Ops-Files

Urvashi Reddy
CF Dedicated MySQL
Why should we care?
Native support in BOSH v2 CLI

```
# Check for spiff installation
which spiff > /dev/null 2>&1 || {
    echo "Aborted. Please install spiff by following https://github.com/cloudfoundry-incubator/spiff#installation" 1>&2
    exit 1
}

root_dir=$(cd "$(dirname "$0")/.." && pwd)

templates="${root_dir}/templates"

infrastructure="${1:7}"

shift

if [ "$infrastructure" != "aws" ] && \
   [ "$infrastructure" != "openstack" ] && \
   [ "$infrastructure" != "bosh-lite" ] && \
   [ "$infrastructure" != "vsphere" ]; then
    echo "usage: ./scripts/generate_deployment_manifest <aws|openstack|bosh-lite|vsphere> [stubs...]|" 1>&2
    exit 1
fi

spiff merge \
"${templates}/generic-manifest-mask.yml" \
"${templates}/cf.yml" \
"${templates}/cf-infrastructure-${infrastructure}.yml" \
"@"
```

Less Redundancy
Simplified Templating Logic

```bash
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fi

spiff merge \
"${templates}/generic-manifest-mask.yml" \
"${templates}/cf.yml" \
"${templates}/cf-infrastructure-${infrastructure}.yml" \
"@"
```
And I'm optimistic, because every day I get a little more desperate...
bosh deploy mysql-broker.yml
--ops-file bosh-lite.yml
--ops-file enable-syslog.yml

BASE MANIFEST:
minimal deployment
bosh deploy mysql-broker.yml

--ops-file bosh-lite.yml
--ops-file enable-syslog.yml

OPS-FILES:
- layering additional config
- enabling/disabling features
- tip: use names that make it clear under which context the file should be used
bosh interpolate mysql-broker.yml

--path /instance_groups/name=service-broker/
Two Types of Operations

- Remove
- Replace
Remove

# bosh-lite.yml

- type: remove
  path:/instance_groups/name=service-broker/persistent_disk
Remove

# mysql-broker.yml

name: mysql
releases:
- name: broker
  version: latest
instance_groups:
- name: service-broker
  instances: 2
  persistent_disk: 10000
jobs:
...
Replace

# bosh-lite.yml

- type: remove
  path:/instance_groups/name=service-broker/persistent_disk

- type: replace
  path: /instance_groups/name=service-broker/instances
  value: 1
Replace

# mysql-broker.yml

name: mysql
releases:
- name: broker
  version: latest
instance_groups:
- name: service-broker
  instances: 2
jobs:
  ...

Replace bosh-lite.yml
# enable-syslog.yml

- type: replace
  path:/instance_groups/name=service-broker/jobs/
  value:
    name: syslog_forwarder
    release: syslog
    properties:
      forward_files: true
      address: ((syslog_address))
      port: ((syslog_port))
      transport: ((syslog_transport))

- generated or specified on command line
- tip: use bosh interpolate --var-errs
# mysql-broker.yml

...  
instance_groups:
  - name: service-broker
    instances: 1
    jobs:
      - name: syslog_forwarder
        release: syslog
        properties:
          syslog:
            forward_files: true
            address: ((syslog_address))
            port: ((syslog_port))
            transport: ((syslog_transport))

Replace

# mysql-broker.yml

...
Replace

# enable-syslog.yml

- type: replace
  path:/instance_groups/name=service-broker/jobs/name=syslog_forwarder/release
  value: custom-syslog

Checks for existence,
Adds if not there
Carries over to the rest of the path
bosh deploy mysql-broker.yml
  --ops-file bosh-lite.yml
  --ops-file enable-syslog.yml

- type: remove
  path: .../persistent_disk
  # path shortened for brevity

- type: replace
  path: .../persistent_disk
  value: default
bosh deploy mysql-broker.yml
  --ops-file bosh-lite.yml
  --ops-file enable-syslog.yml
  --var syslog_address=blah
  ...

- scales down
- removes disk

adds syslog forwarder
But what if you wanted to configure syslog for bosh-lite?
bosh deploy mysql-broker.yml
--ops-file bosh-lite.yml
--ops-file enable-syslog.yml

- type: replace
  path: /instance_groups/name=service-broker/jobs/-
  value:
    name: syslog_storer
    release: syslog
Who are these ops-files even for?
Release Authors & Consumers

- Author: Iterating quickly
- Consumer: How do I deploy?
Release Authors

There’s still a need for manifest generation scripts.
Manifest Generation

syslog_configuration=$(cat <<EOL
--ops-file enable-syslog-forwarder.yml \
--ops-file enable-syslog-storer.yml \
--var syslog_address="${SYSLOG_ADDRESS}" \
--var syslog_port="${SYSLOG_PORT}" \
--var syslog_transport="${SYSLOG_TRANSPORT}" \
EOL
)

bosh deploy mysql-broker.yml \
--ops-file bosh-lite.yml \
$syslog_configuration \
$other_stuff \
...
Release Artifacts for Release Consumers

- base manifest
- example ops-files
- “workflows”

# README

Deploying broker with Syslog:

```bash
bosh deploy mysql-broker.yml \
--ops-file enable-syslog-forwarder.yml \
--var syslog_address=some-address \
--var syslog_transport=tcp
```

Ops-Files
bosh-lite.yml - used for local dev testing
enable-syslog-forwarder.yml - adds syslog to broker
## Productizing Ops-Files

<table>
<thead>
<tr>
<th>Name</th>
<th>Purpose</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>bits-service.yml</td>
<td>Adds the <code>bits-service</code> job and enables it in the cloud-controller.</td>
<td>Also requires one of <code>bits-service-{local,webdav,s3}.yml</code> from the same directory.</td>
</tr>
<tr>
<td>bits-service-local.yml</td>
<td>Use local storage for the <code>bits-service</code>.</td>
<td></td>
</tr>
<tr>
<td>bits-service-s3.yml</td>
<td>Use s3 storage for the <code>bits-service</code>.</td>
<td><code>use-s3-blobstore.yml</code> from the root operations directory is also required.</td>
</tr>
<tr>
<td>bits-service-webdav.yml</td>
<td>Use the blobstore's webdav storage for the <code>bits-service</code>.</td>
<td></td>
</tr>
<tr>
<td>deploy-bosh-backup-restore.yml</td>
<td>Deploy BOSH backup and restore instance.</td>
<td>Requires the <code>blobstore</code> job.</td>
</tr>
</tbody>
</table>
Review

- Clearly named ops-files
- Commit example ops-files and a base manifest in your release repos
- Include static deploy workflows for common use cases
Thanks for Attending

@ureddy | cloudfoundry
#dedicated-mysql | pivotal

https://github.com/youreddy
Questions?

Yeah, I have a lot of questions. Number one: how dare you?
Helpful Links

Ops-File Documentation

CF Deployment Ops-File ReadME