

環境変数リリース設定

セクターブレンダン センヌエ株式会社 代表取締役社長

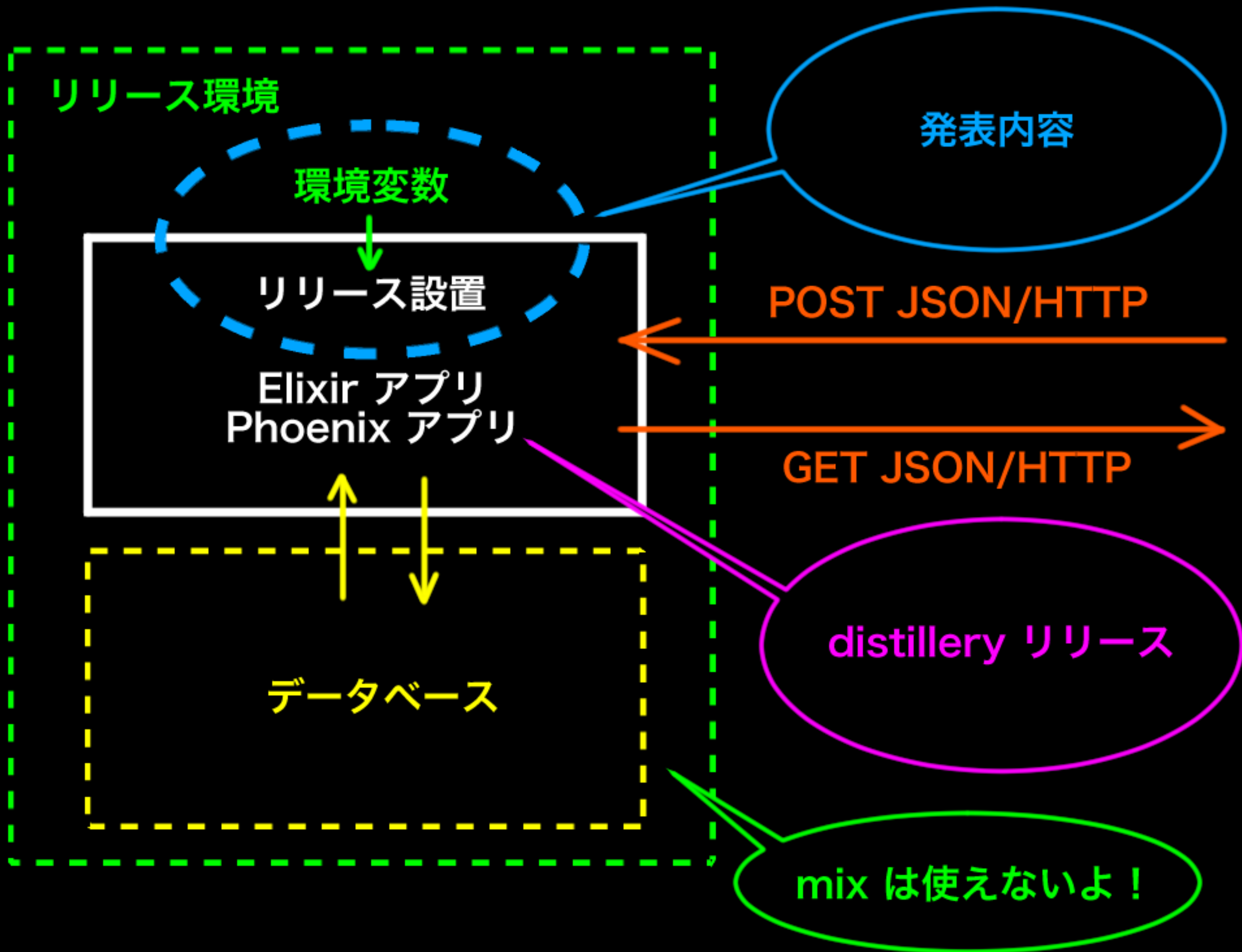
tokyo.ex #6

2016年9月22日 木曜日

sgeos.github.io

Storing Elixir Release Configuration in
Environment Variables with Distillery

Storing Elixir Release Configuration
in Environment Variables with exrm



テストアプリ作成

```
mix phoenix.new phoenix_environment_settings --no-brunch  
cd phoenix_environment_settings  
mix ecto.create  
mix phoenix.gen.json Memo memos title:string body:string
```

