1 Bosh CheatSheet   TOOLS

- PDF Link: cheatsheet-bosh-A4.pdf, Category: tools

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

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1.1 Bosh Commands

Name	Command
bosh	`apt install bosh-cli`, link: pivotal bosh command
Interpolates variables	`bosh int /tmp/build/4dc76cXXX/pks-lock/metadata --path=/ops_manager/username` link
Delete a vm	`bosh delete-vm -d service-instance_c4b06291-XXX 35043957-XXX`
Delete a 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`
bosh log	`/var/vcap/bosh/log`

1.2 Query status

Name	Command
List all bosh deployments	`bosh -n deployments`
Download log files	`bosh -d $deployment_id logs`
bosh config	`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`
SSH to vm	`bosh -d $deployment_name ssh $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`
List bosh events	`bosh events`

1.4 Bosh Release

Name	Command
List release	`bosh -n releases`
Release folder	`/var/tempest/releases`
Create a local release	`bosh create-release --tarball=myrelease-0.4.0.tgz`
Inspect a release	`bosh inspect-release <my-release>/<release-version>`
Export a release	`bosh -d <deployment> export-release <my-release>/<release-version> ubuntu-trusty`
Delete release	`bosh -n delete-release <my-release>/<release-version> --force`
Upload release	`bosh -n upload-release /tmp/my-release-0.22.0.tgz`
Create a release from directory	`bosh init-release --dir <my-release>`

1.5   Ops manager

Name	Command
Release folder	/var/tempest/releases
Restart Ops Manager	service tempest-web stop/start
Change file permision for your release	chown tempest-web:tempest-web /var/tempest/releases/<your-release.tgz>
Tile entrance file	/var/tempest/workspaces/default/metadata/*.yml
Tile jobs folder	/var/vcap/jobs

1.6   Deployment

Name	Command
Delete deployment	bosh -n -d <deployment-name> delete-deployment --force

1.7   Errand

Name	Command
List errands	bosh errands -d <deployment>
Run errand in a new vm	bosh -n -d <deployment> run-errand <errand_name> link: run-errand
Run errand in a new vm with env alive	bosh -n -d <deployment> run-errand <errand_name> --keep-alive
Run errand in an existing vm	bosh -n -d <deployment> run-errand <errand_name> --instance=worker/instan

1.8   Tile

Name	Command
Forms Reference	https://docs.pivotal.io/tiledev/2-1/product-template-reference.html#form-propertie
Example	example-product/metadata/example-product.yml.erb
Product Template Reference	https://docs.pivotal.io/tiledev/2-2/product-template-reference.html
Property Reference	https://docs.pivotal.io/tiledev/2-2/property-reference.html
Tile Generator	https://docs.pivotal.io/tiledev/2-1/tile-generator.html
stemcells	https://bosh.io/stemcells/, Download link

1.9   Stemcell

Name	Command
Upload stemcell	bosh -n upload-stemcell /tmp/stemcell.tgz
List stemcells	bosh -n stemcells

1.10   Tools

Name	Comment
kiln	Kiln helps you maintain tile metadata. link

1.11   bosh blobs

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

1.11.1   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
```

1.11.2   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
```

1.11.3   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
```

1.11.4   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
```

1.12   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

1.13   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
```

1.14   More Resources

```
https://github.com/bosh-tips/tips
```
   http://engineering.pivotal.io/post/compiled-releases-for-pipelines/
   License: Code is licensed under MIT License.