

# The Twelve-Factor App

I. Codebase

II. Dependencies

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

# 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 ”