テストアプリ作成

```
mix phoenix.new phoenix_environment_settings --no-brunch  
cd phoenix_environment_settings  
mix ecto.create  
mix phoenix.gen.json Memo memos title:string body:string
```

web/router.ex 一部

```
scope "/api", PhoenixEnvironmentSettings do  
  pipe_through :api  
  
  resources "/memos", MemoController, except: [:new, :edit]  
end
```


テストアプリ作成

```
mix phoenix.new phoenix_environment_settings --no-brunch
cd phoenix_environment_settings
mix ecto.create
mix phoenix.gen.json Memo memos title:string body:string
```

web/router.ex 一部

```
scope "/api", PhoenixEnvironmentSettings do
  pipe_through :api

  resources "/memos", MemoController, except: [:new, :edit]
end
```

```
mix ecto.migrate
```

```
mix test
```

```
mix phoenix.server
```

```
curl -H 'Content-Type: application/json' -X POST \
  -d '{"memo": {"title": "メモのタイトル", "body": "メモの内容です。"}}' \
  http://localhost:4000/api/memos
```

```
curl -H 'Content-Type: application/json' http://localhost:4000/api/memos/1
```

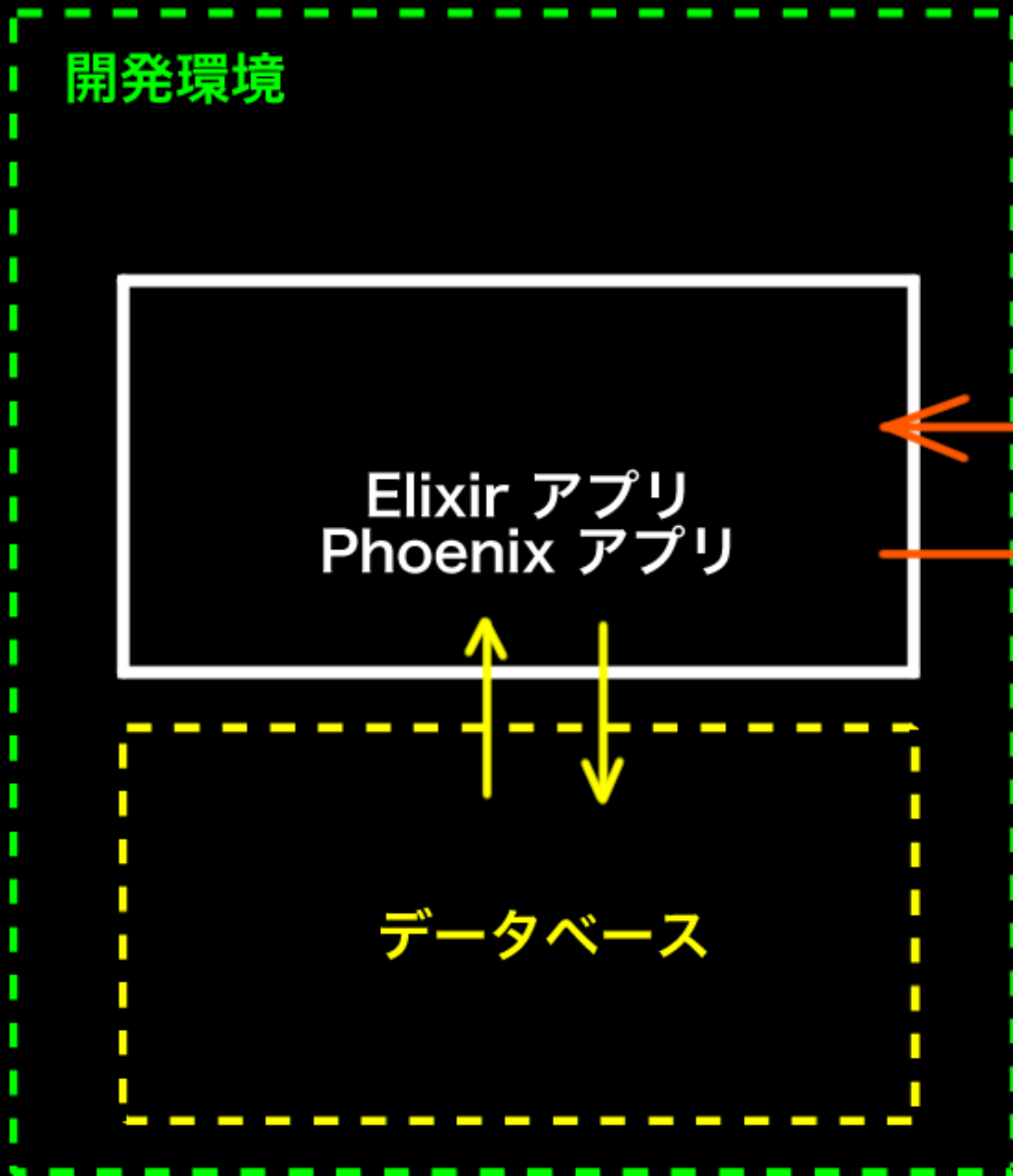
開発環境

Elixir アプリ
Phoenix アプリ

POST JSON/HTTP

GET JSON/HTTP

データベース



環境変数設定

```
export NODE_NAME=leaf
export COOKIE=thin_mints
export DB_USER=phoenix_environment_settings
export DB_PASSWORD=phoenix_environment_settings_password
export DB_NAME=phoenix_environment_settings_prod
export DB_HOST=localhost
export HOST=host.example.org
export PORT=7777
export SECRET_KEY_BASE=$(elixir -e ":crypto.strong_rand_bytes(48) |>
Base.encode64 |> IO.puts")
```


ウェブアプリ設定

config/prod.exs 一部

```
config :phoenix_environment_settings, PhoenixEnvironmentSettings.Repo,  
  adapter: Ecto.Adapters.Postgres,  
  username: "${DB_USER}",  
  password: "${DB_PASSWORD}",  
  database: "${DB_NAME}",  
  hostname: "${DB_HOST}",  
  pool_size: 20
```

ウェブアプリ設定

