1 Bosh CheatSheet   VMware

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

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

- Related posts: PKS CheatSheet, Tile CheatSheet

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1.1 Bosh Frequent-Used

Name	Command
List tasks	`bosh -d <deployment> tasks -ar`, `bosh tasks -r=10`
List deployments and vms	`bosh deployments`, `bosh -d <deployment> vms`
Get task detail log, especially errand stdout/stderr	`bosh -d <deployment> task $id --debug`
Run errand, and avoid deleting the vms	`bosh -n -d <deployment> run-errand <errand_name> --keep-alive`
Common Bosh Releases	kubo-release, cfcr-etcd-release, docker-boshrelease, pxc-release
Reference	Bosh CheatSheet, Tile CheatSheet, UAA CheatSheet, PKS CheatSheet

1.2 Bosh vs Kubernetes

Bosh - VM Lifecycle Management	Kubernetes - Container Lifecycle Management
`Bosh Envs`	`Kubernetes Context`
`Bosh Deployment`	`Kubernetes Deployment`
`Bosh Stemcell`	`Docker Image`
`Bosh Manifest`	`Kubernetes Configmap & Yaml`
`Bosh Monit`	`Kubernetes Kubelet`
`Bosh Errand`	`Kubernetes Job`
`Bosh Release`	`Kubernetes Chart`
`Bosh Tile`	`Kubernetes Helm`
`Bosh Director`	`Kubernetes API server`
`Bosh Event`	`Kubernetes Event`
`Bosh Task`	
`Bosh Agent`	
`Bosh Addon`	
`Bosh Ops manager`	No related feature: UI to customize your service

1.3 Bosh Challenges

Name	Comment
More declarative	End users define requirements via `yaml files`
More lightweight	Use `containers`, instead of `VMs` to run errands
Support rolling upgrade	Just like `kubectl rollout`
Retry a failed errand/task	Currently we can do it. But it's a lengthy manual process
Support `tail -f`	Personally I don't like the way of `bosh logs`

1.4   Bosh Concepts List

Name	Comment
Reference	Link: terminology, GitHub: cloudfoundry/bosh, CheatSheet: Cloudfoundry Tile & OpsManager
Bosh Stemcells	A versioned Operating System image. Download stemcell
Bosh Deployment	An encapsulation of software and configuration that BOSH can deploy to the cloud.
Bosh Release	Everything needed to make a software component deployable by BOSH.
Bosh Job	Each release job represents a specific chunk of work that the release performs.
Bosh Package	It contains vendored in software source and scripts to compile it.
Bosh Errand	A short-lived job that can be triggered by an operator any time after the deploy.
Bosh Tile	A *.pivotal file with everything needed to install/upgrade a PCF service. Tile CheatSheet
Bosh Manifest	A YAML file that identifies one or more releases, stemcells and configurations
Bosh ops file	A YAML file that includes multiple operations to be applied to a different YAML file.
Bosh Event	Actions taken by the Director (via user or system control) are recorded as events
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
Bosh Jumpbox	A VM that acts as a single access point for the Director and deployed VMs.
Director Blobstore	A repository where BOSH stores release artifacts, logs, stemcells, and other content, etc
Cloud ID (CID)	ID returned from the Cloud identifying particular resource such as VM or disk.

1.5   Bosh Basic

Name	Command
bosh	`apt install bosh-cli`, `/var/vcap/bosh/log`
Interpolates variables	`bosh int /tmp/build/4dcXX/pks-lock/metadata --path=/ops_manager/username`
Delete a deployment	`bosh delete-deployment -d $deployment`
List all bosh deployments	`bosh -n deployments`, `bosh -n deployments --json`
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`, `bosh envs`
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`

1.6   Bosh VM

Name	Command
List vms	`bosh -d <deployment> vms`
List vms with verbose info	`bosh -d <deployment> vms --vitals`
Delete a vm	`bosh -d <deployment> delete-vm <vm-name>/<GUID>`
SSH to vm	`bosh -e <env> -d <deployment> ssh <vm-name>/<GUID>`
Run SSH commands	`bosh -e <env> -d <deployment> ssh <vm-name>/<GUID> -c "sudo cat /etc/hosts"`

1.7   Bosh Deployment

Name	Command
List bosh deployments	`bosh deployments`
Delete bosh deployment	`bosh -n -d <deployment> delete-deployment --force`
Get deployment manifest yaml	`bosh manifest -d <deployment> > my.yaml`
Run bosh deployment from yaml	`bosh deploy -d <deployment> my.yaml`

1.8   Bosh Task

Name	Command
List recent tasks	`bosh -d <deployment> tasks --recent`
List all tasks	`bosh -d <deployment> tasks -ar`
Attach to current task	`bosh -d <deployment> task -a`
Get task by id	`bosh -d <deployment> task $id`
Get task detail msg	`bosh -d <deployment> task $id --debug`
Get all logs for a deployment	`bosh -d <deployment> logs`
Get log for one vm	`bosh -d <deployment> logs $instance_name`
List bosh events	`bosh events`

1.9   Bosh Job - Skeleton

Name	Command
Reference	Example: kubo-release/jobs
provides	Export resources for other bosh releases
consumes	Use resources from other bosh releases
packages	Packages get installed by bosh
templates	Conf files

1.10   Bosh 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`

1.11   Bosh Blob

Name	Command
Reference	Link: Working with Blobs
Configure credential	If you need to upload/download with S3/GCP buckets, make sure `config/private.yml` has been configu
Add local file to blob	`bosh add-blob /tmp/<telegraf:1.7-alpine.tgz> container-images/telegraf:1.7-alpine.tgz`
Upload blobs	`bosh upload-blobs`, make sure `config/private.yml` is correct. blobs.yml will be automatically update

1.12   Bosh Release - Basic

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/3586.36`
Delete release	`bosh -n delete-release <my-release>/<release-version> --force`
Upload release	`bosh -n upload-release /tmp/my-release-0.22.0.tgz`
Reset release	`bosh reset-release` GitHub ticket

1.13   Bosh Release - Creation

Name	Command
Reference	Link: Release creation
Create a release	`bosh create-release --tarball /tmp/my-release.tgz`

1.14   Bosh Manifest

Name	Command
Show bosh manifest	`bosh manifest -d <deployment>` Link: manifest

1.15   Bosh Stemcell

Name	Command
Floating stemcell	Floating stemcells allow upgrade to the minor versions of stemcells but not the major versions.
Upload stemcell	`bosh -n upload-stemcell /tmp/stemcell.tgz`
List stemcells	`bosh -n stemcells`
Delete a stemcell	`bosh delete-stemcell <stemcell-name>/<stemcell-version>`

1.16   Bosh Monit

Name	Comment
List bosh deployed daemon processes	`sudo su -`, `monit summary`
Restart a given daemon processes	`monit restart <process_name>`

1.17   Bosh Tools

Name	Comment
bbr bosh-backup-and-restore	a framework for backing up and restoring BOSH deployments and BOSH Directors.
bbl bosh-bootloader	a command line utility for standing up BOSH on multi-clouds
bpm BOSH process manager	isolation of BOSH jobs to make they run on many different work schedulers instead of monit only

1.18   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
```

1.19   More Resources

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