

If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

```
#####
```

```
#                               WARNING!!!!                               #
```

```
# This is a sandbox environment. Using personal credentials                #
```

```
# is HIGHLY! discouraged. Any consequences of doing so are                #
```

```
# completely the user's responsibilities.                                  #
```

```
#                                                                           #
```

```
# The PWD team.                                                            #
```

```
#####
```

```
[node1] (local) root@192.168.0.13 ~
```

```
$ Gopal Kumar ^C
```

```
[node1] (local) root@192.168.0.13 ~
```

```
$ git clone https://github.com/ibnesayeed/linkextractor.git
```

```
Cloning into 'linkextractor'...
```

```
remote: Enumerating objects: 144, done.
```

```
remote: Counting objects: 100% (4/4), done.
```

```
remote: Compressing objects: 100% (4/4), done.
```

```
remote: Total 144 (delta 0), reused 1 (delta 0), pack-reused 140
```

```
Receiving objects: 100% (144/144), 44.55 KiB | 2.97 MiB/s, done.
```

```
Resolving deltas: 100% (43/43), done.
```

```
[node1] (local) root@192.168.0.13 ~
```

```
$ cd linkextractor
```

```
[node1] (local) root@192.168.0.13 ~/linkextractor
```

```
$ git checkout demo
```

```
branch 'demo' set up to track 'origin/demo'.
```

```
Switched to a new branch 'demo'
```

```
[node1] (local) root@192.168.0.13 ~/linkextractor
```

If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

```
[node1] (local) root@192.168.0.13 ~/linkextractor
```

```
$ git checkout step0
```

```
branch 'step0' set up to track 'origin/step0'.
```

```
Switched to a new branch 'step0'
```

```
[node1] (local) root@192.168.0.13 ~/linkextractor
```

```
$ tree
```

```
.
|— README.md
|— linkextractor.py
```

```
1 directory, 2 files
```

```
[node1] (local) root@192.168.0.13 ~/linkextractor
```

```
$ cat linkextractor.py
```

```
#!/usr/bin/env python
```

```
import sys
```

```
import requests
```

```
from bs4 import BeautifulSoup
```

```
res = requests.get(sys.argv[-1])
```

```
soup = BeautifulSoup(res.text, "html.parser")
```

```
for link in soup.find_all("a"):
```

```
    print(link.get("href"))
```

```
[node1] (local) root@192.168.0.13 ~/linkextractor
```

```
$ ./linkextractor.py http://example.com/
```

```
bash: ./linkextractor.py: Permission denied
```

If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

```
bash: ./linkextractor.py: Permission denied
```

```
[node1] (local) root@192.168.0.13 ~/linkextractor
```

```
$ ls -l linkextractor.py
```

```
-rw-r--r-- 1 root root 220 Jul 18 15:39 linkextractor.py
```

```
[node1] (local) root@192.168.0.13 ~/linkextractor
```

```
$ python3 linkextractor.py
```

```
Traceback (most recent call last):
```

```
File "/root/linkextractor/linkextractor.py", line 4, in <module>
```

```
    import requests
```

```
ModuleNotFoundError: No module named 'requests'
```

```
[node1] (local) root@192.168.0.13 ~/linkextractor
```

```
$ git checkout step1
```

```
branch 'step1' set up to track 'origin/step1'.
```

```
Switched to a new branch 'step1'
```

```
[node1] (local) root@192.168.0.13 ~/linkextractor
```

```
$ cat Dockerfile
```

```
FROM python:3
```

```
LABEL maintainer="Sawood Alam <@ibnesayeed>"
```

```
RUN pip install beautifulsoup4
```

```
RUN pip install requests
```

```
WORKDIR /app
```

```
COPY linkextractor.py /app/
```

```
RUN chmod a+x linkextractor.py
```

