

Domains and Routes

Topics

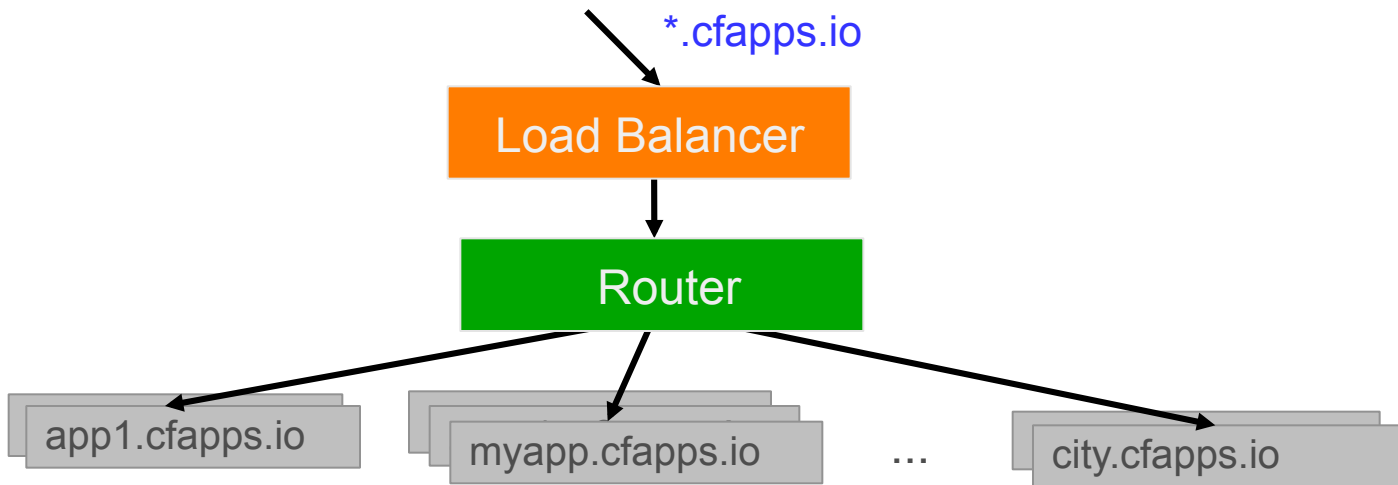
- **Domains and Routes**
- Blue-green Deployment using Routes

Domains

- Each Cloud Foundry installation has a default *app domain*
 - PWS uses cfapps.io
 - Can use custom domains: mycompany.com
 - App domains can include a subdomain:
apps.mycompany.com
- Hosts
 - Each application can have a unique host
 - Its URL is therefore *host.app-domain*
 - Example: an app named *myapp*: <http://myapp.cfapps.io>

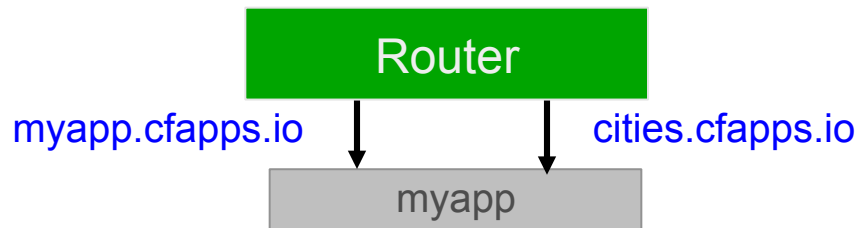
Domains and Subdomains- Behind the Scenes

- A CNAME wildcard entry (*) is added to DNS for the app domain
- That DNS entry points to a load balancer (or Cloud Foundry's *HA Proxy*), which points to Cloud Foundry's *router*
- The router uses the host to map to application instance(s)



Routes (1 of 2)

- A URL to an application is called a *route*
 - Notice that *host + domain = route*
- An application can be assigned one or more routes
- myapp.cfapps.io and cities.cfapps.io can both point to the exact same application
- Routes do not have to include the application name

