app88 — bash — 90x7' showing the output of the 'cf target' command. The output displays the API endpoint, user, organization, and space being targeted.

```
greylag:my-php-app88 sbyrnes$ cf target

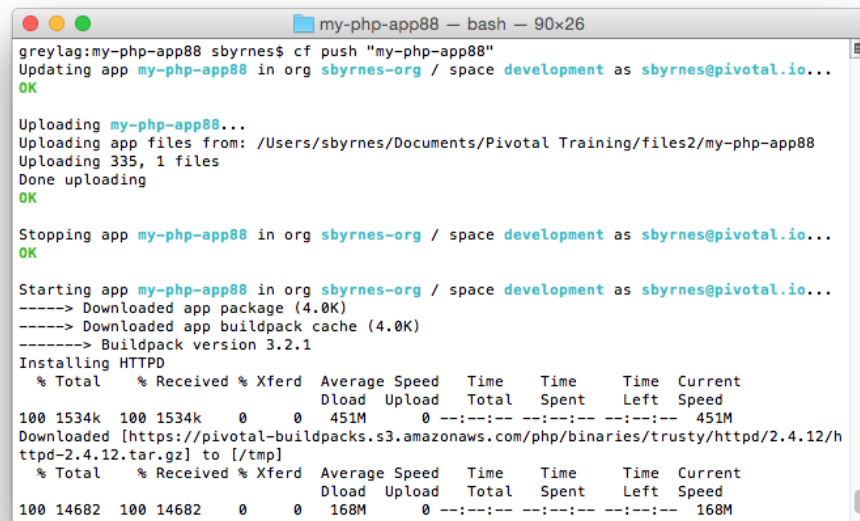
API endpoint:  https://consoleapi.run.pivotal.io (API version: 2.27.0)
User:          sbyrnes@pivotal.io
Org:           sbyrnes-org
Space:         development
greylag:my-php-app88 sbyrnes$
```

# Deploy a Simple PHP Application to Cloud Foundry (3 of 4)

4) Push the app named “my-app-name” to Cloud Foundry

**cf push "my-app-name"**

*(wait a minute for Cloud Foundry to deploy the application)*



```
my-php-app88 — bash — 90x26
greylag:my-php-app88 sbyrnes$ cf push "my-php-app88"
Updating app my-php-app88 in org sbyrnes-org / space development as sbyrnes@pivotal.io...
OK

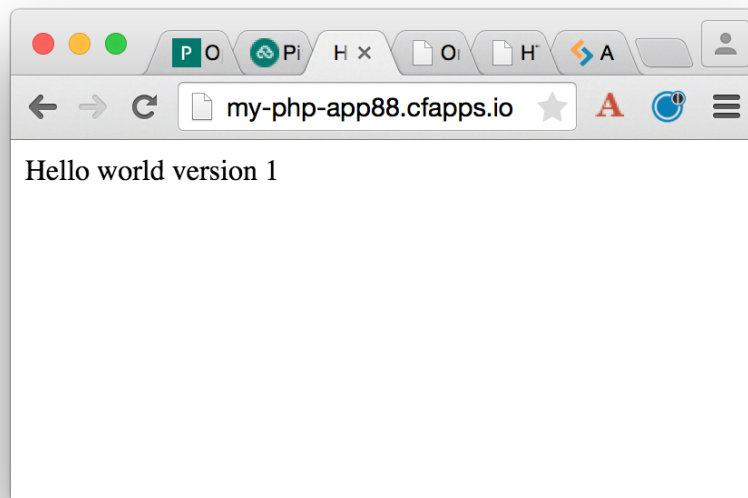
Uploading my-php-app88...
Uploading app files from: /Users/sbyrnes/Documents/Pivotal Training/files2/my-php-app88
Uploading 335, 1 files
Done uploading
OK

Stopping app my-php-app88 in org sbyrnes-org / space development as sbyrnes@pivotal.io...
OK

Starting app my-php-app88 in org sbyrnes-org / space development as sbyrnes@pivotal.io...
-----> Downloaded app package (4.0K)
-----> Downloaded app buildpack cache (4.0K)
-----> Buildpack version 3.2.1
Installing HTTPD
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left   Speed
100 1534k  100 1534k    0     0  451M      0  --:--:-- --:--:-- --:--:--  451M
Downloaded [https://pivotal-buildpacks.s3.amazonaws.com/php/binaries/trusty/httpd/2.4.12/httpd-2.4.12.tar.gz] to [/tmp]
  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left   Speed
100 14682  100 14682    0     0  168M      0  --:--:-- --:--:-- --:--:--  168M
```

# Deploy a Simple PHP Application to Cloud Foundry (4 of 4)

- 5) Navigate to (for PWS) [my-app-name.cfapps.io](http://my-app-name.cfapps.io) and see your running app
- Your app is now managed by Cloud Foundry



# View the Deployed App in Apps Manager

The screenshot shows the Pivotal Apps Manager interface for an application named 'my-php-app88'. The interface is divided into a left sidebar, a main content area, and a right configuration panel.

**Left Sidebar:**

- Organization: sbyrnes-org
- SPACES
  - development (selected)
  - labtest
- Marketplace
- Docs
- Support
- Tools
- Blog
- Status

**Main Content Area:**

- APP: my-php-app88
- last push: 06/03/15 @ 22:52 UTC
- http://my-php-app88.cfapps.io
- ABOUT
  - BUILDPACK: php\_buildpack
  - START CMD: Set by the buildpack
  - STACK: cflinuxfs2 (Cloud Foundry Linux-based file...)

