1 Bosh CheatSheet   TOOLS

- PDF Link: cheatsheet-bosh-A4.pdf

- Blog URL: `https://cheatsheet.dennyzhang.com/cheatsheet-bosh-A4`

- Category: tools

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1.1 Basic

- Concepts

Name	Comment
Bosh Director	The Director is the orchestrator of deployments.
Bosh Addon	A release job that is colocated on all VMs managed by the Director.
Bosh Agent	A process that runs continuously on each VM that BOSH deploys. one Agent process per VM
Cloud ID (CID)	ID returned from the Cloud identifying particular resource such as VM or disk.
Deployment	An encapsulation of software and configuration that BOSH can deploy to the cloud.
Director Blobstore	A repository where BOSH stores release artifacts, logs, stemcells, and other content, etc
Bosh Errand	A short-lived job that can be triggered by an operator any time after the deploy.
Bosh Event	Actions taken by the Director (via user or system control) are recorded as events
Bosh Jumpbox	A VM that acts as a single access point for the Director and deployed VMs.
Deployment manifest	A YAML file that identifies one or more releases, stemcells and configurations
Operations file (ops file)	A YAML file that includes multiple operations to be applied to a different YAML file.
Stemcells	A generic VM image that BOSH clones and configures during deployment.

Links:
`https://bosh.cloudfoundry.org/stemcells/`
`https://bosh.io/docs/terminology`

- Commands

Name	Command
Install bosh	`apt install bosh-cli`
Bosh Command	link from pivotal
bosh interpolates variables	`bosh int /tmp/build/4dc76cXXX/pks-lock/metadata --path=/ops_manager/username` link
delete vm	`bosh delete-vm -d service-instance_c4b06291-XXX 35043957-XXX`
delete deployment	`bosh delete-deployment -d wf-deployment-0-7-0-dev-4`
ssh to vm	`bosh -e 192.168.30.52 -d $deployment ssh $vm`

1.2 Query status

Name	Command
List all bosh deployments	`bosh deployments`
Download log files	`bosh -d $deployment_id logs`
	`bosh cloud-config`
	`bosh configs`
List environment	`bosh env, bosh env --json`
List vms	`bosh vms`
List all instances	`bosh instances`
Get vms per deployment	`bosh -e $env -d $deployment vms`
	`bosh instances`
Cloud consistency check	`bosh cloud-check -d $deployment`
Show deployment manifest	`bosh manifest -d $deployment`
List disks	`bosh disks -o`

1.3   Tasks

Name	Command
List recent tasks	`bosh tasks --recent`
Attach to current task	`bosh task -a`
Get task by id	`bosh task $id`
	`bosh events`
SSH to vm	`bosh ssh -d $deployment_name $instance_name`
Get all logs for a deployment	`bosh logs -d $deployment_name`
Get log for one vm	`bosh logs -d $deployment_name $instance_name`

1.4   Stemcell

Name	Command
Upload stemcell	`bosh -n upload-stemcell /tmp/build/4dc76cXX/stemcell/stemcell.tgz`
List stemcells	`bosh -n stemcells`

1.5   Errand

Name	Command
List errands	`bosh errands -d my-deployment-0-8-0-dev-16`
Run errand in a new vm	`bosh -n -d my-deployment-0-8-0-dev-16 run-errand ${errand_name}`
Run errand in a new vm with env alive	`bosh -n -d my-deployment-0-8-0-dev-16 run-errand ${errand_name} --keep-al`
Run errand in an existing vm	bosh -n -d my-deployment-0-8-0-dev-16 run-errand ${errand$_{name}$} –instance=worker/in

run-errand: link

1.6   bosh blobs

`https://bosh.io/docs/release-blobs/`

1.6.1   add-blob

```
kubo@jumper:/tmp/tmp.RgJNFQbFsV$ docker pull telegraf:1.7-alpine
^[[O1.7-alpine: Pulling from library/telegraf
a073c86ecf9e: Pull complete
5e3fc09cd317: Pull complete
42f39ed2e134: Pull complete
28dc5f846df8: Pull complete
cbf4ff759895: Pull complete
Digest: sha256:9bc4e7316f97ebdf33d0c1edfbf3fb0de2e7db7769d393f46463ef203c8f2c33
Status: Downloaded newer image for telegraf:1.7-alpine
kubo@jumper:/tmp/tmp.RgJNFQbFsV$ docker save telegraf:1.7-alpine | gzip > telegraf:1.7-alpine.tgz

kubo@jumper:~$ bosh add-blob /tmp/tmp.RgJNFQbFsV/telegraf:1.7-alpine.tgz container-images/telegraf:1.7-alpine
Added blob 'container-images/telegraf:1.7-alpine.tgz'

Succeeded

kubo@jumper:~$ ls -lth blobs/container-images
total 237M
-rw------- 1 kubo kubo  15M Aug  6 10:21 telegraf:1.7-alpine.tgz
```