config/prod.exs 全部

```
use Mix.Config
```

```
config :phoenix_environment_settings, PhoenixEnvironmentSettings.Endpoint,  
  http: [port: {:system, "PORT"}],  
  url: [host: "${HOST}", port: {:system, "PORT"}],  
  cache_static_manifest: "priv/static/manifest.json",  
  server: true,  
  root: ".",  
  version: Mix.Project.config[:version]
```

```
config :logger, level: :info
```

```
config :phoenix_environment_settings, PhoenixEnvironmentSettings.Endpoint,  
  secret_key_base: "${SECRET_KEY_BASE}"
```

```
config :phoenix_environment_settings, PhoenixEnvironmentSettings.Repo,  
  adapter: Ecto.Adapters.Postgres,  
  username: "${DB_USER}",  
  password: "${DB_PASSWORD}",  
  database: "${DB_NAME}",  
  hostname: "${DB_HOST}",  
  pool_size: 20
```

ウェブアプリ設定

config/prod.exs 全部

```
use Mix.Config
```

```
config :phoenix_environment_settings, PhoenixEnvironmentSettings.Endpoint,  
  secret_key_base: "${SECRET_KEY_BASE}"
```

```
config :phoenix_environment_settings, PhoenixEnvironmentSettings.Repo,  
  adapter: Ecto.Adapters.Postgres,  
  username: "${DB_USER}",  
  password: "${DB_PASSWORD}",  
  database: "${DB_NAME}",  
  hostname: "${DB_HOST}",  
  pool_size: 20
```

ウェブアプリ設定

config/dev.exs 一部

```
config :phoenix_environment_settings, PhoenixEnvironmentSettings.Endpoint,  
  http: [port: System.get_env("PORT") || 4000],  
  
# ... at the end of the file ...  
  
# Configure your database  
config :phoenix_environment_settings, PhoenixEnvironmentSettings.Repo,  
  adapter: Ecto.Adapters.Postgres,  
  username: System.get_env("DB_USER") || "postgres",  
  password: System.get_env("DB_PASSWORD") || "postgres",  
  database: System.get_env("DB_NAME") || "phoenix_environment_settings_dev",  
  hostname: System.get_env("DB_HOST") || "localhost",  
  pool_size: 10
```

