EXPOSING JULIA TO THE FRONTEND WEB DEVELOPER VIA DANCEJL

CHRISTOPHE YOH MEYERS
FREELANCE WEB & AI DEVELOPER

ABSTRACT

Data science focused web framework: directly connect Julia Dataframes and web world.

MOTIVATION

Julia is an excellent backend language.

However, integrating results into web output is not the job of a data scientist, nor should it be complicated.

BACKGROUND

Using Julia for work, I felt that there was an intuitive & lightweight web framework missing.

Decided to develop Julia web framework ecosystem that:

- Operates using dataframes internally (e.g Apache Spark).
- Lightweight and simple Julia API server.
- Django / Ruby on Rails for Julia.

WHAT IS AVAILABLE

- 1) Create new project or add web layer to existing Julia codebase
- 2) Output computed dataframe to public
- 3) Receive dataframe as input to your Julia codebase
- 4) Output static html pages and media files
- 5) Merge project with Webpack & Docker (no knowledge required)

Check demo video for better understanding:
https://youtu.be/TYcO688XspM

UPCOMING

- 1) Dataframe <-> database migrations (Dataframe is backbone ;)).
- 2) Firebase plugin.
- 3) Tasks queue plugin.
- 4) Newer lightweight web server (HTTP.jl is too slow).
    - Merly.jl (uses HTTP.jl) ranks 174th, just below rails.
      https://github.com/the-benchmarker/web-frameworks
    - Top 50 would be good start to gain traction from non-datascience wider community.
- 5) Admin Db util.

RESULTS AND DISCUSSION

- Extremely fast to add web output integration to any Julia project.
- Using data science dataframes as base, full modern web development environment (page logic via modern JS frameworks).
- Production ready of functionality so far.
  - http://covidprofiles.world
    - Artemys propertyAnalyser
- More to come, looking for help.

Though may be yet another Julia web framework, DanceJL differentiates itself by using Django as user experience/foundation, but more of Flask architecture with multiple plugins style.