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 Concepts

Name	Command
Release	
Jobs	
Errands	
Tile	
BBR (bosh-backup-and-restore)	link: bosh-backup-and-restore
bbl (bosh-bootloader)	GitHub: bosh-bootloader
Manifest	

1.2 Bosh

1.2.1 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`

1.2.2 Bosh Query status

Name	Command
List all bosh deployments	`bosh -n deployments`
Download log files	`bosh -d $deployment_id logs`
Show deployment manifest	`bosh manifest -d $deployment`
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`
List disks	`bosh disks -o`

1.2.3 Bosh 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`

1.2.4 Deployment

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

1.2.5   monit

Name	Command
List bosh deployed daemon processes	`monit summary`
Restart a given daemon processes	`monit restart <process_name>`

1.3   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>`

1.3.1   Manifest

Name	Command

1.3.2   Tools

Name	Comment
kiln	Kiln helps you maintain tile metadata. link

1.4   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`

1.5   Stemcell

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

1.6   Tile

1.6.1   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`

1.6.2   Tile

Name	Command
Forms Reference	https://docs.pivotal.io/tiledev/2-1/product-template-reference.html#form-properti
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

1.7   bosh blobs

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

1.7.1   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
```

1.7.2   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
```

1.7.3   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
```

1.7.4   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
```

1.8   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
```

1.9   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

1.10   More Resources

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