リリース生成

mix.exs 一部

```
defp deps do
  [
    {:phoenix, "~> 1.2.1"},
    {:phoenix_pubsub, "~> 1.0"},
    {:phoenix_ecto, "~> 3.0"},
    {:postgrex, ">= 0.0.0"},
    {:phoenix_html, "~> 2.6"},
    {:phoenix_live_reload, "~> 1.0", only: :dev},
    {:gettext, "~> 0.11"},
    {:distillery, "~> 0.9"}, # 追加
    {:cowboy, "~> 1.0"}
  ]
end
```


リリース生成

```
mix deps.get  
mix deps.compile  
mix release.init
```

リリース生成

rel/vm.args 全部

Name of the node

-name \${NODE_NAME}

Cookie for distributed erlang

-setcookie \${COOKIE}

App Settings

-phoenix_environment_settings port \${PORT}

リリース生成

rel/sys.config 全部

```
[  
  {phoenix_environment_settings, [  
    {port, "${PORT}"}  
  ]}  
].
```

config/config.exs

config/prod.exs

config/prod.secret.exs

リリース生成

```
export REPLACE_OS_VARS=true
```

リリース環境

環境変数

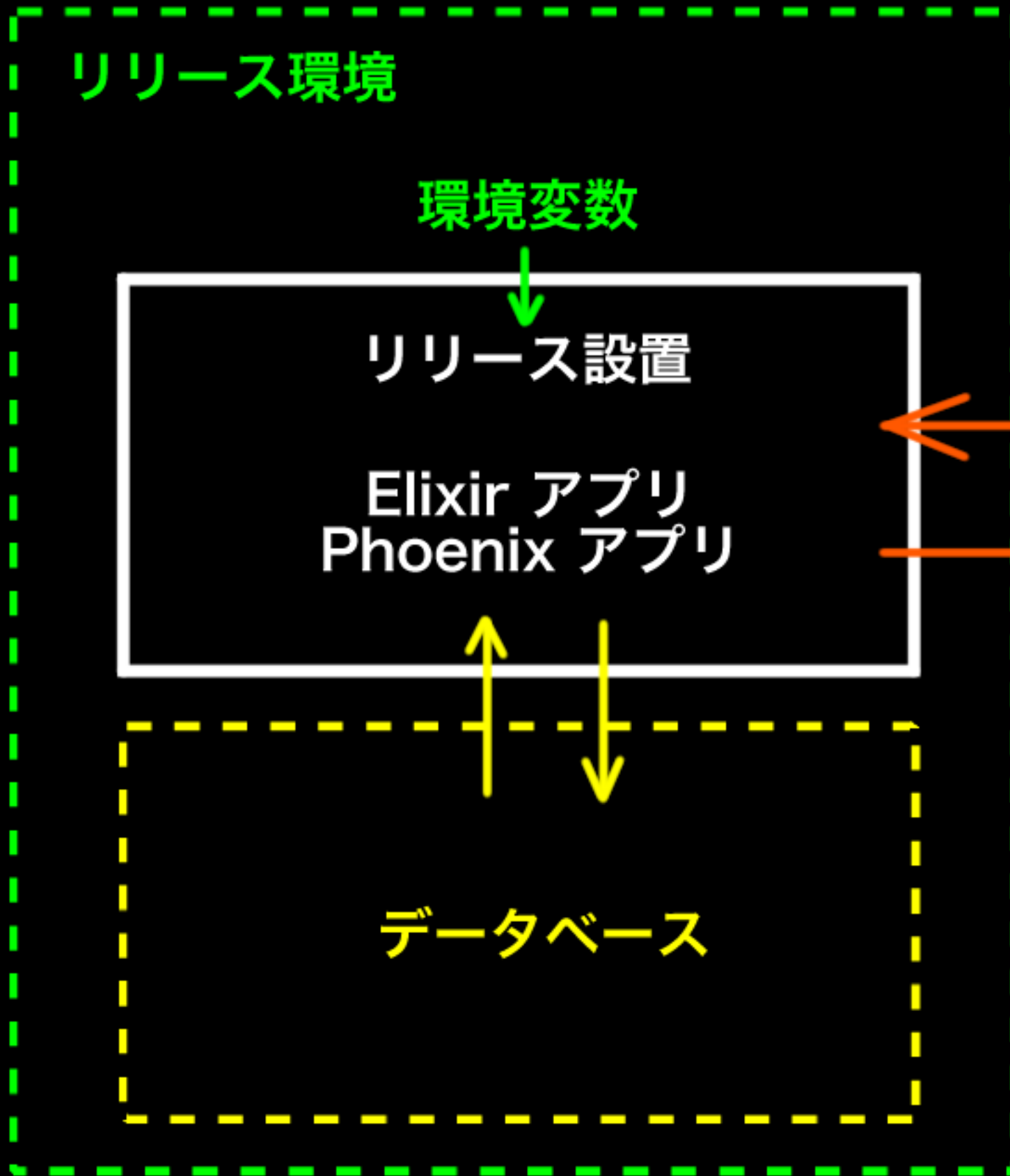
リリース設置

Elixir アプリ
Phoenix アプリ

POST JSON/HTTP

GET JSON/HTTP

データベース



リリース環境で mix は使えません！

リリースタスク追加

lib/release_tasks.ex 全部

```
# mix ecto.migrate
defmodule :release_tasks do
  def migrate do
    {:ok, _} = Application.ensure_all_started(:phoenix_environment_settings)
    path = Application.app_dir(:phoenix_environment_settings,
      "priv/repo/migrations")
    Ecto.Migrator.run(PhoenixEnvironmentSettings.Repo, path, :up, all: true)
    :init.stop()
  end
end
```

```
REPLACE_OS_VARS=true \
  rel/phoenix_environment_settings/bin/phoenix_environment_settings \
  command release_tasks migrate
```

リリースタスク追加

```
# PostgreSQL `mix ecto.create` equivalent
psql -c "CREATE USER ${DB_USER} WITH PASSWORD '${DB_PASSWORD}';"
createdb "${DB_NAME}"
