BOSH-Bootloader (BBL), BOSH 2.0 & CF-Deployment

Deploying Cloud Foundry

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Who has...

• used BOSH-Bootloader?
• used BOSH?
• used BOSH 2.0?
• deployed CF?
  – using CF-Release?
  – using CF-Deployment?
BOSH
What is BOSH?

• BOSH is an open source tool for release engineering, deployment, lifecycle management, and monitoring of distributed systems.
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Infrastructure

Network/VPC

Private Subnet

Public Subnet

TCP

SSH Proxy

Web Sockets

HTTP(s)

Load Balancers

BOSH

Jumpbox
Infrastructure

- Jumpbox
- Load Balancers
- HTTP(s)
- Web Sockets
- SSH Proxy
- TCP
- Public Subnet

- BOSH
- Go Router
- VM
- VM
- Private Subnet

Network/VPC
YAML!?!
Deployment Manifest

... jobs:
  - name: cell_z1
    instances: 1
    templates:
      ** Lots of Software **
    resource_pool: cell_z1
    networks:
    - name: default
    properties:
      ** Lots of Properties**
      ** Lots of Generated Secrets**

...
Motivation

Simplify deploying CF
A brighter today

- Simplifying setup for a CF
- BOSH-Bootloader (BBL)
- BOSH 2.0
- CF-Deployment
A basic pipeline
BOSH-Bootloader (BBL)

• Stands up all the CF infrastructure for you using Terraform
• Creates a BOSH Director
Infrastructure

- Jumpbox
- BOSH
- Public Subnet
- Private Subnet
- Network/VPC
- CF
BBL

- Stands up all the CF infrastructure for you
- Creates a BOSH Director
- Idempotent
- Supports AWS and GCP
BBL & BOSH 2.0

• Gives information to target BOSH Director
$ bbl print-env

export BOSH_ENVIRONMENT=<YOUR-BOSH-IP>
export BOSH_CLIENT=<YOUR-BOSH-USERNAME>
export BOSH_CLIENT_SECRET=<YOUR-BOSH-PASSWORD>
export BOSH_CA_CERT=<YOUR-BOSH-CA-CERT>
BBL & BOSH 2.0

- Gives information to target BOSH Director
- Gives you a cloud-config
---
azs: []
compilation: []
disk_types: []
networks: []
vm_types: []
vm_extensions: []
BBL & BOSH 2.0

- Gives information to target BOSH Director
- Gives you a cloud-config
- Well-integrated with CF-Deployment
$ bbl up

$ bbl create-lbs --type cf \ 
   --cert <cert> --key <key> \ 
   --domain cf.example.com
A basic pipeline
CF-Deployment

• Human readability
• Bleeding edge
• TLS by default
• Geared for production
CF-Deployment & BOSH 2.0

• Static main manifest due to cloud config, ops files, and vars store
- type: replace
  path: /instance_groups/name=cell/instances
  value: 5

instance_groups:
- name: cell
  instances: 2
  vm_type: r3.xlarge
  stemcell: default
instance_groups:
- name: cell
  instances: 5
  vm_type: r3.xlarge
  stemcell: default
sql:
  db_host: sql-db.service.cf.internal
  db_port: 3306
  db_schema: diego
  db_username: diego
  db_password: admin
  db_driver: mysql
**Vars-store**

```python
sql:
  db_host: sql-db.service.cf.internal
  db_port: 3306
  db_schema: diego
  db_username: diego
  db_password: ((diego_db_password))
  db_driver: mysql

diego_db_password: some-funky-pw
```
CF-Deployment

$ bosh -d cf deploy cf-deployment.yml \
  -o ops-file.yml --vars-store creds.yml
A basic pipeline
BBL for Concourse?!

- Can create all necessary infrastructure for concourse
BBL for Concourse

$ bbl up

$ bbl create-lbs --type concourse

$ bosh -d concourse deploy concourse.yml...
Real World Use Case
Future Plans

- BBL Terraform Customization
- BBL Azure Support
- CF-Release to CF-Deployment
Resources

- https://github.com/cloudfoundry/bosh-bootloader
- https://github.com/cloudfoundry/bosh-cli
- https://github.com/cloudfoundry/cf-deployment
- https://github.com/cloudfoundry/cf-deployment-concourse-tasks
- https://cloudfoundry.slack.com bbl-users cf-deployment bosh
Questions?

Feel free to reach out to us

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