If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

```
RUN      chmod a+x linkextractor.py
```

```
ENTRYPOINT ["/linkextractor.py"]
```

```
[node1] (local) root@192.168.0.13 ~/linkextractor
```

```
$ docker image build -t linkextractor:step1 .
```

```
[+] Building 38.9s (5/10)
```

```
[+] Building 41.3s (6/10)
```

```
[+] Building 41.8s (6/10)
```

```
[+] Building 42.0s (6/10)
```

```
[+] Building 42.1s (6/10)
```

```
[+] Building 43.7s (11/11) FINISHED
```

```
=> [internal] load build definition from Dockerfile 0.0s
```

```
=> => transferring dockerfile: 304B 0.0s
```

```
=> [internal] load .dockerignore 0.0s
```

```
=> => transferring context: 2B 0.0s
```

```
=> [internal] load metadata for docker.io/library/python:3 0.3s
```

```
=> [internal] load build context 0.0s
```

```
=> => transferring context: 265B 0.0s
```

```
=> [1/6] FROM docker.io/library/python:3@sha256:d73088ce13d5a1eec1dd05b4 35.1s
```

```
=> => resolve docker.io/library/python:3@sha256:d73088ce13d5a1eec1dd05b47 0.0s
```

```
=> => sha256:d52e4f012db158bb7c0fe215b98af1facaddcbaee5 49.55MB / 49.55MB 0.7s
```

```
=> => sha256:d73088ce13d5a1eec1dd05b47736041ae6921d08d2f2 2.14kB / 2.14kB 0.0s
```

```
=> => sha256:94c2dca43c9c127e42dfd021039cc83d839975209761 2.01kB / 2.01kB 0.0s
```

```
=> => sha256:c0e63845ae986c52da5cd6ac4d56eebf293439bb22a3 7.53kB / 7.53kB 0.0s
```

```
=> => sha256:7dd206bea61ff3e3b54be1c20b58d8475ddd6f89df 24.03MB / 24.03MB 0.5s
```

```
=> => sha256:2320f9be4a9c605d1ac847cf67cec42b91484a7cf7 64.11MB / 64.11MB 0.7s
```


If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

```
=> => sha256:2320f9be4a9c605d1ac847cf67cec42b91484a7cf7 64.11MB / 64.11MB 0.7s
=> => sha256:6e5565e0ba8dfce32b9049f21ceeb212946e0bb8 211.00MB / 211.00MB 2.8se
=> => sha256:d3797e13cc41e1387a937908677cc66838a672cdc8ba 6.39MB / 6.39MB 0.8se
=> => sha256:70f90dfe001bab12bb117972f14fb9429be3d5af96 19.76MB / 19.76MB 1.1se
=> => sha256:bd75605de417c150af6942a796e71c4bcd8567194d2c2a1e 244B / 244B 0.9se
=> => sha256:3d0e1a4b14bc5f3e735fb7730c802b651d49d295a8ff 3.09MB / 3.09MB 1.0se
=> => extracting sha256:d52e4f012db158bb7c0fe215b98af1facaddcbaee530efd69 5.7s
=> => extracting sha256:7dd206bea61ff3e3b54be1c20b58d8475ddd6f89df176146d 1.5s
=> => extracting sha256:2320f9be4a9c605d1ac847cf67cec42b91484a7cf7c949964 6.2s
=> => extracting sha256:6e5565e0ba8dfce32b9049f21ceeb212946e0bb810d94cbd 16.4s
=> => extracting sha256:d3797e13cc41e1387a937908677cc66838a672cdc8ba8de9b 0.8s
=> => extracting sha256:70f90dfe001bab12bb117972f14fb9429be3d5af96cc78084 1.7s
=> => extracting sha256:bd75605de417c150af6942a796e71c4bcd8567194d2c2a1e9 0.0s
=> => extracting sha256:3d0e1a4b14bc5f3e735fb7730c802b651d49d295a8ff12b86 0.7s
=> [2/6] RUN pip install beautifulsoup4 4.1s
=> [3/6] RUN pip install requests 2.8s
=> [4/6] WORKDIR /app 0.0s
=> [5/6] COPY linkextractor.py /app/ 0.1s
=> [6/6] RUN chmod a+x linkextractor.py 0.8s
=> exporting to image 0.3s
=> => exporting layers 0.3s
=> => writing image sha256:6810cbb162ff8a5f7f840b0f4ec3fb71e67d32c3e2b256 0.0s
=> => naming to docker.io/library/linkextractor:step1 0.0s
```

