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://bosh.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.