

Senior Python Engineer - Coding Challenge

Adverity Python Challenge

Mandatory requirements

- Django 2.0+
- Python 3.6+
- petl

Recommended

requests

Scope

- For the sake of simplicity everything should be running in the Django development server (no task queues or similar)
- Interface does not have to be fancy (you can use plain HTML/CSS, Bootstrap, ...)
- Keep things simple, additional comments on how your app can be further improved and optimized are welcome

Objective

Build a simple app which allows you to collect, resolve and inspect information about characters in the Star Wars universe from the SWAPI.

The entry endpoint for data retrieval is: https://swapi.co/api/people/

If the API should be inaccessible for some reason you can host your own version of it.

Data retrieval and storage

The user should have a way to download the latest complete dataset of characters from the API by clicking on a button, the collected and transformed data should be stored as a CSV file in the file system. Metadata for downloaded datasets (e.g. filename, date, etc.) should be stored inside the database. Fetching and transformations should be implemented efficiently, minimize the amount of requests, your app should be able to process large amounts of data.



https://user-images.githubusercontent.com/640755/75017565-2ec0eb00-5485-11ea-913c-0b15ba62bf48.png

Transformations

- Add a date column (%Y-%m-%d) based on edited date
- Resolve the homeworld field into the homeworld's name (/planets/1/ -> Tatooine)
- Fields referencing different resources and date fields other than date/birth_year can be dropped

Data representation

The user should be able to inspect all previously downloaded datasets, as well as do simple exploratory operations on it.



https://user-images.githubusercontent.com/640755/74833466-6ad33f00-5311-11ea-8e3c-03c814dd863f.png

Functionality

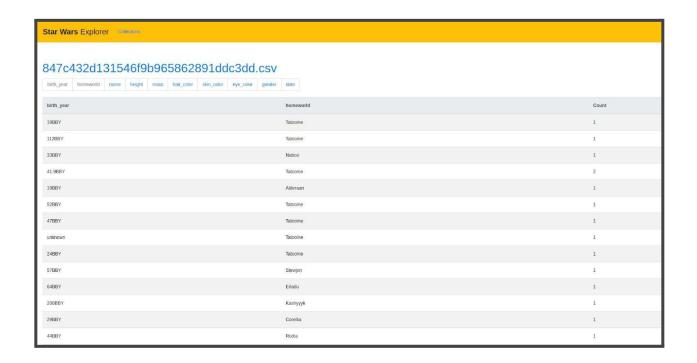
Load more

By default the table should only show the first 10 rows of the dataset, by clicking on a button "Load more" additionally 10 rows should be shown - reloading the page is fine.

Value Count

Provide the functionality to count the occurrences of values (combination of values) for columns. For example when selecting the columns date and homeworld the table should show the counts as follows:

homeworld	birth_year	Count
Tatooine	19BBY	1
Tatooine	112BBY	1
Naboo	33BBY	1
Tatooine	41.9BBY	2
Alderaan	19BBY	1



 $\underline{https://user-images.githubusercontent.com/640755/74833446-5ee77d00-5311-11ea-95d8-ce1b}\\ \underline{2bb13404.png}$

Scope

- "Value Count" does not have to support "Load more"