[node1] (local) root@192.168.0.13 ~/linkextractor

\$ docker image ls

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
------------	-----	----------	---------	------

If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
linkextractor	step1	6810cbb162ff	10 seconds ago	1.02GB

```
[node1] (local) root@192.168.0.13 ~/linkextractor
$ docker container run -it --rm linkextractor:step1 http://example.com/
https://www.iana.org/domains/example
[node1] (local) root@192.168.0.13 ~/linkextractor
$ docker container run -it --rm linkextractor:step1 https://training.play-with-docker.com/
/
/about/
#ops
#dev
/ops-stage1
/ops-stage2
/ops-stage3
/dev-stage1
/dev-stage2
/dev-stage3
/alcart
https://twitter.com/intent/tweet?text=Play with Docker Classroom&url=https://training.play-with-docker.com/&via=docker&related=docker
https://facebook.com/sharer.php?u=https://training.play-with-docker.com/
https://plus.google.com/share?url=https://training.play-with-docker.com/
http://www.linkedin.com/shareArticle?mini=true&url=https://training.play-with-docker.com/&title=Play%20with%20Docker%20Classroom&source=https://training.play-with-docker.com
```

If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

-docker.com

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<https://www.docker.com>

<https://www.facebook.com/docker.run>

<https://twitter.com/docker>

<https://www.github.com/play-with-docker/play-with-docker.github.io>

[node1] (local) root@192.168.0.13 ~/linkextractor

\$ git checkout step2

branch 'step2' set up to track 'origin/step2'.

Switched to a new branch 'step2'

[node1] (local) root@192.168.0.13 ~/linkextractor

\$ tree

```
.
|— Dockerfile
|— README.md
|— linkextractor.py
```

1 directory, 3 files

[node1] (local) root@192.168.0.13 ~/linkextractor

\$ cat linkextractor.py

#!/usr/bin/env python

import sys

If the command doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

```
import sys
import requests
from bs4 import BeautifulSoup
from urllib.parse import urljoin

def extract_links(url):
    res = requests.get(url)
    soup = BeautifulSoup(res.text, "html.parser")
    base = url
    # TODO: Update base if a <base> element is present with the href attribute
    links = []
    for link in soup.find_all("a"):
        links.append({
            "text": " ".join(link.text.split()) or "[IMG]",
            "href": urljoin(base, link.get("href"))
        })
    return links

if __name__ == "__main__":
    if len(sys.argv) != 2:
        print("\nUsage:\n\t{} <URL>\n".format(sys.argv[0]))
        sys.exit(1)
    for link in extract_links(sys.argv[-1]):
        print("{} {}".format(link["text"], link["href"]))

[node1] (local) root@192.168.0.13 ~/linkextractor
$ docker image build -t linkextractor:step2 .
```


If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

```
$ docker image build -t linkextractor:step2 .
```

```
[+] Building 1.2s (11/11) FINISHED
```

```
=> [internal] load build definition from Dockerfile 0.0s
=> => transferring dockerfile: 304B 0.0s
=> [internal] load .dockerignore 0.0s
=> => transferring context: 2B 0.0s
=> [internal] load metadata for docker.io/library/python:3 0.3s
=> [1/6] FROM docker.io/library/python:3@sha256:d73088ce13d5a1eecd1dd05b47 0.0s
=> [internal] load build context 0.0s
=> => transferring context: 810B 0.0s
=> CACHED [2/6] RUN pip install beautifulsoup4 0.0s
=> CACHED [3/6] RUN pip install requests 0.0s
=> CACHED [4/6] WORKDIR /app 0.0s
=> [5/6] COPY linkextractor.py /app/ 0.1s
=> [6/6] RUN chmod a+x linkextractor.py 0.7s
=> exporting to image 0.0s
=> => exporting layers 0.0s
=> => writing image sha256:e0fd8d1cdfe8d5666c44609f97b791ae9cb223ab697568 0.0s
=> => naming to docker.io/library/linkextractor:step2 0.0s
```

```
[node1] (local) root@192.168.0.13 ~/linkextractor
```

```
$ docker image ls
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
linkextractor	step2	e0fd8d1cdfe8	11 seconds ago	1.02GB
linkextractor	step1	6810cbb162ff	3 minutes ago	1.02GB