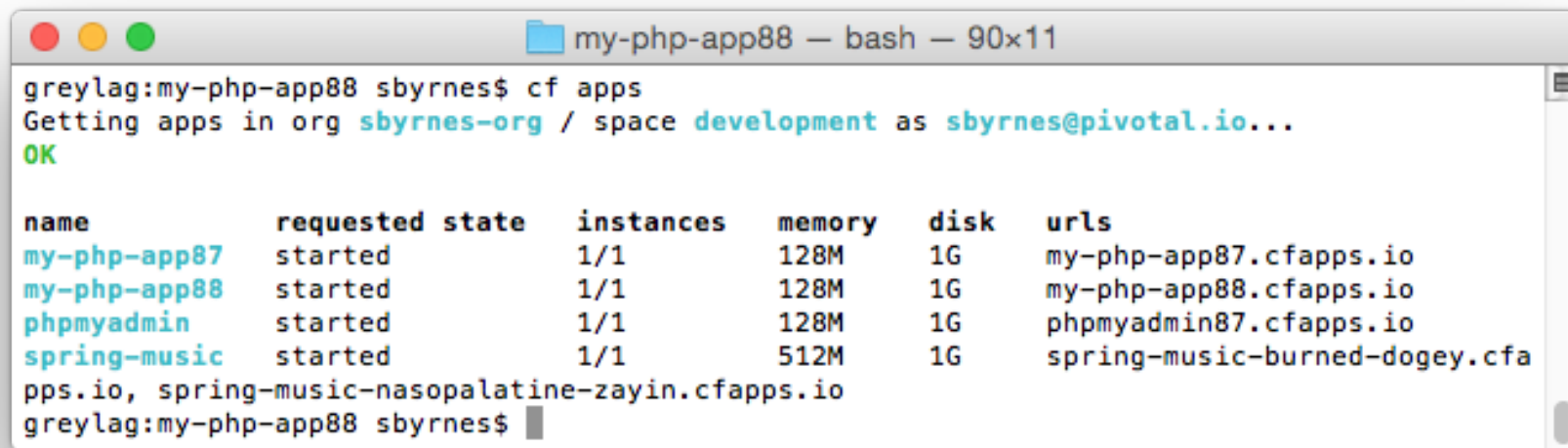
**Right Configuration Panel:**

- CONFIGURATION
  - Scale App (button)
  - Instances: 1
  - Memory Limit: 128 MB
  - Disk Limit: 1024 MB
- STATUS


#	STATUS	CPU	MEMORY	DISK	UPTIME
0	Running	0%	22.8 MB	37.4 MB	17 min



# View the Deployed App Using the cf CLI



```
my-php-app88 — bash — 90x11
greylag:my-php-app88 sbyrnes$ cf apps
Getting apps in org sbyrnes-org / space development as sbyrnes@pivotal.io...
OK
```

name	requested state	instances	memory	disk	urls
my-php-app87	started	1/1	128M	1G	my-php-app87.cfapps.io
my-php-app88	started	1/1	128M	1G	my-php-app88.cfapps.io
phpmyadmin	started	1/1	128M	1G	phpmyadmin87.cfapps.io
spring-music	started	1/1	512M	1G	spring-music-burned-dogey.cfa

pps.io, spring-music-nasopalatine-zayin.cfapps.io  
greylag:my-php-app88 sbyrnes\$

# cf push Options

- **cf push <name-of-your-app>**
  - Many options/parameters
    - -i                      Number of instances
    - -m                      Memory limit (e.g. 256M, 1024M, 1G)
    - -n                      Hostname (e.g. my-subdomain)
    - -p                      Local path to app directory, jar, war, zip file
    - ...
- Use **cf help push** to view the options

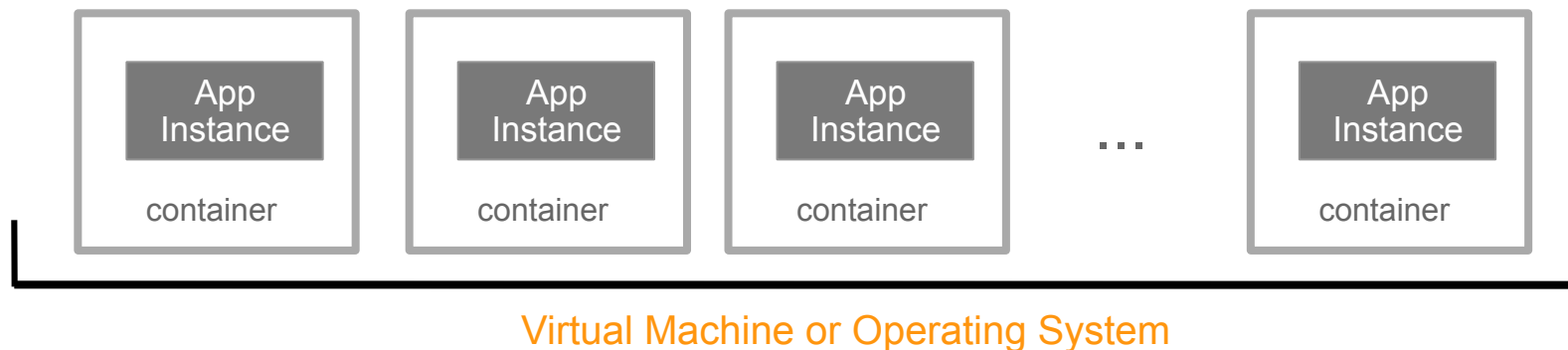
# Using Push Correctly

- `cf push "my-app-name"`
  - This uploads all files in your *current directory* as an application called *my-app-name*
- A common mistake is to run `cf push "index.php"`
  - This will upload the contents of your current directory to an application named *"index.php"*
    - If your current directory is your /Documents folder, it will be uploaded to Cloud Foundry!
  - Make sure to change to the directory with your application
  - An alternative is to use the `-p` option to specify the path to the app directory, jar, war or zip file

# Topics

- Deploy a Simple Application
- **Containers**
- Application Logs and Events
- Introduction to Buildpacks