psql -c "GRANT ALL PRIVILEGES ON DATABASE ${DB_NAME} to ${DB_USER};"

# PostgreSQL `mix ecto.drop` equivalent
dropdb "${DB_NAME}"
dropuser "${DB_USER}"

# PostgreSQL interactive terminal
PGPASSWORD="${DB_PASSWORD}" psql -U "${DB_USER}" "${DB_NAME}"
```

リリースタスク追加

MySQL `mix ecto.create` equivalent

```
mysql -e "CREATE USER '${DB_USER}'@'localhost' IDENTIFIED BY '${DB_PASSWORD}';"
```

```
mysql -e "CREATE DATABASE ${DB_NAME};"
```

```
mysql -e "GRANT ALL PRIVILEGES ON ${DB_NAME}.* TO '${DB_USER}'@'localhost' \
IDENTIFIED BY '${DB_PASSWORD}';"
```

```
mysql -e "FLUSH PRIVILEGES;"
```

MySQL `mix ecto.drop` equivalent

```
mysql -e "DROP DATABASE ${DB_NAME};"
```

```
mysql -e "DROP USER '${DB_USER}'@'localhost';"
```

MySQL interactive terminal

```
mysql -u"${DB_USER}" -p"${DB_PASSWORD}" "${DB_NAME}"
```

改造コマンド追加

```
mkdir rel/commands
```

```
rel/commands/ecto_migrate 全部
```

```
#!/usr/bin/env sh
```

```
# mix ecto.migrate` equivalent
```

```
"${SCRIPT}" command release_tasks migrate
```


改造コマンド追加

rel/commands/ecto_create 全部

```
#!/usr/bin/env sh
```

```
# PostgreSQL `mix ecto.create` equivalent
```

```
psql -c "CREATE USER ${DB_USER} WITH PASSWORD '${DB_PASSWORD}';" &&
```

```
createdb "${DB_NAME}" &&
```

```
psql -c "GRANT ALL PRIVILEGES ON DATABASE ${DB_NAME} to ${DB_USER};" &&
```

```
echo "The database '${DB_NAME}' and role '${DB_USER}' have been created."
```

rel/commands/ecto_drop 全部

```
#!/usr/bin/env sh
```

```
# PostgreSQL `mix ecto.drop` equivalent
```

```
dropdb "${DB_NAME}" &&
```

```
dropuser "${DB_USER}" &&
```

```
echo "The database '${DB_NAME}' and role '${DB_USER}' have been dropped."
```