1.6.2   Need credentials$_{source}$ to run "bosh upload-blobs"

Need to provide config/private.yml. Something like below

```
---
blobstore:
  provider: s3
  options:
```

```
    access_key_id: XXXXMMMAAAMMMM
    secret_access_key: c9EcPLbysjpafafafeweafaf23434


kubo@jumper:~$ bosh upload-blobs
Blob upload 'container-images/dummy_image:4.27.tgz' (232 MB) (sha1: ee47c68465ea8352513c0e706517af7eb744ee74)


Blob upload 'container-images/dummy_image:4.27.tgz' failed

Uploading blobs:
  Creating blob for path 'container-images/dummy_image:4.27.tgz':
    Creating blob in inner blobstore:
      Generating blobstore ID:
        the client operates in read only mode. Change 'credentials_source' parameter value

Exit code 1
```

1.6.3 How to get size, object$_{id}$, sha for blobs.yml?

After we have successfully run "bosh upload-blobs", blobs.yml will be updated automatically.

```
container-images/telegraf:1.6-alpine.tgz:
  size: 14016537
  object_id: 9028fea7-742d-4af0-784c-7dad1be15365
  sha: bf5f32036fec554f9c5dbb7fd922a5930b625594
```

1.6.4 bosh upload-blobs: console output if wrong credential

```
kubo@jumper:~$ bosh upload-blobs
Blob upload 'container-images/telegraf:1.7-alpine.tgz' (16 MB) (sha1: 71ef025187f8882035932ba04cc772f6fdf6a4e
2018/08/06 13:51:05 Upload failed: SignatureDoesNotMatch: The request signature we calculated does not match
status code: 403, request id: , host id:
2018/08/06 13:51:06 Upload failed: SignatureDoesNotMatch: The request signature we calculated does not match
status code: 403, request id: , host id:
2018/08/06 13:51:06 Upload failed: SignatureDoesNotMatch: The request signature we calculated does not match
status code: 403, request id: , host id:

Blob upload 'container-images/telegraf:1.7-alpine.tgz' failed

Uploading blobs:
  Creating blob for path 'container-images/telegraf:1.7-alpine.tgz':
    Creating blob in inner blobstore:
      Generating blobstore ID:
        upload failure: SignatureDoesNotMatch: The request signature we calculated does not match the signatu
status code: 403, request id: , host id:

Exit code 1
```

