

# Create MTG Trading Card Database By Crawler

Practical Exam




# Goal

magicthegathering.io provides up-to-date information regarding all MTG trading cards available:

- <https://gatherer.wizards.com/Pages/>

## Manta Riders

Details | Sets & Legality | Language | Discussion



**Oracle** **Printed**

**Card Name:** Manta Riders

**Mana Cost:** 1

**Converted Mana Cost:** 1

**Types:** Creature — Merfolk

**Card Text:** **(F)** Manta Riders gains flying until end of turn.

**Flavor Text:** "Water is firmament to the finned."  
—Oracle en-Vec

**P/T:** 1 / 1

**Expansion:** Tempest

**Rarity:** Common

**Artist:** Kaja Foglio

**Community Rating:**  
★★★★★  
Community Rating: 2,630 / 5 (27 votes)  
[Click here to view ratings and comments.](#)

```
<div class="smallGreyMono" style="margin-top: 5px;">
<b class="ft"><b></b></b>
<div id="ctl00_ctl00_MainContent_SubContent_SubContent_nameRow" class="row">
  <div class="label">
    Card Name:</div>
    <div class="value">
      Manta Riders</div>
    </div>
<div id="ctl00_ctl00_MainContent_SubContent_SubContent_manaRow" class="row manaRow">
  <div class="label" style="line-height: 25px;">
    Mana Cost:</div>
    <div class="value">
      </div>
    </div>
<div id="ctl00_ctl00_MainContent_SubContent_SubContent_cmcRow" class="row">
  <div class="label" style="font-size: .7em;">
    Converted Mana Cost:</div>
    <div class="value">
      1</div>
    </div>
<div id="ctl00_ctl00_MainContent_SubContent_SubContent_typeRow" class="row">
  <div class="label">
    Types:</div>
    <div class="value">
      Creature — Merfolk</div>
    </div>
<div id="ctl00_ctl00_MainContent_SubContent_SubContent_textRow" class="row">
  <div class="label">
    Card Text:</div>
    <div class="value">
      <div class="cardtextbox" style="padding-left: 10px;">: Manta Riders gains flying until end of turn.</div></div>
</div>
```

<https://gatherer.wizards.com/Pages/Card/Details.aspx?multiverseid=4711>

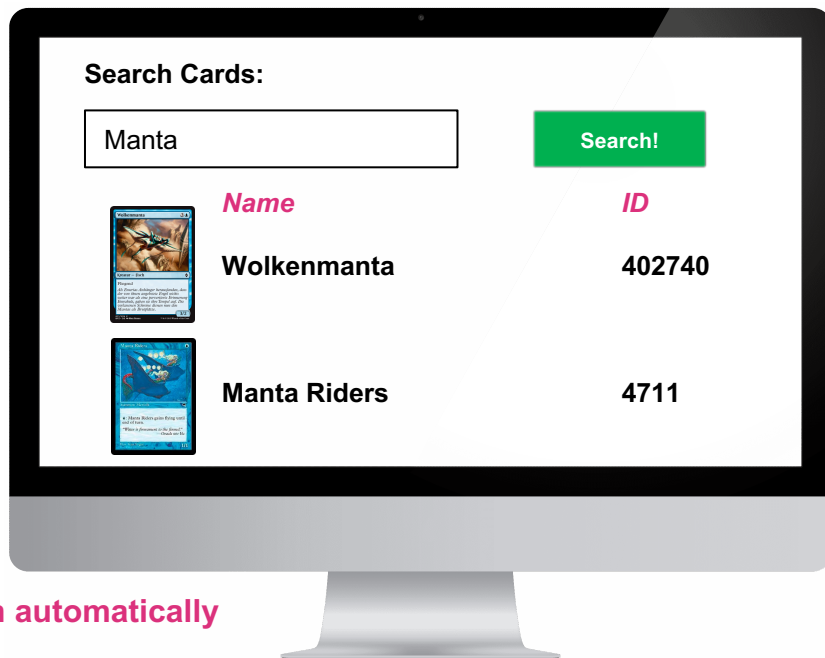


# Goal

We want to make use of this data to build a searchable database of all MTG trading cards.