改造コマンド追加

rel/commands/ecto_create 全部

```
#!/usr/bin/env sh
```

```
# MySQL `mix ecto.create` equivalent
```

```
mysql -e "CREATE USER '${DB_USER}'@'localhost' IDENTIFIED BY '${DB_PASSWORD}';" &&
```

```
mysql -e "CREATE DATABASE ${DB_NAME};" &&
```

```
mysql -e "GRANT ALL PRIVILEGES ON ${DB_NAME}.* TO '${DB_USER}'@'localhost' IDENTIFIED BY '${DB_PASSWORD}';" &&
```

```
mysql -e "FLUSH PRIVILEGES;" &&
```

```
echo "The database '${DB_NAME}' and role '${DB_USER}' have been created."
```

rel/commands/ecto_drop 全部

```
#!/usr/bin/env sh
```

```
# MySQL `mix ecto.drop` equivalent
```

```
mysql -e "DROP DATABASE ${DB_NAME};" &&
```

```
mysql -e "DROP USER '${DB_USER}'@'localhost';" &&
```

```
echo "The database '${DB_NAME}' and role '${DB_USER}' have been dropped."
```

改造コマンド追加

rel/config.exs 全部

```
use Mix.Releases.Config,  
  default_release: :default,  
  default_environment: :prod  
  
environment :prod do  
  set include_erts: true  
  set include_src: false  
  set commands: [  
    "ecto.migrate": "rel/commands/ecto_migrate",  
    "ecto.create": "rel/commands/ecto_create",  
    "ecto.drop": "rel/commands/ecto_drop"  
  ]  
end  
  
release :phoenix_environment_settings do  
  set version: current_version(:phoenix_environment_settings)  
end
```

リリース実行

```
# rm -rf rel/phoenix_environment_settings/ # optional, no stale release files  
MIX_ENV=prod mix compile  
# brunch build --production # if using brunch  
MIX_ENV=prod mix phoenix.digest  
MIX_ENV=prod mix release --env=prod
```


リリース実行

```
# rm -rf rel/phoenix_environment_settings/ # optional, no stale release files
MIX_ENV=prod mix compile
# brunch build --production # if using brunch
MIX_ENV=prod mix phoenix.digest
MIX_ENV=prod mix release --env=prod
```

```
REPLACE_OS_VARS=true \
  rel/phoenix_environment_settings/bin/phoenix_environment_settings ecto.create
REPLACE_OS_VARS=true \
  rel/phoenix_environment_settings/bin/phoenix_environment_settings ecto.migrate
```


リリース実行

```
REPLACE_OS_VARS=true \  
rel/phoenix_environment_settings/bin/phoenix_environment_settings start
```

リリース実行

```
REPLACE_OS_VARS=true \  
rel/phoenix_environment_settings/bin/phoenix_environment_settings start
```

```
curl -H 'Content-Type: application/json' -X POST \  
-d '{"memo": {"title": "メモ $\alpha$ ", "body": "メモ $\alpha$ の内容です。"}}' \  
http://localhost:4000/api/memos
```

```
curl -H 'Content-Type: application/json' -X POST \  
-d '{"memo": {"title": "メモ $\beta$ ", "body": "メモ $\beta$ の内容です。"}}' \  
http://localhost:4000/api/memos
```

```
curl "http://localhost:${PORT}/api/memos"
```

リリース実行

```
REPLACE_OS_VARS=true \  
rel/phoenix_environment_settings/bin/phoenix_environment_settings start
```

```
curl -H 'Content-Type: application/json' -X POST \  
-d '{"memo": {"title": "メモα", "body": "メモαの内容です。"}}' \  
http://localhost:4000/api/memos
```

```
curl -H 'Content-Type: application/json' -X POST \  
-d '{"memo": {"title": "メモβ", "body": "メモβの内容です。"}}' \  
http://localhost:4000/api/memos
```

```
curl "http://localhost:${PORT}/api/memos"
```

```
REPLACE_OS_VARS=true \  
rel/phoenix_environment_settings/bin/phoenix_environment_settings stop
```