1.7 Online Help Usage

```
kubo@jumper:~$ bosh --help
Usage:
  bosh [OPTIONS] <command>


Application Options:
  -v, --version          Show CLI version
      --config=          Config file path (default: ~/.bosh/config) [$BOSH_CONFIG]
  -e, --environment=     Director environment name or URL [$BOSH_ENVIRONMENT]
      --ca-cert=         Director CA certificate path or value [$BOSH_CA_CERT]
      --sha2             Use SHA256 checksums [$BOSH_SHA2]
```

```
      --parallel=          The max number of parallel operations (default: 5)
      --client=            Override username or UAA client [$BOSH_CLIENT]
      --client-secret=     Override password or UAA client secret [$BOSH_CLIENT_SECRET]
  -d, --deployment=        Deployment name [$BOSH_DEPLOYMENT]
      --column=            Filter to show only given column(s)
      --json               Output as JSON
      --tty                Force TTY-like output
      --no-color           Toggle colorized output
  -n, --non-interactive    Don't ask for user input [$BOSH_NON_INTERACTIVE]


Help Options:
  -h, --help               Show this help message


Available commands:
  add-blob              Add blob                                             https://bosh.io/docs/cli-v2#add-b
  alias-env             Alias environment to save URL and CA certificate     https://bosh.io/docs/cli-v2#alias
  attach-disk           Attaches disk to an instance                         https://bosh.io/docs/cli-v2#attac
  blobs                 List blobs                                           https://bosh.io/docs/cli-v2#blobs
  cancel-task           Cancel task at its next checkpoint                   https://bosh.io/docs/cli-v2#cance
  clean-up              Clean up releases, stemcells, disks, etc.            https://bosh.io/docs/cli-v2#clean
  cloud-check           Cloud consistency check and interactive repair       https://bosh.io/docs/cli-v2#cloud
  cloud-config          Show current cloud config                            https://bosh.io/docs/cli-v2#cloud
  config                Show current config for either ID or both type and name https://bosh.io/docs/cli-v2#
  configs               List configs                                         https://bosh.io/docs/cli-v2#confi
  cpi-config            Show current CPI config                              https://bosh.io/docs/cli-v2#cpi-c
  create-env            Create or update BOSH environment                    https://bosh.io/docs/cli-v2#creat
  create-release        Create release                                       https://bosh.io/docs/cli-v2#creat
  delete-config         Delete config                                        https://bosh.io/docs/cli-v2#delet
  delete-deployment     Delete deployment                                    https://bosh.io/docs/cli-v2#delet
  delete-disk           Delete disk                                          https://bosh.io/docs/cli-v2#delet
  delete-env            Delete BOSH environment                              https://bosh.io/docs/cli-v2#delet
  delete-release        Delete release                                       https://bosh.io/docs/cli-v2#delet
  delete-snapshot       Delete snapshot                                      https://bosh.io/docs/cli-v2#delet
  delete-snapshots      Delete all snapshots in a deployment                 https://bosh.io/docs/cli-v2#delet
  delete-stemcell       Delete stemcell                                      https://bosh.io/docs/cli-v2#delet
  delete-vm             Delete VM                                            https://bosh.io/docs/cli-v2#delet
  deploy                Update deployment                                    https://bosh.io/docs/cli-v2#deplo
  deployment            Show deployment information                          https://bosh.io/docs/cli-v2#deplo
  deployments           List deployments                                     https://bosh.io/docs/cli-v2#deplo
  diff-config           Diff two configs by ID                               https://bosh.io/docs/cli-v2#diff-
  disks                 List disks                                           https://bosh.io/docs/cli-v2#disks
  environment           Show environment                                     https://bosh.io/docs/cli-v2#envir
  environments          List environments                                    https://bosh.io/docs/cli-v2#envir
  errands               List errands                                         https://bosh.io/docs/cli-v2#erran
  event                 Show event details                                   https://bosh.io/docs/cli-v2#event
  events                List events                                          https://bosh.io/docs/cli-v2#event
  export-release        Export the compiled release to a tarball             https://bosh.io/docs/cli-v2#expor
  finalize-release      Create final release from dev release tarball        https://bosh.io/docs/cli-v2#final
  generate-job          Generate job                                         https://bosh.io/docs/cli-v2#gener
  generate-package      Generate package                                     https://bosh.io/docs/cli-v2#gener
  help                  Show this help message                               https://bosh.io/docs/cli-v2#help
  ignore                Ignore an instance                                   https://bosh.io/docs/cli-v2#ignor
  init-release          Initialize release                                   https://bosh.io/docs/cli-v2#init-
  inspect-release       List release contents such as jobs                   https://bosh.io/docs/cli-v2#inspe
  instances             List all instances in a deployment                   https://bosh.io/docs/cli-v2#insta
  interpolate           Interpolates variables into a manifest               https://bosh.io/docs/cli-v2#inter
  locks                 List current locks                                   https://bosh.io/docs/cli-v2#locks
  log-in                Log in                                               https://bosh.io/docs/cli-v2#log-i
  log-out               Log out                                              https://bosh.io/docs/cli-v2#log-o
```