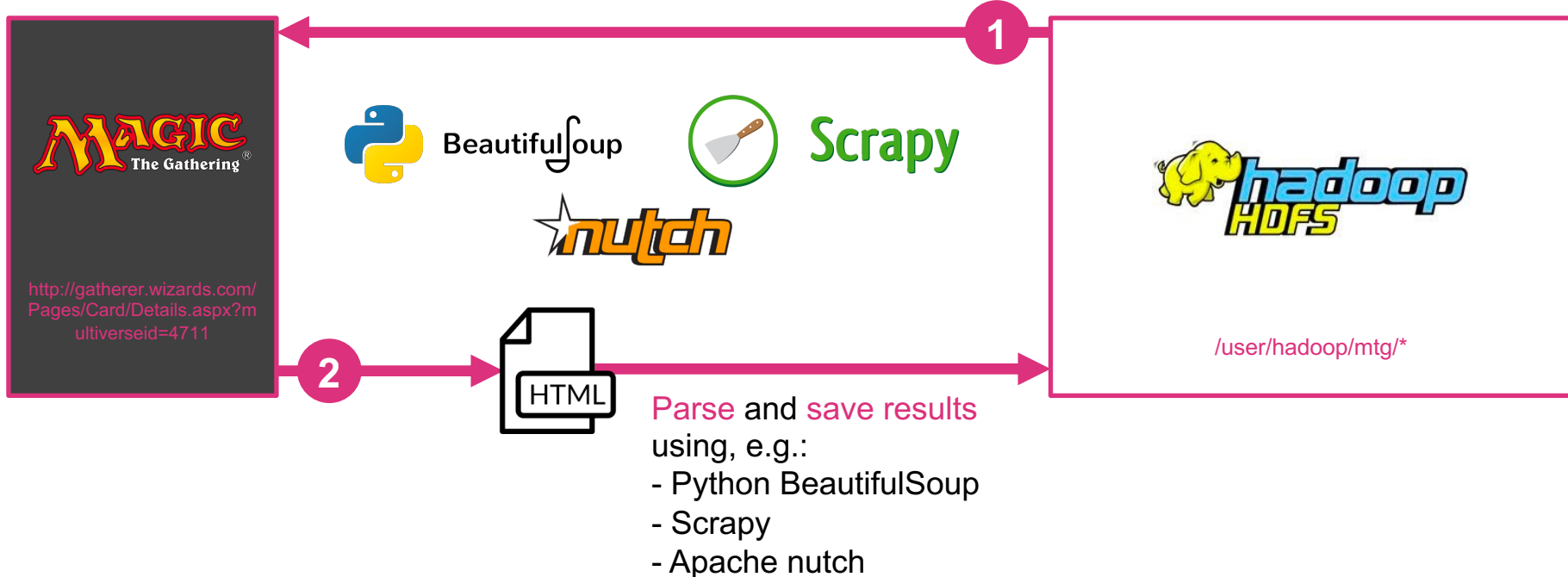
## Workflow:

- **Crawl** data from gatherer.wizards.com
- **Parse** required **information** and save them to **HDFS** (queryable through Hive)
- **Export** MTG 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 (card name, text or artist)
  - **display search results**
- 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 MTG Data

Crawl HTML pages



# Dataflow: 3. Enhance Data And Save Results



/user/hadoop/mtg/\*



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- **enhance data** (e.g. for later querying)
- use *Hive*, *Python*, *Spark* or *PySpark*
- **save** everything to a end-user database (e.g. *MySQL*, *MongoDB*)

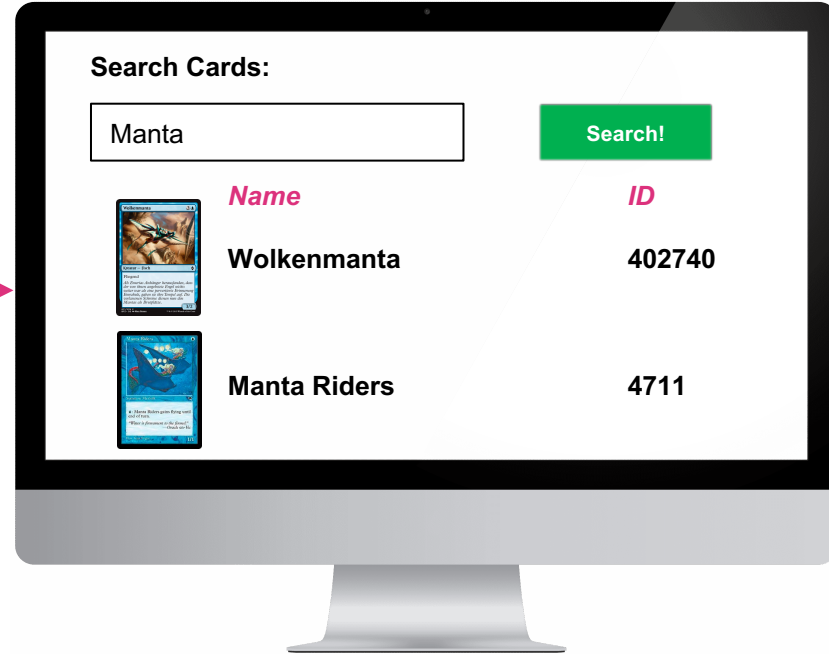




# Dataflow: 4. Provide Simple Web Interface



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- Provide a simple **HTML Frontend** which is able to:
  - read from end-user database
  - process user input (card name, text or artist)
  - **display search results**