```
[node1] (local) root@192.168.0.13 ~/linkextractor
```

```
$ docker container run -it --rm linkextractor:step2 https://training.play-with-do
```

If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

```
$ docker container run -it --rm linkextractor:step2 https://training.play-with-docker.com/
```

[Play with Docker classroom] (<https://training.play-with-docker.com/>)

[About] (<https://training.play-with-docker.com/about/>)

[IT Pros and System Administrators] (<https://training.play-with-docker.com/#ops>)

[Developers] (<https://training.play-with-docker.com/#dev>)

[Stage 1: The Basics] (<https://training.play-with-docker.com/ops-stage1>)

[Stage 2: Digging Deeper] (<https://training.play-with-docker.com/ops-stage2>)

[Stage 3: Moving to Production] (<https://training.play-with-docker.com/ops-stage3>)

[Stage 1: The Basics] (<https://training.play-with-docker.com/dev-stage1>)

[Stage 2: Digging Deeper] (<https://training.play-with-docker.com/dev-stage2>)

[Stage 3: Moving to Staging] (<https://training.play-with-docker.com/dev-stage3>)

[Full list of individual labs] (<https://training.play-with-docker.com/alacart>)

[[IMG]] ([https://twitter.com/intent/tweet?text=Play with Docker Classroom&url=https://training.play-with-docker.com/&via=docker&related=docker](https://twitter.com/intent/tweet?text=Play+with+Docker+Classroom&url=https://training.play-with-docker.com/&via=docker&related=docker))

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[[IMG]] (<https://plus.google.com/share?url=https://training.play-with-docker.com/>)

[[IMG]] (<http://www.linkedin.com/shareArticle?mini=true&url=https://training.play-with-docker.com/&title=Play%20with%20Docker%20Classroom&source=https://training.play-with-docker.com>)

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[[IMG]] (<https://www.facebook.com/docker.run>)

[[IMG]] (<https://twitter.com/docker>)

[[IMG]] (<https://www.github.com/play-with-docker/play-with-docker.github.io>)

[node1] (local) root@192.168.0.13 ~/linkextractor

\$ docker container run -it --rm linkextractor:step1 <https://training.play-with-docker.com/>

/

/about/

#ops

#dev

/ops-stage1

/ops-stage2

/ops-stage3

/dev-stage1

/dev-stage2

/dev-stage3

/alacart

[https://twitter.com/intent/tweet?text=Play with Docker Classroom&url=https://training.play-with-docker.com/&via=docker&related=docker](https://twitter.com/intent/tweet?text=Play+with+Docker+Classroom&url=https://training.play-with-docker.com/&via=docker&related=docker)

<https://facebook.com/sharer.php?u=https://training.play-with-docker.com/>

<https://plus.google.com/share?url=https://training.play-with-docker.com/>

<http://www.linkedin.com/shareArticle?mini=true&url=https://training.play-with-docker.com/&title=Play%20with%20Docker%20Classroom&source=https://training.play-with-docker.com>

<https://www.docker.com/dockercon/>

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If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

<https://www.facebook.com/docker.run>

<https://twitter.com/docker>

<https://www.github.com/play-with-docker/play-with-docker.github.io>

```
[node1] (local) root@192.168.0.13 ~/linkextractor
```

```
$ git checkout step3
```

```
branch 'step3' set up to track 'origin/step3'.
```

```
Switched to a new branch 'step3'
```

```
[node1] (local) root@192.168.0.13 ~/linkextractor
```

```
$ tree
```

```
.
├── Dockerfile
├── README.md
├── linkextractor.py
├── main.py
└── requirements.txt
```

```
1 directory, 5 files
```

```
[node1] (local) root@192.168.0.13 ~/linkextractor
```

```
$ cat Dockerfile
```

```
FROM          python:3
LABEL         maintainer="Sawood Alam <@ibnesayeed>"