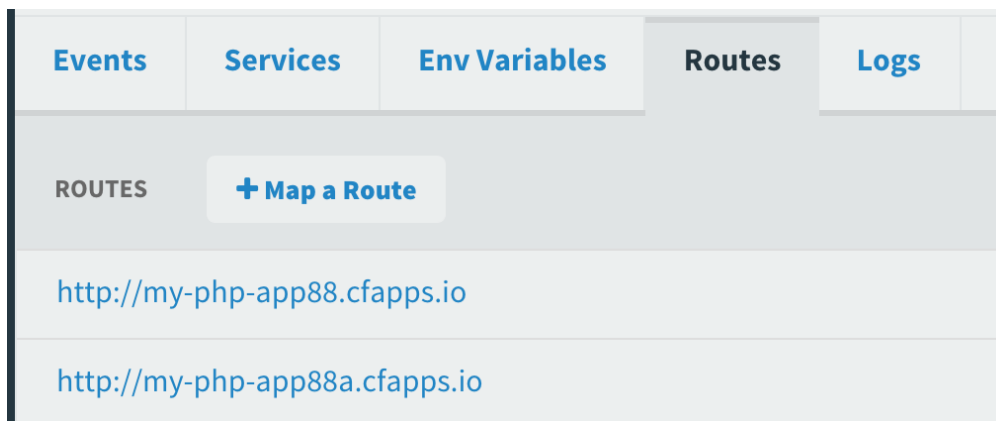


Routes (2 of 2)

- A route can only be used in a single space
 - Example: if myapp.cfapps.io is in use in a space, an application in another space can not use it
 - This is why you often see unique identifiers on PWS hosted applications (e.g. myapp_654.cfapps.io)

Routes in Apps Manager

- View, add and modify routes for an application using the Routes tab in Apps Manager
 - Here <http://my-php-app88.cfapps.io> and <http://my-php-app88a.cfapps.io> both point to the same application



Routes and the cf CLI

cf help shows the route-related commands:

```
my-php-app88 — bash — 127x10

ROUTES:
  routes, r                List all routes in the current space or the current organization
  create-route             Create a url route in a space for later use
  check-route              Perform a simple check to determine whether a route currently exists or not.
  map-route                Add a url route to an app
  unmap-route              Remove a url route from an app
  delete-route             Delete a route
  delete-orphaned-routes   Delete all orphaned routes (e.g.: those that are not mapped to an app)
```

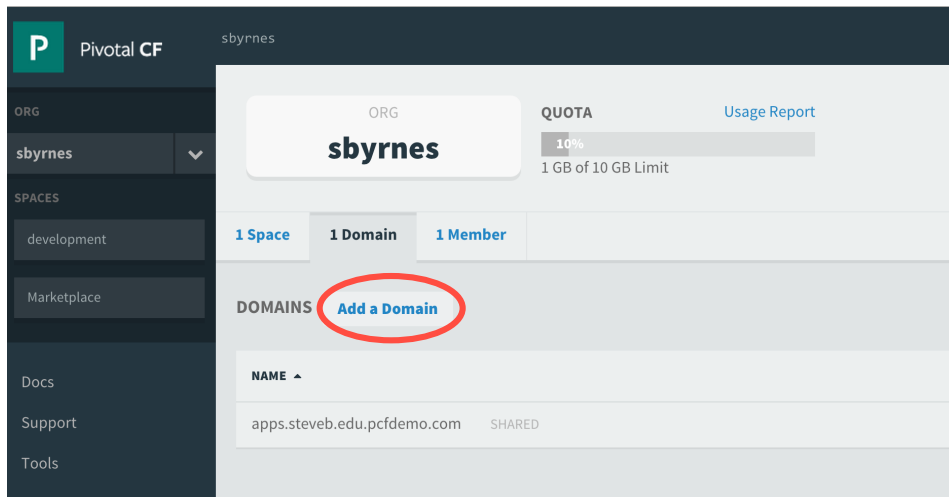
```
my-php-app88 — bash — 81x12

greylag:my-php-app88 sbyrnes$ cf r
Getting routes as sbyrnes@pivotal.io ...

space      host                                domain    apps
development spring-music-burned-dogey          cfapps.io spring-music
development spring-music-nasopalatine-zayin    cfapps.io spring-music
development springmusic234                  cfapps.io
development my-php-app87              cfapps.io my-php-app87
development phpmyadmin87            cfapps.io phpmyadmin
development my-php-app88            cfapps.io my-php-app88
development my-php-app88a           cfapps.io my-php-app88
greylag:my-php-app88 sbyrnes$
```

