

ANTONIS KALIPETIS - @AKALIPETIS

DOCKER 1.13

@AKALIPETIS

- ▶ Docker Captain and early user
- ▶ Python lover and developer
- ▶ Technology lead at SourceLair / stolos.io
- ▶ Docker training and consulting

I love automating stuff and sharing knowledge around all things containers, DevOps and optimizing developer workflows.

AGENDA

- ▶ CLI/Daemon updates
- ▶ Docker Swarm updates
 - ▶ Encryption at rest
 - ▶ Deploy with Compose
- ▶ Secrets
- ▶ Plugins

CLI/DAEMON UPDATES

CLI UPDATES

- ▶ Top level commands
 - ▶ docker images -> docker image ls
 - ▶ docker run / docker build available as top level commands
- ▶ Experience the new CLI
 - ▶ `DOCKER_HIDE_LEGACY_COMMANDS=1 docker --help`
- ▶ CLI is now backwards compatible with old engines
 - ▶ No more "Error response from daemon: client is newer than server"

ENGINE UPDATES

- ▶ dockerd gets the --experimental flag
 - ▶ No need to get a different binary to test new features
- ▶ Data management
 - ▶ docker system df
 - ▶ docker system prune
- ▶ docker-init to kill all the zombies
 - ▶ Based on tiny

SWARM UPDATES

SWARM UPDATES

- ▶ [experimental] docker service logs
 - ▶ Get the logs from all containers of a service
- ▶ --attachable networks
 - ▶ Use the same networks in Swarm and plain containers
- ▶ Pin image by digest
 - ▶ @SHA256:... over tags

ENCRYPTION AT REST

- ▶ Your swarm is encrypted at rest
 - ▶ `docker swarm init --autolock`
 - ▶ `docker swarm unlock`
 - ▶ `docker swarm update --autolock=true`
 - ▶ `docker swarm unlock-key --rotate`

DEPLOY DOCKER STACKS WITH COMPOSE

- ▶ You can now deploy a docker-compose.yml file as a Docker stack
 - ▶ `docker stack deploy -c docker-compose.yml mystack`
- ▶ New v3 Docker Compose format
 - ▶ Removes any non-portable parameters, ie `volumes_from`
 - ▶ Adds new deployment section, allowing for replicas, replication mode, rolling updates, etc
- ▶ Improve dev to production pipeline with same tooling

SECRETS

SECRETS AS A FIRST CLASS CITIZEN

- ▶ Manage sensitive data within containers
 - ▶ Database passwords, SSH keys, TLS certificates
- ▶ Mounted as an in-memory filesystem to the container
 - ▶ `cat /run/secrets/my_secret_data`
- ▶ Encrypted at rest, as they're part of the Swarm Raft log

<https://docs.docker.com/engine/swarm/secrets/>

WHY USE SECRETS

- ▶ Encrypted at rest and while in motion
 - ▶ Use Raft and
- ▶ Available only to the worker running a service's task
 - ▶ Secrets are sent as part of the payload for a service task
- ▶ Minimize the possible attack surface
 - ▶ If a worker doesn't run a task of a service, the secret is never made available

PLUGINS

SAY HELLO TO DOCKER PLUGINS V2

- ▶ Downloadable from Docker Hub
- ▶ Give only the required permissions to plugins
 - ▶ They run inside RunC containers
- ▶ They're managed by the engine (soon by the Swarm)
 - ▶ docker plugin install/uninstall
 - ▶ docker plugin enable/disable

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THANKS