WORKDIR       /app
COPY          requirements.txt /app/
RUN           pip install -r requirements.txt
```

If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

```
RUN      pip install -r requirements.txt
```

```
COPY      *.py /app/
```

```
RUN      chmod a+x *.py
```

```
CMD      ["/main.py"]
```

```
[node1] (local) root@192.168.0.13 ~/linkextractor
```

```
$ cat main.py
```

```
#!/usr/bin/env python
```

```
from flask import Flask
```

```
from flask import request
```

```
from flask import jsonify
```

```
from linkextractor import extract_links
```

```
app = Flask(__name__)
```

```
@app.route("/")
```

```
def index():
```

```
    return "Usage: http://<hostname>[:<prt>]/api/<url>"
```

```
@app.route("/api/<path:url>")
```

```
def api(url):
```

```
    qs = request.query_string.decode("utf-8")
```

```
    if qs != "":
```

```
        url += "?" + qs
```

If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

```
url += "?" + qs
links = extract_links(url)
return jsonify(links)
```

```
app.run(host="0.0.0.0")
```

```
[node1] (local) root@192.168.0.13 ~/linkextractor
```

```
$ docker image build -t linkextractor:step3 .
```

```
[+] Building 8.6s (11/11) FINISHED
```

```
=> [internal] load build definition from Dockerfile 0.0s
=> => transferring dockerfile: 278B 0.0s
=> [internal] load .dockerignore 0.0s
=> => transferring context: 2B 0.0s
=> [internal] load metadata for docker.io/library/python:3 0.2s
=> CACHED [1/6] FROM docker.io/library/python:3@sha256:d73088ce13d5a1eecd1 0.0s
=> [internal] load build context 0.0s
=> => transferring context: 613B 0.0s
=> [2/6] WORKDIR /app 0.0s
=> [3/6] COPY requirements.txt /app/ 0.1s
=> [4/6] RUN pip install -r requirements.txt 6.8s
=> [5/6] COPY *.py /app/ 0.1s
=> [6/6] RUN chmod a+x *.py 0.9s
=> exporting to image 0.5s
=> => exporting layers 0.5s
=> => writing image sha256:11bd93d156dcb2889be4c6729fb34e7fe5a403954e73af 0.0s
=> => naming to docker.io/library/linkextractor:step3 0.0s
```

```
[node1] (local) root@192.168.0.13 ~/linkextractor
```


If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

```
=> => naming to docker.io/library/linkextractor:step3 0.0s
```

```
[node1] (local) root@192.168.0.13 ~/linkextractor
```

```
$ docker container run -d -p 5000:5000 --name=linkextractor linkextractor:step3
```

```
74a3ce4b219e79e9058b168af1a8a470099b947810a5ee171ac1f418063fe3c4
```

```
[node1] (local) root@192.168.0.13 ~/linkextractor
```

```
$ docker container ls
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS
74a3ce4b219e	linkextractor:step3	"/main.py"	9 seconds ago	Up 8 seconds
0.0.0.0:5000->5000/tcp	linkextractor			

```
[node1] (local) root@192.168.0.13 ~/linkextractor
```

```
$ curl -i http://localhost:5000/api/http://example.com/
```

```
HTTP/1.1 200 OK
```

```
Server: Werkzeug/2.3.6 Python/3.11.4
```

```
Date: Tue, 18 Jul 2023 15:49:51 GMT
```

```
Content-Type: application/json
```

```
Content-Length: 79
```

```
Connection: close
```

```
[{"href":"https://www.iana.org/domains/example","text":"More information..."}]
```

```
[node1] (local) root@192.168.0.13 ~/linkextractor
```

```
$ docker container logs linkextractor
```

```
* Serving Flask app 'main'
```

```
* Debug mode: off
```

```
WARNING: This is a development server. Do not use it in a production deployment.
```

```
Use a production WSGI server instead.
```

If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

Use a production WSGI server instead.

```
* Running on all addresses (0.0.0.0)
* Running on http://127.0.0.1:5000
* Running on http://172.17.0.2:5000
```