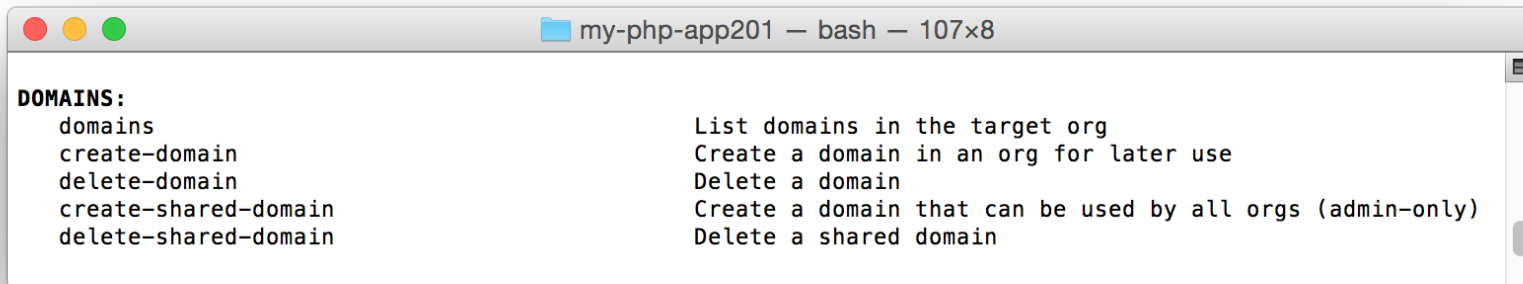

Domains in Apps Manager

- Domains are usually defined during installation time
- You can add domains using the cf CLI or Apps Manager
- This allows the same application to be accessed from multiple domains (cfapps.io, mycompany.com, etc.)
- You must also set a DNS entry for your added domain, pointing traffic from your added domain to the domain specified during installation



Domains and the cf CLI

- Use **cf create-domain** to create a domain for use inside of an organization
- Use **cf create-shared-domain** to create a domain for the entire Cloud Foundry installation (must be logged in as the administrator)



A terminal window titled "my-php-app201 — bash — 107x8" displays the output of the `cf domains` command. The output is organized into two columns: a list of domain-related commands on the left and their descriptions on the right.

DOMAINS:	
domains	List domains in the target org
create-domain	Create a domain in an org for later use
delete-domain	Delete a domain
create-shared-domain	Create a domain that can be used by all orgs (admin-only)
delete-shared-domain	Delete a shared domain

Topics

- Domains and Routes
- **Blue-green Deployment using Routes**

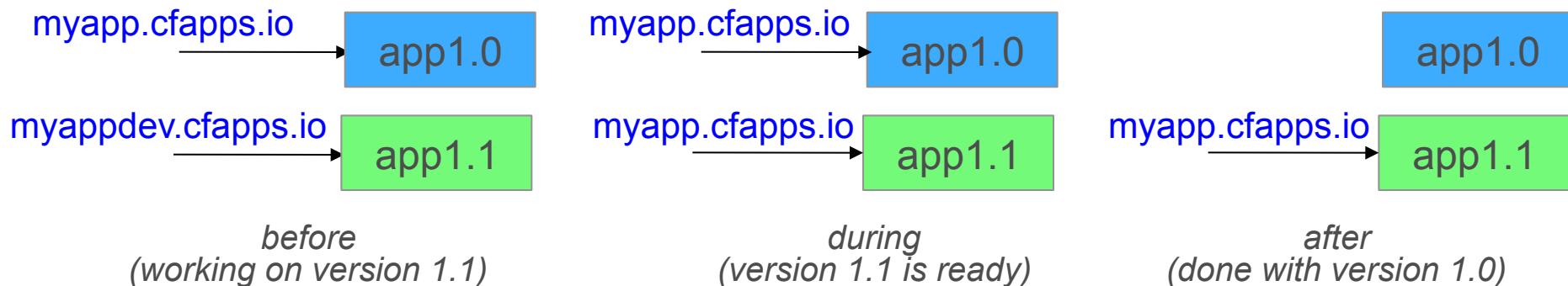
Blue-Green Deployments

- Blue-green deployment is an approach to upgrading applications with minimal downtime
- It also enables easy rollback to the old version if the new version experiences problems
- It works by keeping both versions online, and switching from the old version to the new version



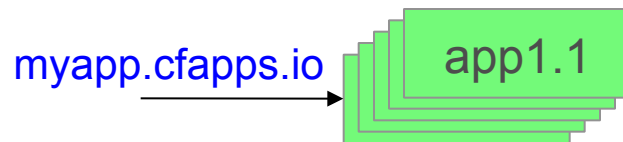
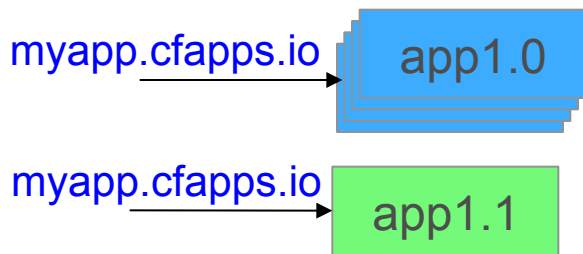
Blue-Green Deployment using Routes

- Main idea: you always want myapp.cfapps.io to be good
- Use routes to achieve this
- Because you are in a single space, multiple applications can use the same route



Slowly Turning on Traffic using Instances

- Start with four instances of blue, one instance of green
 - 80 percent of traffic will use version 1.0
- Decrease blue instance, increase green instances as confidence builds



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Lab

Perform a simple blue-green deployment using routes