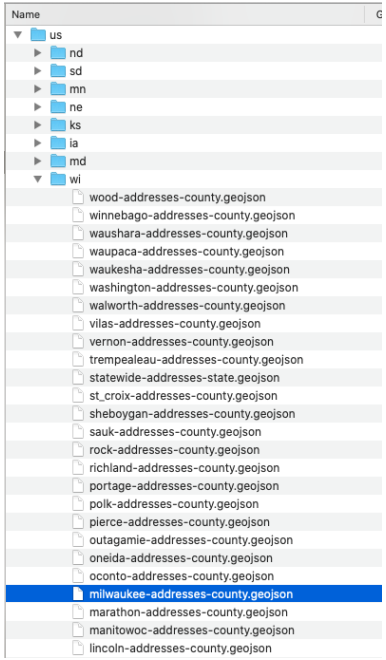
Use OpenAdresses Data To Validate Adresses

Practical Exam

Goal

OpenAddresses.io provides regulary exports of worldwide adresses (we will focus on US south/west/midwest/northeast for now):

- https://batch.openaddresses.io/data

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[...]
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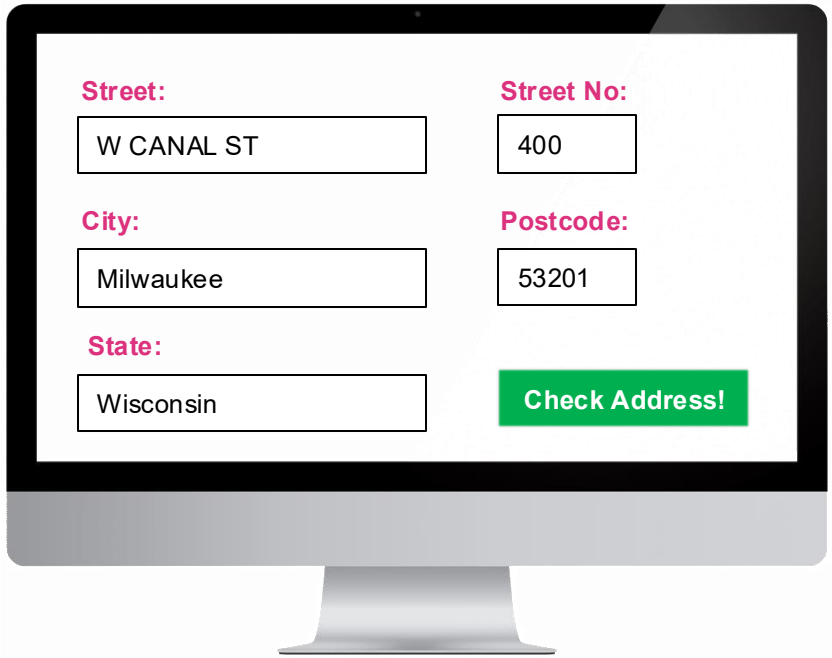
Goal