Press CTRL+C to quit

```
172.17.0.1 - - [18/Jul/2023 15:49:51] "GET /api/http://example.com/ HTTP/1.1" 200
-
```

```
[node1] (local) root@192.168.0.13 ~/linkextractor
```

```
$ docker container rm -f linkextractor
```

```
linkextractor
```

```
[node1] (local) root@192.168.0.13 ~/linkextractor
```

```
$ git checkout step4
```

```
branch 'step4' set up to track 'origin/step4'.
```

```
Switched to a new branch 'step4'
```

```
[node1] (local) root@192.168.0.13 ~/linkextractor
```

```
$ tree
```

```
.
├── README.md
├── api
│   ├── Dockerfile
│   ├── linkextractor.py
│   ├── main.py
│   └── requirements.txt
├── docker-compose.yml
└── www
    └── index.php
```

If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

```
└─ index.php
```

```
3 directories, 7 files
```

```
[node1] (local) root@192.168.0.13 ~/linkextractor
```

```
$ cat docker-compose.yml
```

```
version: '3'
```

```
services:
```

```
  api:
```

```
    image: linkextractor-api:step4-python
```

```
    build: ./api
```

```
    ports:
```

```
      - "5000:5000"
```

```
  web:
```

```
    image: php:7-apache
```

```
    ports:
```

```
      - "80:80"
```

```
    environment:
```

```
      - API_ENDPOINT=http://api:5000/api/
```

```
    volumes:
```

```
      - ./www:/var/www/html
```

```
[node1] (local) root@192.168.0.13 ~/linkextractor
```

```
$ cat www/index.php
```

```
<!DOCTYPE html>
```

```
<?php
```


If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

```
<?php
    $api_endpoint = $_ENV["API_ENDPOINT"] ?: "http://localhost:5000/api/";
    $url = "";
    if(isset($_GET["url"]) && $_GET["url"] != "") {
        $url = $_GET["url"];
        $json = @file_get_contents($api_endpoint . $url);
        if($json == false) {
            $err = "Something is wrong with the URL: " . $url;
        } else {
            $links = json_decode($json, true);
            $domains = [];
            foreach($links as $link) {
                array_push($domains, parse_url($link["href"], PHP_URL_HOST));
            }
            $domainct = @array_count_values($domains);
            arsort($domainct);
        }
    }
?>

<html>
    <head>
        <meta charset="utf-8">
        <title>Link Extractor</title>
        <style media="screen">
            html {
```

If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

```
<style media="screen">
```

```
  html {
    background: #EAE7D6;
    font-family: sans-serif;
  }
  body {
    margin: 0;
  }
  h1 {
    padding: 10px;
    margin: 0 auto;
    color: #EAE7D6;
    max-width: 600px;
  }
  h1 a {
    text-decoration: none;
    color: #EAE7D6;
  }
  h2 {
    background: #082E41;
    color: #EAE7D6;
    margin: -10px;
    padding: 10px;
  }
  p {
    margin: 25px 5px 5px;
```

If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

```
margin: 25px 5px 5px;
}
section {
  max-width: 600px;
  margin: 10px auto;
  padding: 10px;
  border: 1px solid #082E41;
}
div.header {
  background: #082E41;
  margin: 0;
}
div.footer {
  background: #082E41;
  margin: 0;
  padding: 5px;
}
.footer p {
  margin: 0 auto;
  max-width: 600px;
  color: #EAE7D6;
  text-align: center;
}
.footer p a {
  color: #24C2CB;
  text-decoration: none;
```


If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

```
    text-decoration: none;
  }
  .error {
    color: #DA2536;
  }
  form {
    display: flex;
  }
  input {
    font-size: 20px;
    padding: 3px;
    height: 40px;
  }
  input.text {
    box-sizing: border-box;
    flex-grow: 1;
    border-color: #082E41;
  }
  input.button {
    width: 150px;
    background: #082E41;
    border-color: #082E41;
    color: #EAE7D6;
  }
  table {
    width: 100%;
```

