

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

1.2 Bosh Commands

Name	Command
bosh	<code>apt install bosh-cli</code> , link: pivotal bosh command
Interpolates variables	<code>bosh int /tmp/build/4dc76cXXX/pks-lock/metadata --path=/ops_manager/username link</code>
Delete a vm	<code>bosh delete-vm -d service-instance_c4b06291-XXX 35043957-XXX</code>
Delete a deployment	<code>bosh delete-deployment -d wf-deployment-0-7-0-dev-4</code>
SSH to vm	<code>bosh -e 192.168.30.52 -d \$deployment ssh \$vm</code>
bosh log	<code>/var/vcap/bosh/log</code>

1.3 Query status

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

1.4 Tasks

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

1.5 Bosh Release

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

1.6 Ops manager

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

1.7 Deployment

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

1.8 Errand

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

1.9 Tile

Name	Command
Forms Reference	https://docs.pivotal.io/tiledev/2-1/product-template-reference.html#form-properties
Example	<code>example-product/metadata/example-product.yml.erb</code>
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

1.10 Stemcell

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

1.11 Tools

Name	Comment
kiln	Kiln helps you maintain tile metadata. link

1.12 bosh blobs

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

1.12.1 add-blob

```
kubo@jumper:/tmp/tmp.RgJNFQbFsV$ docker pull telegraf:1.7-alpine
^[[01.7-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
```

1.12.2 Need credentials_{source} to run "bosh upload-blobs"

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

```
---
blobstore:
  provider: s3
  options:
    access_key_id: XXXXMMMAAAMMM
    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
```

1.12.3 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
```

1.12.4 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 signature
status code: 403, request id: , host id:
```