logs	Fetch logs from instance(s)	https://bosh.io/docs/cli-v2#logs
manifest	Show deployment manifest	https://bosh.io/docs/cli-v2#manif
orphan-disk	Orphan disk	https://bosh.io/docs/cli-v2#orpha
recreate	Recreate instance(s)	https://bosh.io/docs/cli-v2#recre
releases	List releases	https://bosh.io/docs/cli-v2#relea
remove-blob	Remove blob	https://bosh.io/docs/cli-v2#remov
repack-stemcell	Repack stemcell	https://bosh.io/docs/cli-v2#repac
reset-release	Reset release	https://bosh.io/docs/cli-v2#reset
restart	Restart instance(s)	https://bosh.io/docs/cli-v2#resta
run-errand	Run errand	https://bosh.io/docs/cli-v2#run-e
runtime-config	Show current runtime config	https://bosh.io/docs/cli-v2#runti
scp	SCP to/from instance(s)	https://bosh.io/docs/cli-v2#scp
snapshots	List snapshots	https://bosh.io/docs/cli-v2#snaps
ssh	SSH into instance(s)	https://bosh.io/docs/cli-v2#ssh
start	Start instance(s)	https://bosh.io/docs/cli-v2#start
stemcells	List stemcells	https://bosh.io/docs/cli-v2#stemc
stop	Stop instance(s)	https://bosh.io/docs/cli-v2#stop
sync-blobs	Sync blobs	https://sync.io/docs/cli-v2#sync-
take-snapshot	Take snapshot	https://bosh.io/docs/cli-v2#take-
task	Show task status and start tracking its output	https://bosh.io/docs/cli-v2#task
tasks	List running or recent tasks	https://bosh.io/docs/cli-v2#tasks
unignore	Unignore an instance	https://bosh.io/docs/cli-v2#unign
update-cloud-config	Update current cloud config	https://bosh.io/docs/cli-v2#updat
update-config	Update config	https://bosh.io/docs/cli-v2#updat
update-cpi-config	Update current CPI config	https://bosh.io/docs/cli-v2#updat
update-resurrection	Enable/disable resurrection	https://bosh.io/docs/cli-v2#updat
update-runtime-config	Update current runtime config	https://bosh.io/docs/cli-v2#updat
upload-blobs	Upload blobs	https://bosh.io/docs/cli-v2#uploa
upload-release	Upload release	https://bosh.io/docs/cli-v2#uploa
upload-stemcell	Upload stemcell	https://bosh.io/docs/cli-v2#uploa
variables	List variables	https://bosh.io/docs/cli-v2#varia
vendor-package	Vendor package	https://bosh.io/docs/cli-v2#vendo
vms	List all VMs in all deployments	https://bosh.io/docs/cli-v2#vms

Succeeded

- bosh delete vm

```
kubo@jumper:~$ bosh vms
Using environment '30.0.X.11' as client 'ops_manager'

Task 291
Task 294
Task 292
Task 293
Task 291 done

Task 292 done

Task 294 done

Task 293 done

Deployment 'XXX-container-service-37f4102408dc7e3b4fcf'

Instance                                                Process State  AZ     IPs        VM CID
XXX-container-service/6245d88f-7d52-4371-a3c2-5dc023c32fe9  running     az-1   30.0.0.12  vm-b27efb7f-c0d8-

1 vms
```

```
Deployment 'service-instance_1ee08f0f-2e8a-45f9-a1f8-5e0d608225b4'

Instance                                     Process State  AZ     IPs       VM CID
master/05e56b86-b650-4ec6-a953-3de9a736517d  running        az-1   40.0.2.2  vm-4bd0dd74-2b13-4062-bc29-d5130f
worker/7881dd78-0006-4466-a4bd-ebee59477998  running        az-1   40.0.2.4  vm-d24b71a6-55bd-418e-8694-ed8bb5
worker/adf1ecda-700e-4d52-a675-34c8853fd063  running        az-1   40.0.2.3  vm-73dd78c2-e3d1-4030-9805-7402af

3 vms

Deployment 'service-instance_c4b06291-ed29-4b5e-89c2-ff35547db2d2'

Instance                                     Process State  AZ     IPs       VM CID
master/85496f06-26aa-4dfd-b181-1c6b7e29f655  running        az-1   40.0.1.2  vm-d6938cf5-0349-488b-96c3-9c2078
worker/1f4cc6b9-533a-4edf-bec1-03f2fd402b8d  stopped        az-1   40.0.1.3  vm-00cf6f5b-dfe9-46df-8856-867d5f
worker/35043957-97b4-4aa5-bfda-9d495831a7e8  running        az-1   40.0.1.4  vm-b0adf348-3faa-486d-a8f5-a05128

Succeeded

kubo@jumper:~$ bosh delete-vm -d service-instance_c4b06291-ed29-4b5e-89c2-ff35547db2d2 35043957-97b4-4aa5-bfd
Using environment '30.0.0.11' as client 'ops_manager'

Using deployment 'service-instance_c4b06291-ed29-4b5e-89c2-ff35547db2d2'

Continue? [yN]: y

Task 295
. Done
```

1.8   More Resources

https://github.com/bosh-tips/tips
   License: Code is licensed under MIT License.