**Python API Examples**

These examples also [here](https://github.com/kushnertodd/python-api-examples).

Here is something that's interesting and educational! Have you used JSON? Magic has an API that gives Magic information when you send JSON requests that's described at this site:

https://docs.magicthegathering.io/

You should be able to type this in DOS and get the card types:

C:>curl "https://api.magicthegathering.io/v1/types"

{"types":["Artifact","Battle","Conspiracy","Creature","Dragon","Elemental","Enchantment","Goblin","Hero","instant","Instant","Jaguar","Knights","Land","Phenomenon","Plane","Planeswalker","Scheme","Sorcery","Stickers","Summon","Tribal","Universewalker","Vanguard","Wolf"]}

* How do I parse that file into human-readable form using python? I'm glad you asked. Make sure you have python installed from [https://www.python.org](https://www.python.org/) and run json-format.bat in dos.

**json-format.py**

import sys

import json

if len(sys.argv) < 2:

print(f'usage: {sys.argv[0]} filename')

sys.exit(0)

print(f'formatted json in {sys.argv[1]}:')

with open(sys.argv[1], 'r') as json\_file:

json\_object = json.load(json\_file)

print(json\_object)

print(json.dumps(json\_object))

print(json.dumps(json\_object, indent=1))

**json-format.bat**

curl "https://api.magicthegathering.io/v1/types">types.txt

type types.txt

python json-format.py

python json-format.py types.txt

* Now you're going to say How do I parse that into data in a usable python form? I'm glad you asked that too. The json is actually loaded into a dictionary that has "types" as the key and the list of types as the value. json-parse.bat strips the "types" off the json and just prints the list of types.

**json-parse.py**

import sys

import json

if len(sys.argv) < 2:

print(f'usage: {sys.argv[0]} filename')

sys.exit(0)

with open(sys.argv[1], 'r') as json\_file:

json\_object = json.load(json\_file)

print(json\_object["types"])

**json-parse.bat**

curl "https://api.magicthegathering.io/v1/types">types.txt

type types.txt

python json-parse.py types.txt

* Now you're going to say Sure, that's fine if I want to get a fixed set of data from a json request, but suppose I want to specify the thing to get the json for and print out a specific set of data for that thing? json-http-requests-name.bat will get the mana cost for a card you specify.

**json-http-requests-name.py**

import sys

import json

import requests

if len(sys.argv) < 2:

print(f'usage: {sys.argv[0]} card-name')

sys.exit(0)

card\_name = sys.argv[1]

res = requests.get('https://api.magicthegathering.io/v1/cards?supertypes=legendary&types=creature')

#print(f'original api response is:\n{res.text}\n')

json\_object = json.loads(res.text)

print(f'mana cost for {card\_name} is:\n{json\_object["cards"][0]["manaCost"]}')

**json-http-requests-name.bat**

python json-http-requests-name.py "'Cho-Manno, Revolutionary'"

* You want to know what kind of data you can get for a specific card? You can capture all the request json with this command:

C:>curl "https://api.magicthegathering.io/v1/cards?supertypes=legendary&types=creature">card.txt

and copy and paste that text into this web page:

https://jsonformatter.org/

and it will show the information for "Cho-Manna, Revolutionary" as the first entry:

{

"cards": [

{

"name": "Cho-Manno, Revolutionary",

"manaCost": "{2}{W}{W}",

"cmc": 4,

"colors": [

"W"

],

"colorIdentity": [

"W"

],

...

* You can then print out what data you want by changing json-http-requests-name.py to print the data you want:

print(f'supertype for {card\_name} is:\n{json\_object["cards"][0]["supertypes"]}')

* You can get data for a list of fields with json-http-requests-name-list.bat.

**json-http-requests-name-list.py**

import sys

import json

import requests

if len(sys.argv) < 2:

print(f'usage: {sys.argv[0]} card-name')

sys.exit(0)

card\_name = sys.argv[1]

res = requests.get('https://api.magicthegathering.io/v1/cards?supertypes=legendary&types=creature')

#print(f'original api response is:\n{res.text}\n')

json\_object = json.loads(res.text)

data\_list = ["manaCost", "colors", "type", "text"]

print(f'data for {card\_name} is:')

for data in data\_list:

print(f' {data}:\t{json\_object["cards"][0][data]}')

**json-http-requests-name-list.bat**

python json-http-requests-name-list.py "'Cho-Manno, Revolutionary'

* you can also put the address in chrome to see the data <https://api.magicthegathering.io/v1/types>

https://api.magicthegathering.io/v1/types

**json-http-requests.py**

import sys

import json

import requests

# this code is from:

# https://stackoverflow.com/questions/26000336/execute-curl-command-within-a-python-script

res = requests.get('https://api.magicthegathering.io/v1/types')

print(f'original api response is:\n{res.text}\n')

json\_object = json.loads(res.text)

print(f'parsed json for "types" is:\n{json\_object["types"]}')

**json-http-requests.bat**

python json-http-requests.py