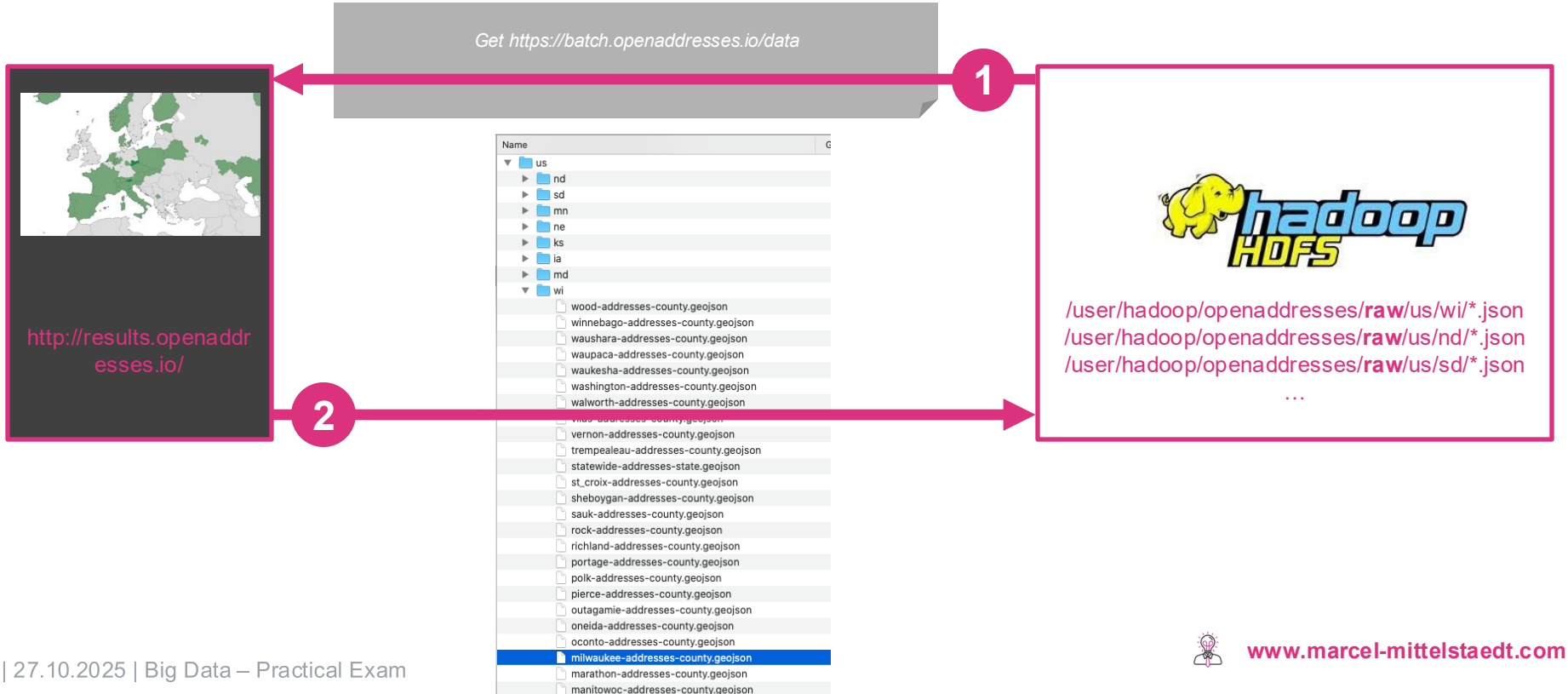
We want to make use of this data to validate adresses entered on a website, to check whether they are real or not.

Workflow:

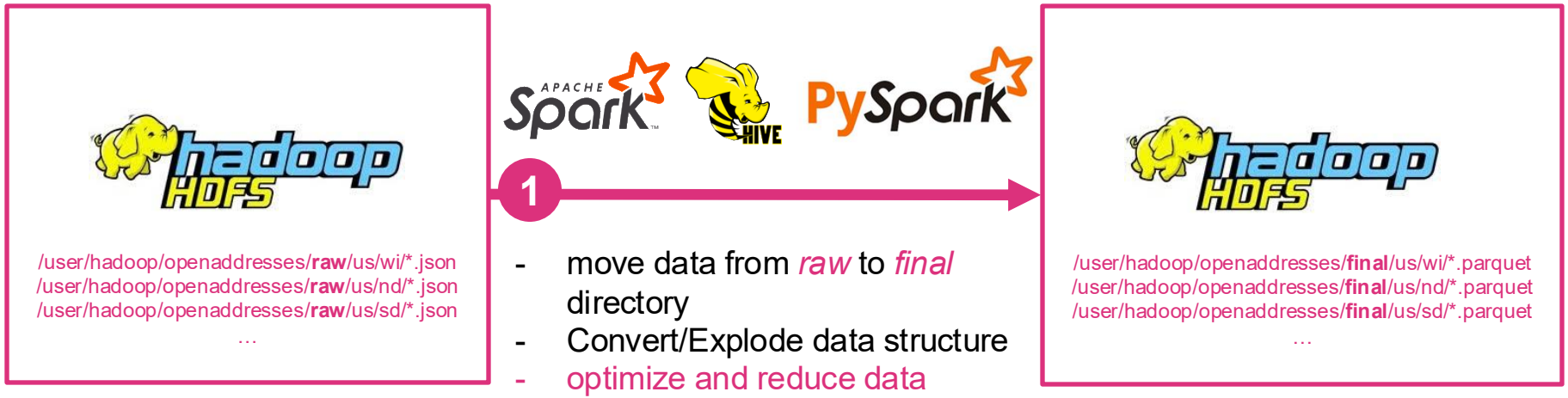
- **Gather data** from OpenAddresses.io
- **Save raw data** (*JSON files*) to HDFS (partitioned by state
- shortcut, e.g. *wi, nd, sd*…)
- **Optimize**, **reduce** and **clean raw data** and save it to **final** directory on HDFS
- **Export** address data **to end-user database** (e.g. MySQL, MongoDB…)
- Provide a simple **HTML Frontend** which is able to:
  - read from end-user database
  - process user input (Street, City, Postcode…)
  - validate user input against OpenAddress data in end-user database
  - Display result (real or non real address)
- The whole data workflow **must be implemented** within an ETL **workflow tool** (e.g. **Pentaho Data Integration** or **Airflow**) and **run automatically**



