THE 12 FACTOR APP
DevOps Tactics to make apps cloud-ready
The Twelve-Factor App

“Agile Manifesto for DevOps”

Adam Wiggins
I. Codebase
One codebase tracked in revision control, many deploys

II. Dependencies
Explicitly declare and isolate dependencies

III. Config
Store config in the environment

IV. Backing services
Treat backing services as attached resources

V. Build, release, run
Strictly separate build and run stages

VI. Processes
Execute the app as one or more stateless processes

VII. Port binding
Export services via port binding

VIII. Concurrency
Scale out via the process model

IX. Disposability
Maximize robustness with fast startup and graceful shutdown

X. Dev/prod parity
Keep development, staging, and production as similar as possible

XI. Logs
Treat logs as event streams

XII. Admin processes
Run admin/management tasks as one-off processes
“I believe the common denominator of the Universe is not harmony, but *chaos, hostility* and *murder.*”

- Werner Herzog, “*Grizzly Man*”
Pets are... problematic.

You know their name.
They remember you.
They are special.
They have specific care & feeding instructions.

You would prefer not to kill them.
Livestock, not pets.

✓ Numbered, not named
✓ Interchangeable
✓ Designed to be raised and managed
✓ Lifecycle serving a purpose
False assumptions...

I know where my server is. It has a hard drive.
I know where my database is. My server will not be killed today.
12 FACTORS DISTILLED

I. Codebase
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III. Config
IV. Backing services
V. Build, release, run
VI. Processes
VII. Port binding
VIII. Concurrency
IX. Disposability
X. Dev/prod parity
XI. Logs
XII. Admin processes

You can **easily recreate & start up** the app from scratch.

You can **gracefully kill** your app.

You can **gracefully scale** your app.

Technical plumbing is based on cloud assumptions.
Example usage:
We’ve used the 12 factors as a framework for application cloud enablement.
RESOURCES

12factor.net
the source

stsiinc.com
slides, additional articles

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      - Automate software development, deployment and operations to realize a true agile vision
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