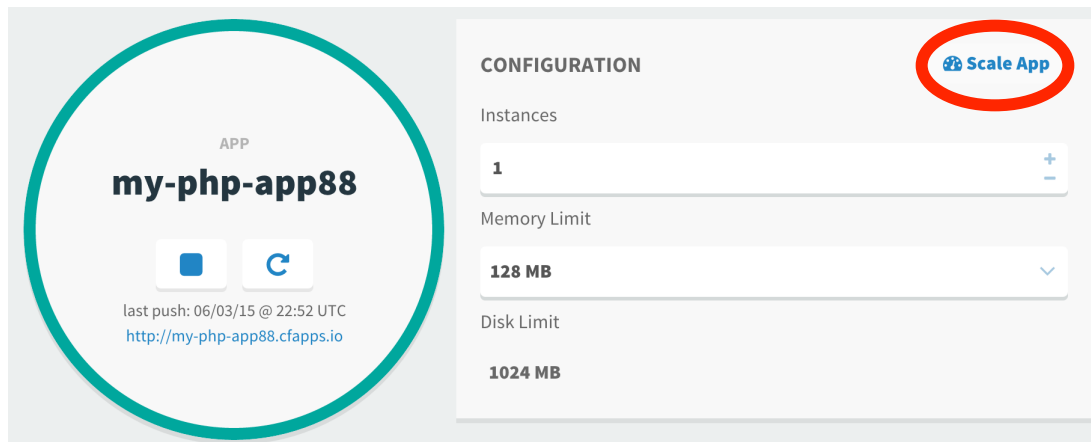
# Application Instances Run Inside Containers



- Containers provide isolated environments for applications
- They are resource-friendly and start very quickly
- Application instances in Cloud Foundry run inside containers
  - One app instance per container
- See <http://en.wikipedia.org/wiki/LXC> (Linux containers)

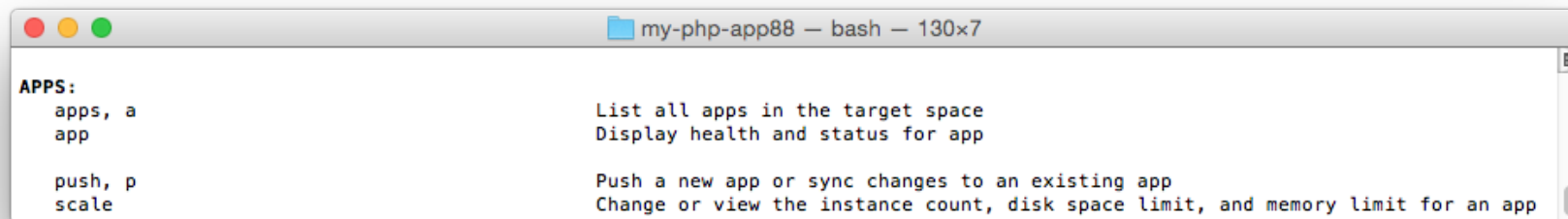
# Increasing the Number of App Instances– Apps Manager

- Select the app and increase the number of instances
  - Your app now runs in more containers
  - Requests to your app will now be distributed among the instances
  - This is horizontal scaling- just keep adding instances



# Increasing the Number of App Instances—Using *cf cli*

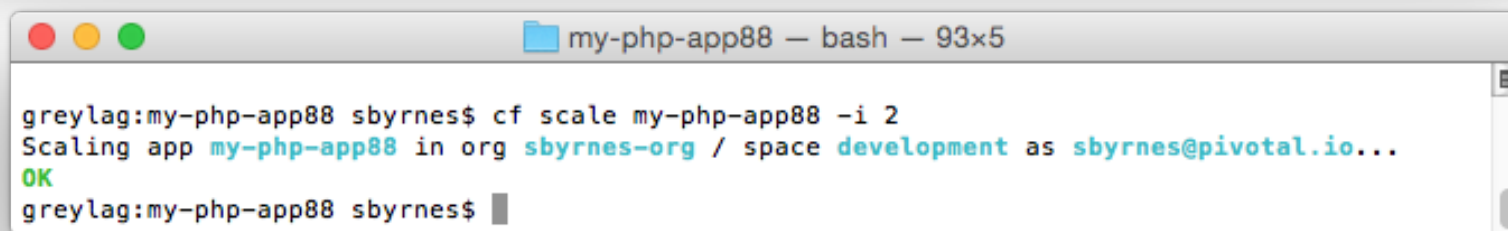
- In *cf help*, under apps, see the scale command



A terminal window titled "my-php-app88 — bash — 130x7" showing the output of the `cf help` command. The output lists commands under the "APPS:" section:

```
APPS:
apps, a      List all apps in the target space
app          Display health and status for app

push, p      Push a new app or sync changes to an existing app
scale        Change or view the instance count, disk space limit, and memory limit for an app
```



A terminal window titled "my-php-app88 — bash — 93x5" showing the execution of the `cf scale` command. The output indicates the app is being scaled to 2 instances:

```
greylag:my-php-app88 sbyrnes$ cf scale my-php-app88 -i 2
Scaling app my-php-app88 in org sbyrnes-org / space development as sbyrnes@pivotal.io...
OK
greylag:my-php-app88 sbyrnes$
```

# SSH'ing into Containers

- **cf ssh <app name>** – SSH into container instances
  - Make sure to install the latest **cf** CLI
- This works on PWS
  - You must configure this on other installations
  - [http://docs.pivotal.io/pivotalcf/customizing/cloudform\\_elb\\_ssh\\_proxy.html](http://docs.pivotal.io/pivotalcf/customizing/cloudform_elb_ssh_proxy.html)
- Example
  - View *php-config* file in the *first* container instance of *my-php-app*

```
$ cf ssh my-php-app -i 0
vcap@7nm5vdpikp7:~$ ls
app  logs  staging  info.yml  tmp
vcap@7nm5vdpikp7:~$ cd app/php/bin
vcap@7nm5vdpikp7:~/app/php/bin$ ls
php-config  phpize
vcap@7nm5vdpikp7:~/app/php/bin$ exit
```