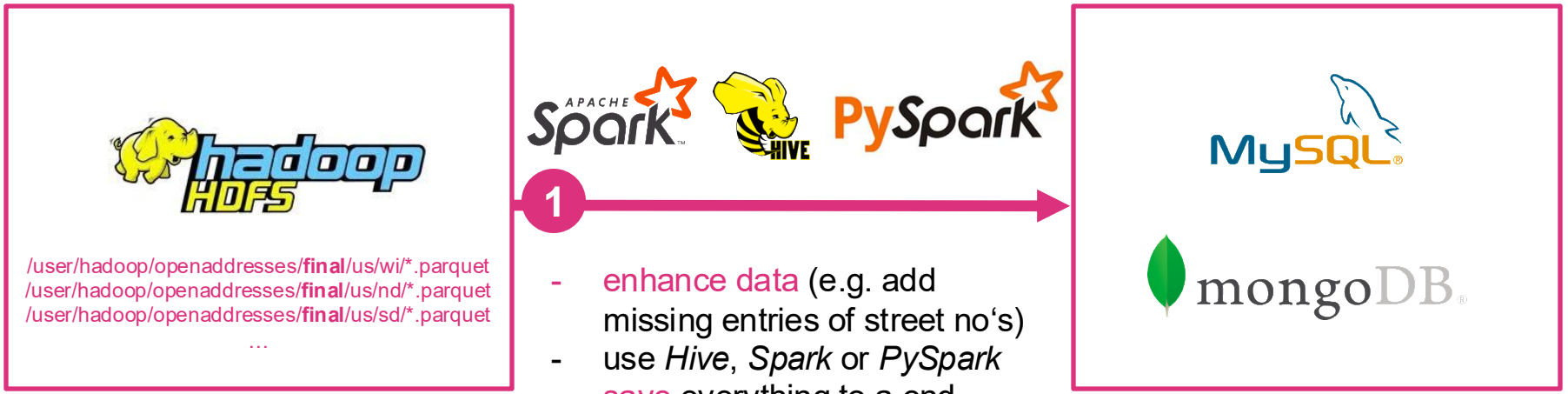
Dataflow: 1. Get Address Data



Dataflow: 2. Raw To Final Transfer



Dataflow: 3. Enhance Data And Save Results



Dataflow: 4. Provide Simple Web Interface

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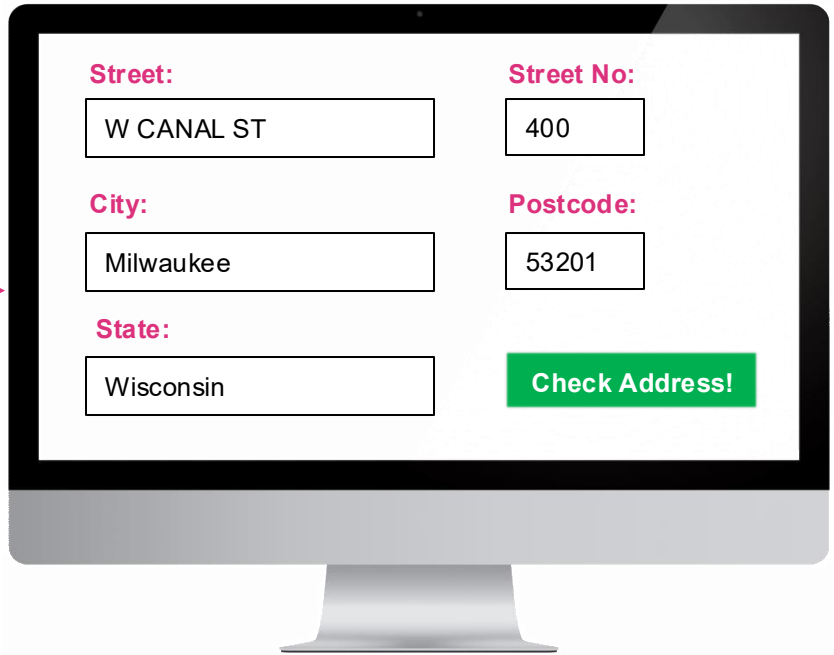

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