

NColony

<https://ncolony.org>

<https://github.com/moshez/introducing-ncolony>

Moshe Zadka – <https://cobordism.com>

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What is a process supervisor?

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- ▶ (Optional) Adopt and reap
- ▶ (Optional) Health checks

Why do we need a supervisor?

Crashes, hangs and reconfiguration

Existing supervisors

- ▶ Systemd
- ▶ Supervisor
- ▶ Runit
- ▶ Monit

Design principles – run directly

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- ▶ No PID files

Design principles – Python

Crushing your process monitor sucks!

Design principles – interpreter compatibility

- ▶ 2/3
- ▶ PyPy/CPython

Design principles – programmatic configuration

- ▶ In Dockerfiles
- ▶ In start-up code

Design principles – runtime reconfiguration

- ▶ Add
- ▶ Remove
- ▶ Restart
- ▶ Reconfigure

Design principles – external health monitors

What is "healthy?"

Design principles – 100% unit test coverage

Smaller numbers are meaningless

Installing NColony

```
$ pip install ncolony
```


Running NColony

```
$ python -m twisted ncolony \  
  --messages /var/run/messages/ \  
  --config /var/run/config/
```

Configuring NColony

```
$ python -m ncolony --messages /var/run/messages \  
                  --config /var/run/config \  
ctl add my-thing --cmd /my-thing.py
```

Configuring NColony

```
$ python
>>> from ncolony import ctllib
>>> where = ctllib.Places('/var/run/config',
                           '/var/run/messages')
>>> ctllib.add(where, name='my-thing',
                cmd='/my-thing.py')
```

Configuring NColony

```
$ cat > /var/run/config/my-thing << EOF  
{"args": ["/mything.py"]}
```

Configuring NColony

```
$ python -m ncolony --messages /var/run/messages \
                  --config /var/run/config \
    ctl remove my-thing
$ python
>>> from ncolony import ctllib
>>> where = ctllib.Places('/var/run/config',
                          '/var/run/messages')
>>> ctllib.remove(where, name='my-thing')
$ rm /var/run/config/my-thing
```

NColony and heartbeat checking – what are heartbeats?

Files modification time

NColony and heartbeat checking – configuration

NCOLONY_CONFIG

NColony and heartbeat checking – configuration

Custom JSON key

NColony and heartbeat checking – heartbeater

- ▶ Twisted service

NColony and heartbeat checking – heartbeater

- ▶ Twisted service
- ▶ Can be used in other environments

NColony and heartbeat checking – heartchecker

- ▶ Read ncolony configuration

NColony and heartbeat checking – heartchecker

- ▶ Read ncolony configuration
- ▶ Using messages

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- ▶ Adoption and reaping

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- ▶ PyLint cleanliness

NColony Lacks

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- ▶ More contributors!

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- ▶ Daemon support
- ▶ More contributors!
- ▶ Lots of users!

TODO

- ▶ Try it (especially in Docker)

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- ▶ Review PRs

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- ▶ Review PRs
- ▶ Talk to me – <https://cobordism.com> –
zadka.moshe@gmail.com