1 CheatSheet: Concourse VMware

- PDF Link: cheatsheet-concourse-A4.pdf, Category: vmware
- Blog URL: `https://cheatsheet.dennyzhang.com/cheatsheet-concourse-A4`
- Related posts: Bosh CheatSheet, PKS CheatSheet, #denny-cheatsheets

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1.1 Concourse Concepts

Name	Summary
fly	Pipelines are configured entirely via fly CLI
Teams	Every pipeline and one-off build belongs to a team.
Targets	Alias of Concourse endpoints, which composes of server url, credentials, etc
Pipelines	A pipeline is the result of configuring Jobs and Resources together.
Jobs	Jobs determine the actions of your pipeline,
Resource	Allow you to define inputs and outputs to jobs in a pipeline
Tasks	The smallest configurable unit in a Concourse pipeline is a single task.
Reference	Link: Concourse Concepts, Link: concoursetutorial.com

1.2 Concourse Resources

Name	Summary
file-downloader-resource	enable downloading pivotal product files and stemcells
gcs-resource: google bucket	
pool-resource	Atomically manages external environments
github-release	
git-release	tracks commits in a branch of a Git repository
docker-image-resource: docker image	
Step: tags	Use tag to match workers
bbl (bosh-bootloader)	Command line utility for standing up a BOSH director on any IAAS
Reference	GitHub: pcf-pipelines

1.3 Concourse Examples

Name	Summary
Hello world pipeline	example: helloworld.yml
Pass output to input across different tasks	example: tasks-output-input.yml
Trigger pipeline test every 5 minutes	example: run-test-regularly.yml
git-resource	example: example-git.yml
concourse-curl-resource: http download link	example: url-download.yml

1.4 Concourse Containers

Name	Summary
Login to container	`fly -t $target hijack -u $job_url`
Run command without sudden exit	`nohup SOMECOMMAND &; tail -f nohup.out`
Hijack to containers with a successful run	By design when task has passed, the container will be deleted

1.5 Concourse Pipeline

Name	Summary
List all authenticated end points	`fly targets`
Get fly version	`fly --version`
fly login	`fly -t $target login -c $concourse_url -n $team_name`
Get pipeline definition	`fly -t $target get-pipeline -p $job_name > job.yaml`
Update pipeline	`fly -t $target set-pipeline -p $pipeline_name -c pipeline.yml -l credentia`
Update pipeline	`fly -t $target set-pipeline -p $pipeline_name -c pipeline.yml -v env1=var1`
Destroy pipeline	`fly -t $target destroy-pipeline -p $pipeline_name`
Destroy pipeline without confirmation	`fly -t $target destroy-pipeline -p $pipeline_name -n`
Format pipeline	`fly format-pipeline -c pipeline.yml`
Validate pipeline	`fly validate-pipeline -c pipeline.yml`

https://raw.githubusercontent.com/dennyzhang/cheatsheet.dennyzhang.com/master/cheatsheet-concourse-A4/concourse-sample.png

1.6 Concourse Resource

Name	Summary
github-release resource get the old tag	`fly -t $target check-resource -r $pipeline-name/$resource-name -f tag`
bosh-io-stemcell resource get the old version	`fly -t $target check-resource -r $pipeline-name/ubuntu-xenial-stemcel`
github release use a specific tag	github-release-specific-tag.md

1.7 Concourse Security

Name	Summary
Fly login to the default main team	`fly -t $target login -n main -c $concourse_url`
Fly login to a different team	`fly -t $target login -n $team_name -c $concourse_url`
List all teams	`fly -t $target teams`, `fly -t $target teams -d`
Fly logout all targets	`fly logout --all`
Install ansible vault in mac	`brew install ansible`
Create a team	`fly -t $target set-team -n $team_name --github-org $my_org`
Create a team	`fly -t $target set-team -n $team_name --allow-all-users`
Destroy a team	`fly -t $target destroy-team --team-name $team_name`
Login to a team	`fly -t $target set-team -n $team_name`
Fly conf file	`~/.flyrc`
Reference	After login to the **main** team, you can update other teams. Link: Concourse Team

1.8 Concourse Workers

Name	Summary
List all concourse workers	`fly -t $target workers`
List all concourse containers	`fly -t $target containers`

https://raw.githubusercontent.com/dennyzhang/cheatsheet.dennyzhang.com/master/cheatsheet-concourse-A4/concourse-design.png