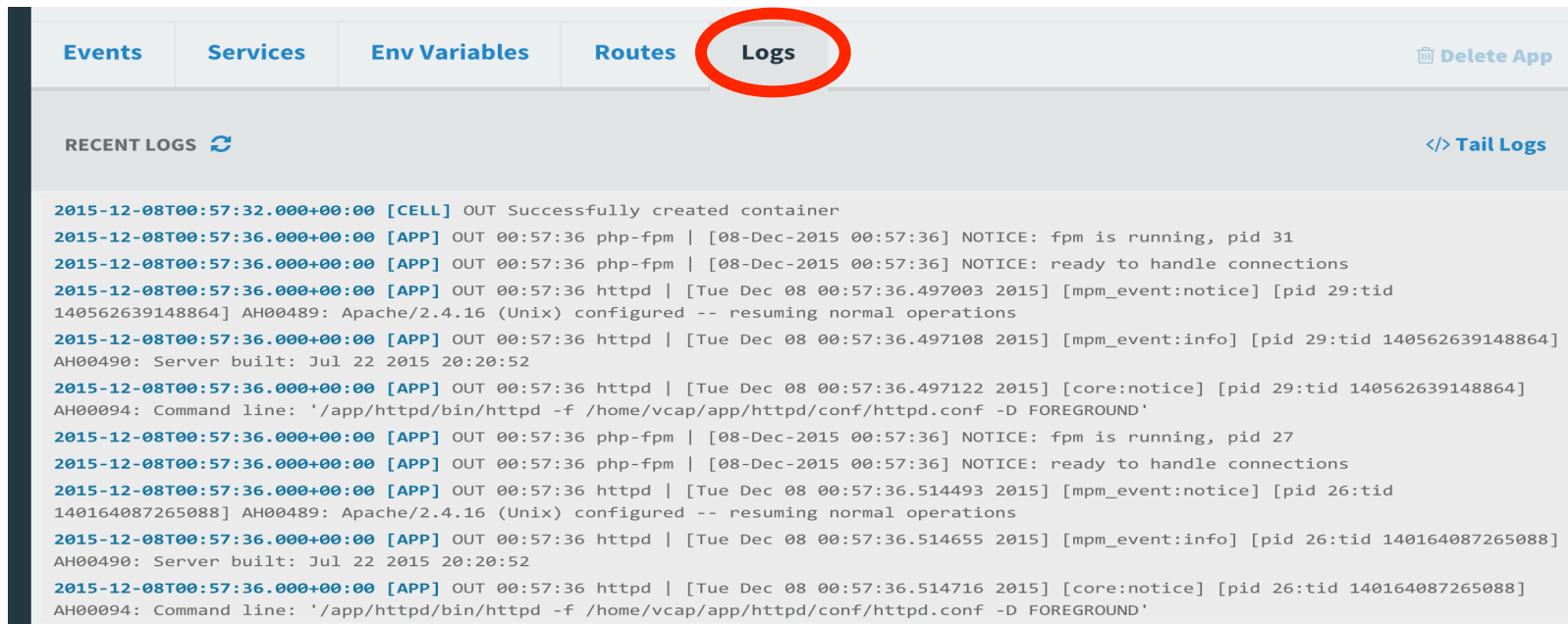


# Topics

- Deploy a Simple Application
- Containers
- **Application Logs and Events**
- Introduction to Buildpacks

# Viewing the Logs for your App using Apps Manager

In Apps Manager, select your app, then select Logs



The screenshot shows the Apps Manager interface with a navigation bar at the top. The 'Logs' tab is highlighted with a red circle. Below the navigation bar, there is a 'RECENT LOGS' section with a refresh icon and a '</> Tail Logs' link. The log entries are displayed in a list format, showing timestamps, log levels, and messages.

Events	Services	Env Variables	Routes	Logs	Delete App
<b>RECENT LOGS</b>  <a href="#">&lt;/&gt; Tail Logs</a>					
<p>2015-12-08T00:57:32.000+00:00 [CELL] OUT Successfully created container</p> <p>2015-12-08T00:57:36.000+00:00 [APP] OUT 00:57:36 php-fpm   [08-Dec-2015 00:57:36] NOTICE: fpm is running, pid 31</p> <p>2015-12-08T00:57:36.000+00:00 [APP] OUT 00:57:36 php-fpm   [08-Dec-2015 00:57:36] NOTICE: ready to handle connections</p> <p>2015-12-08T00:57:36.000+00:00 [APP] OUT 00:57:36 httpd   [Tue Dec 08 00:57:36.497003 2015] [mpm_event:notice] [pid 29:tid 140562639148864] AH00489: Apache/2.4.16 (Unix) configured -- resuming normal operations</p> <p>2015-12-08T00:57:36.000+00:00 [APP] OUT 00:57:36 httpd   [Tue Dec 08 00:57:36.497108 2015] [mpm_event:info] [pid 29:tid 140562639148864] AH00490: Server built: Jul 22 2015 20:20:52</p> <p>2015-12-08T00:57:36.000+00:00 [APP] OUT 00:57:36 httpd   [Tue Dec 08 00:57:36.497122 2015] [core:notice] [pid 29:tid 140562639148864] AH00094: Command line: '/app/httpd/bin/httpd -f /home/vcap/app/httpd/conf/httpd.conf -D FOREGROUND'</p> <p>2015-12-08T00:57:36.000+00:00 [APP] OUT 00:57:36 php-fpm   [08-Dec-2015 00:57:36] NOTICE: fpm is running, pid 27</p> <p>2015-12-08T00:57:36.000+00:00 [APP] OUT 00:57:36 php-fpm   [08-Dec-2015 00:57:36] NOTICE: ready to handle connections</p> <p>2015-12-08T00:57:36.000+00:00 [APP] OUT 00:57:36 httpd   [Tue Dec 08 00:57:36.514493 2015] [mpm_event:notice] [pid 26:tid 140164087265088] AH00489: Apache/2.4.16 (Unix) configured -- resuming normal operations</p> <p>2015-12-08T00:57:36.000+00:00 [APP] OUT 00:57:36 httpd   [Tue Dec 08 00:57:36.514655 2015] [mpm_event:info] [pid 26:tid 140164087265088] AH00490: Server built: Jul 22 2015 20:20:52</p> <p>2015-12-08T00:57:36.000+00:00 [APP] OUT 00:57:36 httpd   [Tue Dec 08 00:57:36.514716 2015] [core:notice] [pid 26:tid 140164087265088] AH00094: Command line: '/app/httpd/bin/httpd -f /home/vcap/app/httpd/conf/httpd.conf -D FOREGROUND'</p>					