リリース環境

環境変数

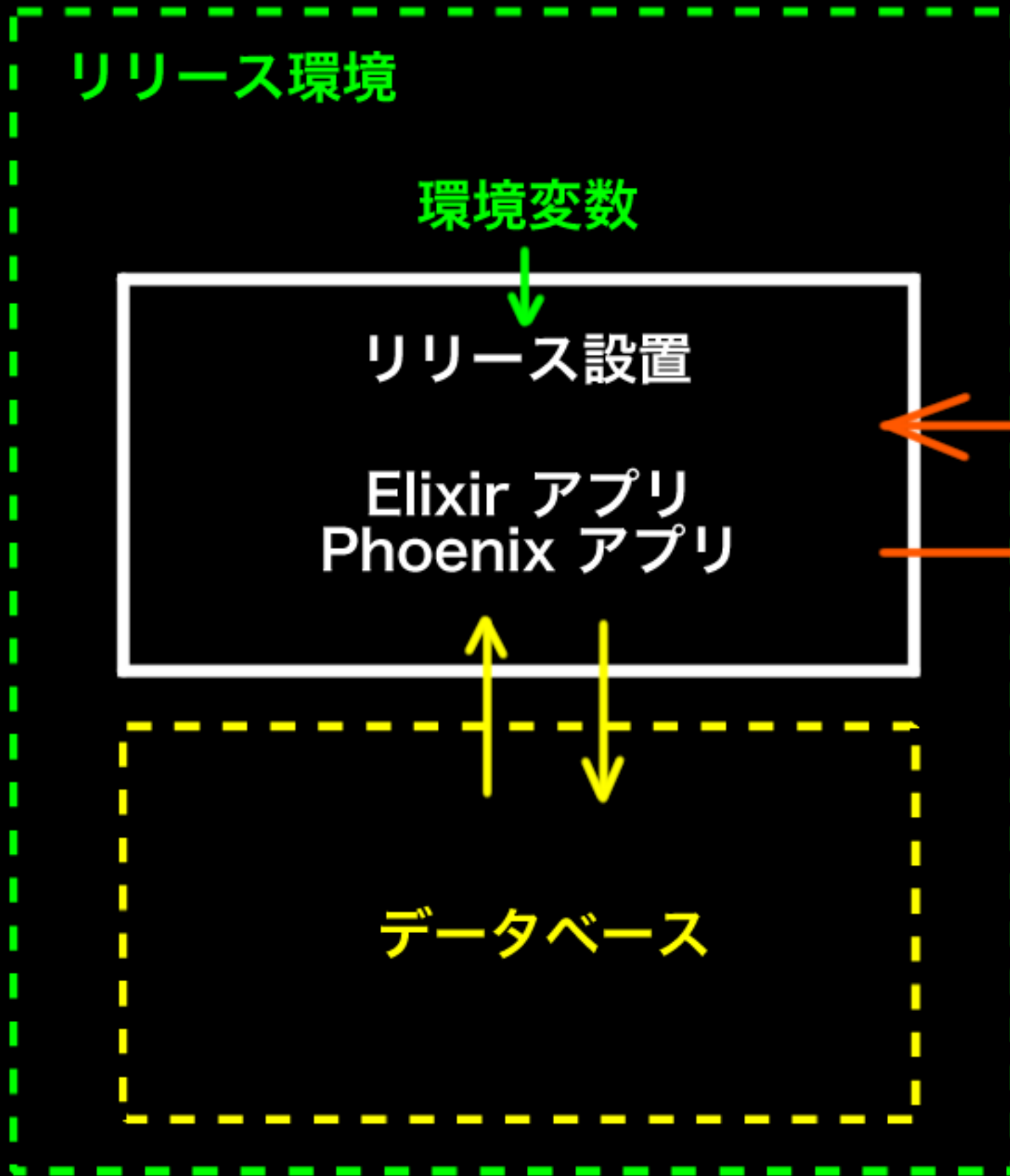
リリース設置

Elixir アプリ
Phoenix アプリ

POST JSON/HTTP

GET JSON/HTTP

データベース



ウェブアプリ設定

lib/config.exs 全部

```
defmodule Config do
  def get(app, key, default \\ nil) when is_atom(app) and is_atom(key) do
    case Application.get_env(app, key) do
      {:system, env_var} ->
        case System.get_env(env_var) do
          nil -> default
          val -> val
        end
      {:system, env_var, preconfigured_default} ->
        case System.get_env(env_var) do
          nil -> preconfigured_default
          val -> val
        end
      nil ->
        default
      val ->
        val
    end
  end
end

def get_integer(app, key, default \\ nil) do
  case get(app, key, nil) do
    nil -> default
    n when is_integer(n) -> n
    n ->
      case Integer.parse(n) do
        {i, _} -> i
        :error -> default
      end
  end
end
end
```