Exit code 1

1.13 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>

1.14 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-blob
alias-env	Alias environment to save URL and CA certificate	https://bosh.io/docs/cli-v2#alias-env
attach-disk	Attaches disk to an instance	https://bosh.io/docs/cli-v2#attach-disk
blobs	List blobs	https://bosh.io/docs/cli-v2#blobs
cancel-task	Cancel task at its next checkpoint	https://bosh.io/docs/cli-v2#cancel-task
clean-up	Clean up releases, stemcells, disks, etc.	https://bosh.io/docs/cli-v2#clean-up
cloud-check	Cloud consistency check and interactive repair	https://bosh.io/docs/cli-v2#cloud-check
cloud-config	Show current cloud config	https://bosh.io/docs/cli-v2#cloud-config
config	Show current config for either ID or both type and name	https://bosh.io/docs/cli-v2#config
configs	List configs	https://bosh.io/docs/cli-v2#configs
cpi-config	Show current CPI config	https://bosh.io/docs/cli-v2#cpi-config
create-env	Create or update BOSH environment	https://bosh.io/docs/cli-v2#create-env
create-release	Create release	https://bosh.io/docs/cli-v2#create-release
delete-config	Delete config	https://bosh.io/docs/cli-v2#delete-config
delete-deployment	Delete deployment	https://bosh.io/docs/cli-v2#delete-deployment
delete-disk	Delete disk	https://bosh.io/docs/cli-v2#delete-disk
delete-env	Delete BOSH environment	https://bosh.io/docs/cli-v2#delete-env
delete-release	Delete release	https://bosh.io/docs/cli-v2#delete-release
delete-snapshot	Delete snapshot	https://bosh.io/docs/cli-v2#delete-snapshot
delete-snapshots	Delete all snapshots in a deployment	https://bosh.io/docs/cli-v2#delete-snapshots
delete-stemcell	Delete stemcell	https://bosh.io/docs/cli-v2#delete-stemcell
delete-vm	Delete VM	https://bosh.io/docs/cli-v2#delete-vm
deploy	Update deployment	https://bosh.io/docs/cli-v2#deploy
deployment	Show deployment information	https://bosh.io/docs/cli-v2#deployment
deployments	List deployments	https://bosh.io/docs/cli-v2#deployments
diff-config	Diff two configs by ID	https://bosh.io/docs/cli-v2#diff-config
disks	List disks	https://bosh.io/docs/cli-v2#disks
environment	Show environment	https://bosh.io/docs/cli-v2#environment
environments	List environments	https://bosh.io/docs/cli-v2#environments
errands	List errands	https://bosh.io/docs/cli-v2#errands
event	Show event details	https://bosh.io/docs/cli-v2#event
events	List events	https://bosh.io/docs/cli-v2#events
export-release	Export the compiled release to a tarball	https://bosh.io/docs/cli-v2#export-release
finalize-release	Create final release from dev release tarball	https://bosh.io/docs/cli-v2#finalize-release
generate-job	Generate job	https://bosh.io/docs/cli-v2#generate-job
generate-package	Generate package	https://bosh.io/docs/cli-v2#generate-package
help	Show this help message	https://bosh.io/docs/cli-v2#help
ignore	Ignore an instance	https://bosh.io/docs/cli-v2#ignore
init-release	Initialize release	https://bosh.io/docs/cli-v2#init-release
inspect-release	List release contents such as jobs	https://bosh.io/docs/cli-v2#inspect-release
instances	List all instances in a deployment	https://bosh.io/docs/cli-v2#instances
interpolate	Interpolates variables into a manifest	https://bosh.io/docs/cli-v2#interpolate
locks	List current locks	https://bosh.io/docs/cli-v2#locks
log-in	Log in	https://bosh.io/docs/cli-v2#log-in
log-out	Log out	https://bosh.io/docs/cli-v2#log-out
logs	Fetch logs from instance(s)	https://bosh.io/docs/cli-v2#logs
manifest	Show deployment manifest	https://bosh.io/docs/cli-v2#manifest
orphan-disk	Orphan disk	https://bosh.io/docs/cli-v2#orphan-disk
recreate	Recreate instance(s)	https://bosh.io/docs/cli-v2#recreate
releases	List releases	https://bosh.io/docs/cli-v2#releases
remove-blob	Remove blob	https://bosh.io/docs/cli-v2#remove-blob
repack-stemcell	Repack stemcell	https://bosh.io/docs/cli-v2#repack-stemcell
reset-release	Reset release	https://bosh.io/docs/cli-v2#reset-release
restart	Restart instance(s)	https://bosh.io/docs/cli-v2#restart
run-errand	Run errand	https://bosh.io/docs/cli-v2#run-errand

runtime-config	Show current runtime config	https://bosh.io/docs/cli-v2#runtime-config
scp	SCP to/from instance(s)	https://bosh.io/docs/cli-v2#scp
snapshots	List snapshots	https://bosh.io/docs/cli-v2#snapshots
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#stemcells
stop	Stop instance(s)	https://bosh.io/docs/cli-v2#stop
sync-blobs	Sync blobs	https://bosh.io/docs/cli-v2#sync-blobs
take-snapshot	Take snapshot	https://bosh.io/docs/cli-v2#take-snapshot
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#unignore
update-cloud-config	Update current cloud config	https://bosh.io/docs/cli-v2#update-cloud-config
update-config	Update config	https://bosh.io/docs/cli-v2#update-config
update-cpi-config	Update current CPI config	https://bosh.io/docs/cli-v2#update-cpi-config
update-resurrection	Enable/disable resurrection	https://bosh.io/docs/cli-v2#update-resurrection
update-runtime-config	Update current runtime config	https://bosh.io/docs/cli-v2#update-runtime-config
upload-blobs	Upload blobs	https://bosh.io/docs/cli-v2#upload-blobs
upload-release	Upload release	https://bosh.io/docs/cli-v2#upload-release
upload-stemcell	Upload stemcell	https://bosh.io/docs/cli-v2#upload-stemcell
variables	List variables	https://bosh.io/docs/cli-v2#variables
vendor-package	Vendor package	https://bosh.io/docs/cli-v2#vendor-package
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-eb59477998	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

1.15 More Resources

<https://github.com/bosh-tips/tips>

<http://engineering.pivotal.io/post/compiled-releases-for-pipelines/>

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