# Viewing Recent Logs For an App using the cf CLI

Use `cf logs <app_name> --recent`

```
my-php-app88 — bash — 66x10
greylag:my-php-app88 sbyrnes$ cf help logs
NAME:
  logs - Tail or show recent logs for an app

USAGE:
  cf logs APP_NAME

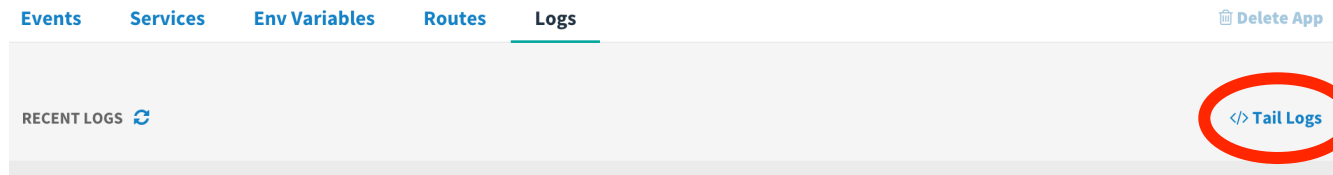
OPTIONS:
  --recent      Dump recent logs instead of tailing
greylag:my-php-app88 sbyrnes$
```

```
greylag:repos sbyrnes$ cf logs my-php-app88 --recent
Connected, dumping recent logs for app my-php-app88 in org sbyrnes-org / space development as sbyrnes@pivotal.io...

2015-12-22T13:14:36.13-0800 [CELL/0] OUT Creating container
2015-12-22T13:14:36.83-0800 [CELL/0] OUT Successfully created container
2015-12-22T13:14:40.13-0800 [APP/0] OUT 21:14:40 php-fpm | [22-Dec-2015 21:14:40] NOTICE: fpm is running, pid 27
2015-12-22T13:14:40.13-0800 [APP/0] OUT 21:14:40 php-fpm | [22-Dec-2015 21:14:40] NOTICE: ready to handle connections
2015-12-22T13:14:40.16-0800 [APP/0] OUT 21:14:40 httpd | [Tue Dec 22 21:14:40.153683 2015] [mpm_event:notice] [pid 25:
tid 140364163196736] AH00489: Apache/2.4.12 (Unix) configured -- resuming normal operations
2015-12-22T13:14:40.16-0800 [APP/0] OUT 21:14:40 httpd | [Tue Dec 22 21:14:40.153867 2015] [mpm_event:info] [pid 25:ti
d 140364163196736] AH00490: Server built: Mar 2 2015 15:50:48
2015-12-22T13:14:40.16-0800 [APP/0] OUT 21:14:40 httpd | [Tue Dec 22 21:14:40.153925 2015] [core:notice] [pid 25:tid 1
40364163196736] AH00094: Command line: '/home/vcap/app/httpd/bin/httpd -f /home/vcap/app/httpd/conf/httpd.conf -D FOREGROUND'
2015-12-22T13:14:40.28-0800 [HEALTH/0] OUT healthcheck passed
2015-12-22T13:14:40.28-0800 [HEALTH/0] OUT Exit status 0
2015-12-22T13:14:44.76-0800 [RTR/1] OUT my-php-app87.cfapps.io - [22/12/2015:21:14:44 +0000] "GET / HTTP/1.1" 200 0 185
"- "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_11_2) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/47.0.2526.80 Safari/537.36
" 10.10.2.247:23755 x_forwarded_for:"209.234.137.222" x_forwarded_proto:"http" vcap_request_id:f210e3a5-24c1-41ca-7edd-56d406
da2cf7 response_time:0.00228655 app_id:a4263c77-3ada-4030-9ae9-fa2d0e6c5579
2015-12-22T13:14:44.77-0800 [APP/0] OUT 21:14:44 httpd | 209.234.137.222 - - [22/Dec/2015:21:14:44 +0000] "GET / HTTP/
1.1" 200 185 vcap_request_id=f210e3a5-24c1-41ca-7edd-56d406da2cf7 peer_addr=10.10.16.16
2015-12-22T13:14:48.88-0800 [APP/0] OUT 21:14:48 httpd | [Tue Dec 22 21:14:48.853886 2015] [core:info] [pid 36:tid 140
364103026432] [client 209.234.137.222:37018] AH00128: File does not exist: /home/vcap/app/htdocs/favicon.ico, referer: http:/
/my-php-app87.cfapps.io/
2015-12-22T13:14:48.88-0800 [APP/0] OUT 21:14:48 httpd | 209.234.137.222 - - [22/Dec/2015:21:14:48 +0000] "GET /favico
n.ico HTTP/1.1" 404 209 vcap_request_id=0968141d-f21a-44ab-53e7-ce571fbb9020 peer_addr=10.10.80.16
2015-12-22T13:15:10.30-0800 [HEALTH/0] OUT healthcheck passed
2015-12-22T13:15:10.30-0800 [HEALTH/0] OUT Exit status 0
```