ウェブアプリ設定

lib/config.exs 全部

```
defmodule Config do
  def get(app, key, default \\ nil) when is_atom(app) and is_atom(key) do
    case Application.get_env(app, key) do
      {:system, env_var} ->
        case System.get_env(env_var) do
          nil -> default
          val -> val
        end
      {:system, env_var, preconfigured_default} ->
        case System.get_env(env_var) do
          nil -> preconfigured_default
          val -> val
        end
      nil ->
```

<https://gist.github.com/bitwalker/a4f73b33aea43951fe19b242d06da7b9>

```
    val
  end
end

def get_integer(app, key, default \\ nil) do
  case get(app, key, nil) do
    nil -> default
    n when is_integer(n) -> n
    n ->
      case Integer.parse(n) do
        {i, _} -> i
        :error -> default
      end
  end
end
end
end
```

改造コマンド追加

config/config.exs 一部

```
config :phoenix_environment_settings,  
  ecto_repos: [PhoenixEnvironmentSettings.Repo],  
  welcome_message: {:system, "WELCOME_MESSAGE", "Hello, world!"},  
  magic_number: {:system, "MAGIC_NUMBER", 42}
```

改造コマンド追加

config/config.exs 一部

```
config :phoenix_environment_settings,  
  ecto_repos: [PhoenixEnvironmentSettings.Repo],  
  welcome_message: {:system, "WELCOME_MESSAGE", "Hello, world!"},  
  magic_number: {:system, "MAGIC_NUMBER", 42}
```

iex

```
Config.get :phoenix_environment_settings, :welcome_message  
Config.get_integer :phoenix_environment_settings, :magic_number
```

改造コマンド追加

config/config.exs 一部

```
config :phoenix_environment_settings,  
  ecto_repos: [PhoenixEnvironmentSettings.Repo],  
  welcome_message: {:system, "WELCOME_MESSAGE", "Hello, world!"},  
  magic_number: {:system, "MAGIC_NUMBER", 42}
```

mix

```
Config.get :phoenix_environment_settings, :welcome_message  
Config.get_integer :phoenix_environment_settings, :magic_number
```

```
export WELCOME_MESSAGE="Welcome. Try, but there is no escape."  
export MAGIC_NUMBER=-1
```


改造コマンド追加

config/config.exs 一部

```
config :phoenix_environment_settings,  
  ecto_repos: [PhoenixEnvironmentSettings.Repo],  
  welcome_message: {:system, "WELCOME_MESSAGE", "Hello, world!"},  
  magic_number: {:system, "MAGIC_NUMBER", 42}
```

iex

```
Config.get :phoenix_environment_settings, :welcome_message  
Config.get_integer :phoenix_environment_settings, :magic_number
```

```
export WELCOME_MESSAGE="Welcome. Try, but there is no escape."  
export MAGIC_NUMBER=-1
```

iex

```
Config.get :phoenix_environment_settings, :welcome_message  
Config.get_integer :phoenix_environment_settings, :magic_number
```


其の他の考察

```
export DB_POOL_SIZE=20 # × 残念ながら整数は使えない！
```

その他の考察

```
export DB_POOL_SIZE=20 # × 残念ながら整数は使えない！
```

config/prod.exs か config/prod.secret.exs 一部

```
pool_size: "${DB_POOL_SIZE}"
```

其の他の考察

```
export DB_POOL_SIZE=20 # × 残念ながら整数は使えない！
```

config/prod.exs か config/prod.secret.exs 一部

```
pool_size: "${DB_POOL_SIZE}"
```

残念ながらリリース環境で整数は使えない！

其の他の考察

```
export DB_POOL_SIZE=20 # × 残念ながら整数は使えない！
```

config/prod.exs か config/prod.secret.exs 一部

```
pool_size: "${DB_POOL_SIZE}"
```

残念ながらリリース環境で整数は使えない！

config/dev.exs 一部

```
pool_size: (System.get_env("DB_POOL_SIZE") || "10") |> String.to_integer
```


exrm と distillery の違い

distillery

REPLACE_OS_VARS=true

改造コマンド有り

rel/sys.config か config/config.exs が使える

exrm

RELX_REPLACE_OS_VARS=true

改造コマンド無し

rel/sys.config と config/config.exs は同時に使える

次のステップ

edeliver

conform