1.9 Concourse Opportunities

Name	Summary
fly set-pipeline run into "error: forbidden"	Need to logout from both `fly client` (`fly logout --all`) and `Concourse`
List team details for all targets	`fly -t $target teams -d`, `~/.flyrc`
Concourse UI runs into a blank page	If pipeline has recursive dependencies, Concourse UI may have issue to run
Split one pipeline yaml into small **reusable** pieces	Not supported. An uncomfortable workaround: generating yaml with other
Add a readonly member to one team	Not supported. Concourse only support authentication control, but not auth
Does Concourse have REST API?	Not supported so far. Link: GitHub, Link: Concourse REST endpoints
Reference	concourse-tutorial, concourse-pipeline-samples

1.10 fly Online Usage

```
bash-3.2$ fly --help
error: Usage:
  fly [OPTIONS] <command>

Application Options:
  -t, --target=              Concourse target name
  -v, --version              Print the version of Fly and exit
      --verbose              Print API requests and responses
      --print-table-headers  Print table headers even for redirected output

Help Options:
  -h, --help                 Show this help message

Available commands:
  abort-build        Abort a build (aliases: ab)
  builds             List builds data (aliases: bs)
  check-resource     Check a resource (aliases: cr)
  checklist          Print a Checkfile of the given pipeline (aliases: cl)
  containers         Print the active containers (aliases: cs)
  destroy-pipeline   Destroy a pipeline (aliases: dp)
  destroy-team       Destroy a team and delete all of its data (aliases: dt)
  execute            Execute a one-off build using local bits (aliases: e)
  expose-pipeline    Make a pipeline publicly viewable (aliases: ep)
  format-pipeline    Format a pipeline config (aliases: fp)
  get-pipeline       Get a pipeline's current configuration (aliases: gp)
  help               Print this help message
  hide-pipeline      Hide a pipeline from the public (aliases: hp)
  hijack             Execute a command in a container (aliases: intercept, i)
  jobs               List the jobs in the pipelines (aliases: js)
  login              Authenticate with the target (aliases: l)
  logout             Release authentication with the target (aliases: o)
  order-pipelines    Orders pipelines (aliases: op)
  pause-job          Pause a job (aliases: pj)
  pause-pipeline     Pause a pipeline (aliases: pp)
  pause-resource     Pause a resource (aliases: pr)
  pipelines          List the configured pipelines (aliases: ps)
  prune-worker       Prune a stalled, landing, landed, or retiring worker (aliases: pw)
  rename-pipeline    Rename a pipeline (aliases: rp)
  rename-team        Rename a team (aliases: rt)
  set-pipeline       Create or update a pipeline's configuration (aliases: sp)
  set-team           Create or modify a team to have the given credentials (aliases: st)
  status             Login status
  sync               Download and replace the current fly from the target (aliases: s)
  targets            List saved targets (aliases: ts)
  teams              List the configured teams (aliases: t)
  trigger-job        Start a job in a pipeline (aliases: tj)
  unpause-job        Unpause a job (aliases: uj)
  unpause-pipeline   Un-pause a pipeline (aliases: up)
  unpause-resource   Unpause a resource (aliases: ur)
  validate-pipeline  Validate a pipeline config (aliases: vp)
  volumes            List the active volumes (aliases: vs)
  watch              Stream a build's output (aliases: w)
  workers            List the registered workers (aliases: ws)
```

1.11 fly set-pipeline Online Usage

```
> fly  set-pipeline --help
```

```
error: Usage:
  fly [OPTIONS] set-pipeline [set-pipeline-OPTIONS]

Application Options:
  -t, --target=                    Concourse target name
  -v, --version                    Print the version of Fly and exit
      --verbose                    Print API requests and responses
      --print-table-headers        Print table headers even for redirected output

Help Options:
  -h, --help                       Show this help message

[set-pipeline command options]
      -n, --non-interactive        Skips interactions, uses default values
          --no-color               Disable color output
          --check-creds            Validate credential variables against credential manager
      -p, --pipeline=              Pipeline to configure
      -c, --config=                Pipeline configuration file
      -v, --var=[NAME=STRING]      Specify a string value to set for a variable in the pipeline
      -y, --yaml-var=[NAME=YAML]   Specify a YAML value to set for a variable in the pipeline
      -l, --load-vars-from=        Variable flag that can be used for filling in template values in configur
```

1.12 More Resources

http://www.mikeball.info/blog/concourse-git-resource/

https://concoursetutorial.com/