# Tailing Logs for an App using Apps Manager (1 of 2)

Select your app, then Logs, then Tail Logs

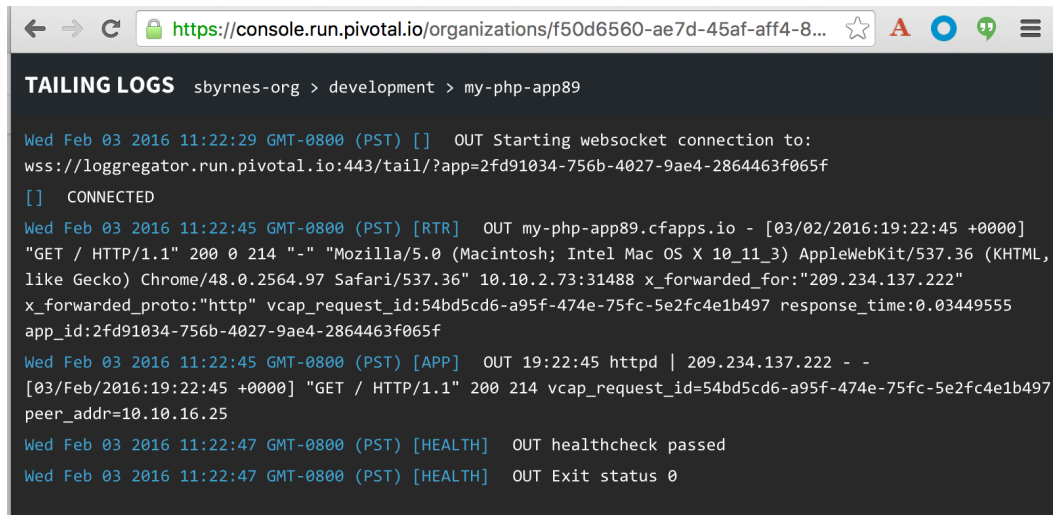


A new window opens and waits for something to generate a log...



# Tailing Logs for an App using Apps Manager (2 of 2)

- Do something like refreshing the browser app (of the application itself)
  - You see the GET request logged



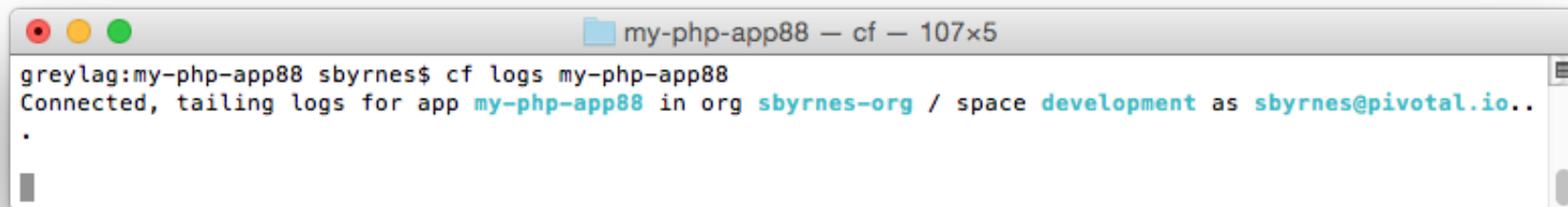
The screenshot shows a web browser window with the URL `https://console.run.pivotal.io/organizations/f50d6560-ae7d-45af-aff4-8...`. The page title is "TAILING LOGS" and the breadcrumb path is "sbyrnes-org > development > my-php-app89". The log content is as follows:

```
Wed Feb 03 2016 11:22:29 GMT-0800 (PST) [ ] OUT Starting websocket connection to:
wss://loggregator.run.pivotal.io:443/tail/?app=2fd91034-756b-4027-9ae4-2864463f065f
[ ] CONNECTED
Wed Feb 03 2016 11:22:45 GMT-0800 (PST) [RTR] OUT my-php-app89.cfapps.io - [03/02/2016:19:22:45 +0000]
"GET / HTTP/1.1" 200 0 214 "-" "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_11_3) AppleWebKit/537.36 (KHTML,
like Gecko) Chrome/48.0.2564.97 Safari/537.36" 10.10.2.73:31488 x_forwarded_for:"209.234.137.222"
x_forwarded_proto:"http" vcap_request_id:54bd5cd6-a95f-474e-75fc-5e2fc4e1b497 response_time:0.03449555
app_id:2fd91034-756b-4027-9ae4-2864463f065f
Wed Feb 03 2016 11:22:45 GMT-0800 (PST) [APP] OUT 19:22:45 httpd | 209.234.137.222 - -
[03/Feb/2016:19:22:45 +0000] "GET / HTTP/1.1" 200 214 vcap_request_id=54bd5cd6-a95f-474e-75fc-5e2fc4e1b497
peer_addr=10.10.16.25
Wed Feb 03 2016 11:22:47 GMT-0800 (PST) [HEALTH] OUT healthcheck passed
Wed Feb 03 2016 11:22:47 GMT-0800 (PST) [HEALTH] OUT Exit status 0
```

# Tailing Logs for an App using the CLI (1 of 2)

Use `cf logs <app_name>`

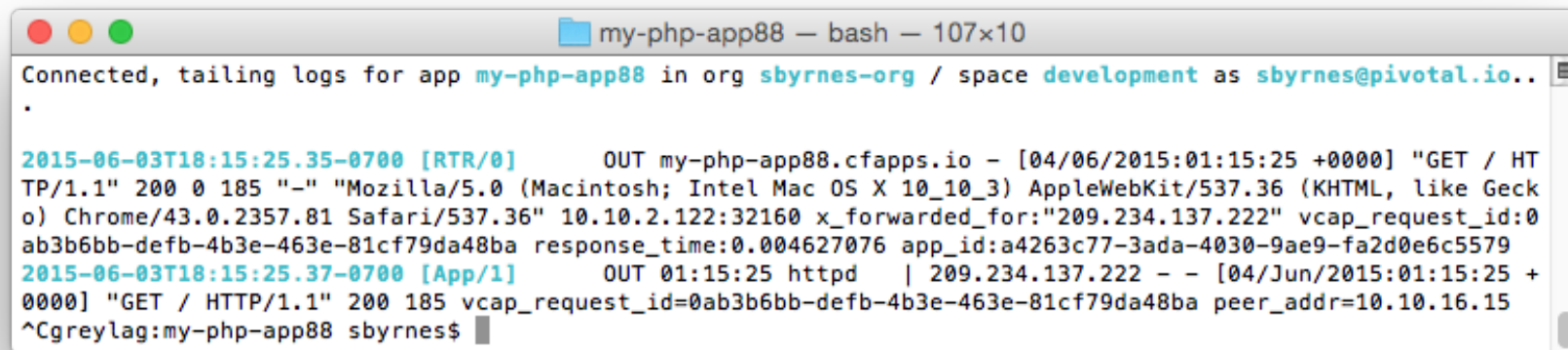
- The terminal waits for something to generate a log event...



```
my-php-app88 — cf — 107x5
greylag:my-php-app88 sbyrnes$ cf logs my-php-app88
Connected, tailing logs for app my-php-app88 in org sbyrnes-org / space development as sbyrnes@pivotal.io..
.
```

# Tailing Logs for an App using the CLI (2 of 2)

- Do something like refreshing the browser app (of the application itself)
  - You see the GET request logged
  - CTRL C to exit the tailing





A terminal window titled "my-php-app88 — bash — 107x10" showing the process of tailing logs for an application. The prompt indicates a connection to the app in the "development" space. Two log entries are visible: a 200 status response for a GET request and a 185 status response for a GET request. The user has entered a tilde character to exit the tailing command.

```
my-php-app88 — bash — 107x10
Connected, tailing logs for app my-php-app88 in org sbyrnes-org / space development as sbyrnes@pivotal.io..
.
2015-06-03T18:15:25.35-0700 [RTR/0]      OUT my-php-app88.cfapps.io - [04/06/2015:01:15:25 +0000] "GET / HTTP/1.1" 200 0 185 "-" "Mozilla/5.0 (Macintosh; Intel Mac OS X 10_10_3) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/43.0.2357.81 Safari/537.36" 10.10.2.122:32160 x_forwarded_for:"209.234.137.222" vcap_request_id:0ab3b6bb-defb-4b3e-463e-81cf79da48ba response_time:0.004627076 app_id:a4263c77-3ada-4030-9ae9-fa2d0e6c5579
2015-06-03T18:15:25.37-0700 [App/1]      OUT 01:15:25 httpd | 209.234.137.222 - - [04/Jun/2015:01:15:25 +0000] "GET / HTTP/1.1" 200 185 vcap_request_id=0ab3b6bb-defb-4b3e-463e-81cf79da48ba peer_addr=10.10.16.15
^Cgreylag:my-php-app88 sbyrnes$
```

# Viewing the Events for your App

In Apps Manager, select your app, then select Events

— Or in the cf CLI `cf events <my-app-name>`

Events	Services	Env Variables	Routes	Logs
RECENT EVENTS				
	scaled app instances to 2 sbyrnes@pivotal.io 06/04/2015 at 12:24 AM UTC			
	updated app sbyrnes@pivotal.io 06/03/2015 at 11:09 PM UTC			
	scaled app instances to 1 sbyrnes@pivotal.io 06/03/2015 at 11:09 PM UTC			
	started app sbyrnes@pivotal.io 06/03/2015 at 10:52 PM UTC			



# Topics

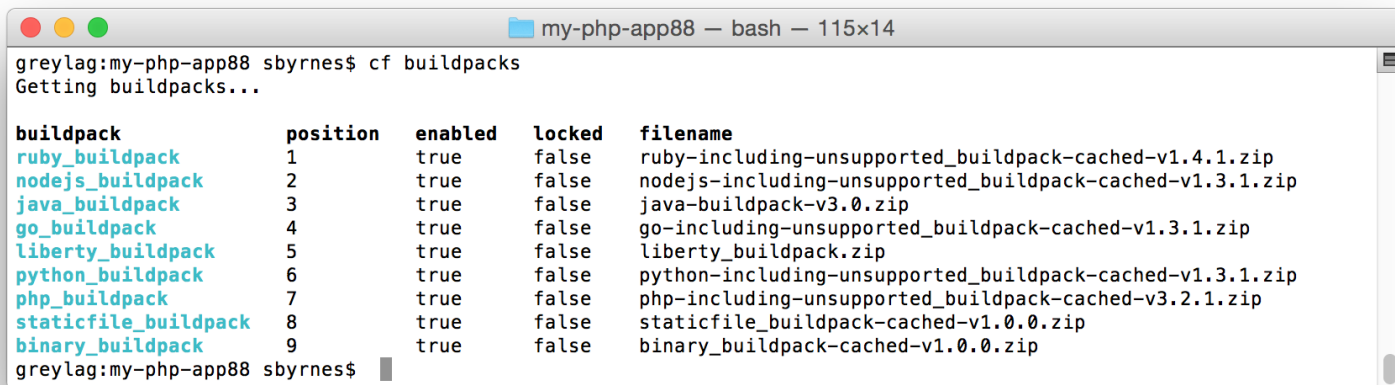
- Deploy a Simple Application
- Containers
- Application Logs and Events
- **Introduction to Buildpacks**

# A Brief Look at Buildpacks

- When we deployed our simple PHP application, how did Cloud Foundry know what to do with the application?
- Buildpacks are used to detect the type of application and set up the proper execution environment
- For PHP, CF makes sure that PHP is installed on each container on which the app instance runs
- Buildpacks are used at *staging* time (during a **cf push** or **cf restage**)
  - They are not involved during the actual execution of the app

# Viewing the Available Buildpacks

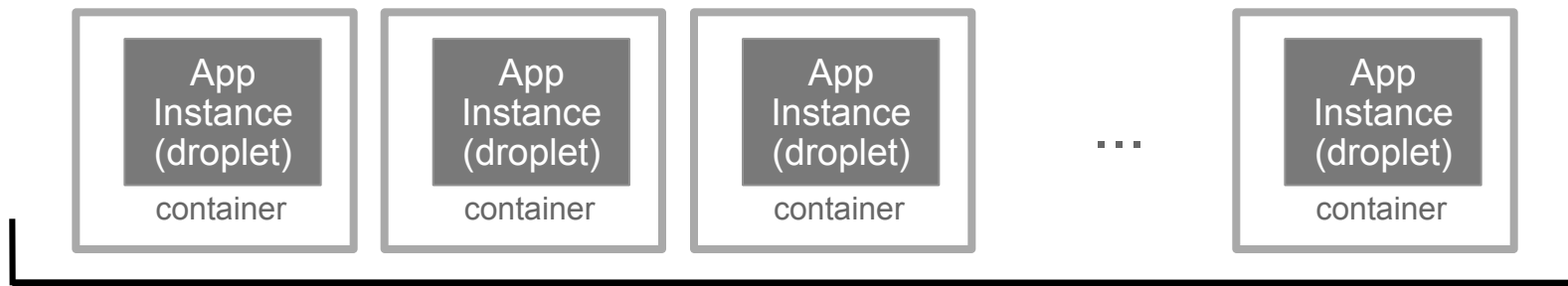
- Use `cf buildpacks` to view the system/installed buildpacks
- Buildpacks can be written for any language
- Cloud Foundry is language agnostic
- You can also specify a system or custom buildpack with `cf push -b`



```
greylag:my-php-app88 sbyrnes$ cf buildpacks
Getting buildpacks...

buildpack      position  enabled  locked  filename
ruby_buildpack 1         true    false   ruby-including-unsupported_buildpack-cached-v1.4.1.zip
nodejs_buildpack 2         true    false   nodejs-including-unsupported_buildpack-cached-v1.3.1.zip
java_buildpack 3         true    false   java_buildpack-v3.0.zip
go_buildpack    4         true    false   go-including-unsupported_buildpack-cached-v1.3.1.zip
liberty_buildpack 5         true    false   liberty_buildpack.zip
python_buildpack 6         true    false   python-including-unsupported_buildpack-cached-v1.3.1.zip
php_buildpack   7         true    false   php-including-unsupported_buildpack-cached-v3.2.1.zip
staticfile_buildpack 8         true    false   staticfile_buildpack-cached-v1.0.0.zip
binary_buildpack 9         true    false   binary_buildpack-cached-v1.0.0.zip
greylag:my-php-app88 sbyrnes$
```

# Droplets and Cells/DEAs



## Cell or DEA

- During staging, the buildpack combines the application's executable code with the necessary runtime files and creates a *droplet*
  - For example, a PHP droplet would contain a web server, PHP runtime and the application's code
- A virtual machine running containers with droplets is called a Cell or Droplet Execution Agent (DEA)

# Cell and App Entries in the Logs

Notice the log entries related to Cells and app instances

Events

Services

Env Variables

Routes

Logs

Delete App

RECENT LOGS 

</> Tail Logs

2015-12-08T00:57:32.000+00:00 [CELL] OUT Successfully created container

2015-12-08T00:57:36.000+00:00 [APP] OUT 00:57:36 php-fpm | [08-Dec-2015 00:57:36] NOTICE: fpm is running, pid 31

2015-12-08T00:57:36.000+00:00 [APP] OUT 00:57:36 php-fpm | [08-Dec-2015 00:57:36] NOTICE: ready to handle connections

2015-12-08T00:57:36.000+00:00 [APP] OUT 00:57:36 httpd | [Tue Dec 08 00:57:36.497003 2015] [mpm\_event:notice] [pid 29:tid 140562639148864] AH00489: Apache/2.4.16 (Unix) configured -- resuming normal operations

2015-12-08T00:57:36.000+00:00 [APP] OUT 00:57:36 httpd | [Tue Dec 08 00:57:36.497108 2015] [mpm\_event:info] [pid 29:tid 140562639148864] AH00490: Server built: Jul 22 2015 20:20:52

2015-12-08T00:57:36.000+00:00 [APP] OUT 00:57:36 httpd | [Tue Dec 08 00:57:36.497122 2015] [core:notice] [pid 29:tid 140562639148864] AH00094: Command line: '/app/httpd/bin/httpd -f /home/vcap/app/httpd/conf/httpd.conf -D FOREGROUND'

2015-12-08T00:57:36.000+00:00 [APP] OUT 00:57:36 php-fpm | [08-Dec-2015 00:57:36] NOTICE: fpm is running, pid 27

2015-12-08T00:57:36.000+00:00 [APP] OUT 00:57:36 php-fpm | [08-Dec-2015 00:57:36] NOTICE: ready to handle connections

2015-12-08T00:57:36.000+00:00 [APP] OUT 00:57:36 httpd | [Tue Dec 08 00:57:36.514493 2015] [mpm\_event:notice] [pid 26:tid 140164087265088] AH00489: Apache/2.4.16 (Unix) configured -- resuming normal operations

2015-12-08T00:57:36.000+00:00 [APP] OUT 00:57:36 httpd | [Tue Dec 08 00:57:36.514655 2015] [mpm\_event:info] [pid 26:tid 140164087265088] AH00490: Server built: Jul 22 2015 20:20:52

2015-12-08T00:57:36.000+00:00 [APP] OUT 00:57:36 httpd | [Tue Dec 08 00:57:36.514716 2015] [core:notice] [pid 26:tid 140164087265088] AH00094: Command line: '/app/httpd/bin/httpd -f /home/vcap/app/httpd/conf/httpd.conf -D FOREGROUND'

# Developer Perspective- The cf push Philosophy

Onsi Fakhouri (Pivotal engineering):

*Here is my source code  
Run it on the cloud for me  
I do not care how*



*Haiku*

# Topics

- Deploy a Simple Application
- Containers
- Application Logs and Events
- Introduction to Buildpacks

# Lab

Deploy a simple application, scale it  
and view its logs