If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

```
    width: 100%;
    text-align: left;
    margin-top: 10px;
}
table th, table td {
    padding: 3px;
}
table th:last-child, table td:last-child {
    width: 70px;
    text-align: right;
}
table th {
    border-top: 1px solid #082E41;
    border-bottom: 1px solid #082E41;
}
table tr:last-child td {
    border-top: 1px solid #082E41;
    border-bottom: 1px solid #082E41;
}
</style>
</head>
<body>
  <div class="header">
    <h1><a href="/">Link Extractor</a></h1>
  </div>
```

If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

```
<h1><a href="/">Link Extractor</a></h1>
</div>

<section>
  <form action="/">
    <input class="text" type="text" name="url" placeholder="http://example.co
m/" value="<?php echo $url; ?>">
    <input class="button" type="submit" value="Extract Links">
  </form>
</section>

<?php if(isset($err)): ?>
  <section>
    <h2>Error</h2>
    <p class="error"><?php echo $err; ?></p>
  </section>
<?php endif; ?>

<?php if($url != "" && !isset($err)): ?>
  <section>
    <h2>Summary</h2>
    <p>
      <strong>Page:</strong> <?php echo "<a href=\"\" . $url . "\">" . $url .
"</a>"; ?>
    </p>
    <table>
```

If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

```
<table>
  <tr>
    <th>Domain</th>
    <th># Links</th>
  </tr>
  <?php
    foreach($domainct as $key => $value) {
      echo "<tr>";
      echo "<td>" . $key . "</td>";
      echo "<td>" . $value . "</td>";
      echo "</tr>";
    }
  ?>
  <tr>
    <td><strong>Total</strong></td>
    <td><strong><?php echo count($links); ?></strong></td>
  </tr>
</table>
</section>

<section>
  <h2>Links</h2>
  <ul>
  <?php
    foreach($links as $link) {
      echo "<li><a href=\"\" . $link[\"href\"] . \">\" . $link[\"text\"] . "</a>"
```


If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

```
        echo "<li><a href=\"\" . $link["href"] . "\">\" . $link["text"] . "</a>
</li>";
    }
    ?>
</ul>
</section>
<?php endif; ?>

<div class="footer">
    <p><a href="https://github.com/ibnesayeed/linkextractor">Link Extractor</a>
by <a href="https://twitter.com/ibnesayeed">@ibnesayeed</a> from
    <a href="https://ws-dl.cs.odu.edu/">WS-DL, ODU</a>
    </p>
</div>
</body>
</html>
```

[node1] (local) root@192.168.0.13 ~/linkextractor

\$ docker-compose up -d --build

[+] Running 14/14

✓ web 13 layers	[████████████████████]	0B/0B	Pulled	16.1s
✓ a603fa5e3b41	Pull complete			5.0s
✓ c428f1a49423	Pull complete			5.0s
✓ 156740b07ef8	Pull complete			12.7s
✓ fb5a4c8af82f	Pull complete			12.8s
✓ 25f85b498fd5	Pull complete			14.2s
✓ 9b233e420ac7	Pull complete			14.2s

If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

✓ 9b233e420ac7 Pull complete	14.2s
✓ fe42347c4ecf Pull complete	14.3s
✓ d14eb2ed1e17 Pull complete	14.6s
✓ 66d98f73acb6 Pull complete	14.6s
✓ d2c43c5efbc8 Pull complete	15.8s
✓ ab590b48ea47 Pull complete	15.8s
✓ 80692ae2d067 Pull complete	15.9s
✓ 05e465aaa99a Pull complete	15.9s

[+] Building 0.4s (11/11) FINISHED

=> [api internal] load .dockerignore	0.0s
=> => transferring context: 2B	0.0s
=> [api internal] load build definition from Dockerfile	0.0s
=> => transferring dockerfile: 278B	0.0s
=> [api internal] load metadata for docker.io/library/python:3	0.3s
=> [api 1/6] FROM docker.io/library/python:3@sha256:d73088ce13d5a1eec1dd0	0.0s
=> [api internal] load build context	0.0s
=> => transferring context: 1.39kB	0.0s
=> CACHED [api 2/6] WORKDIR /app	0.0s
=> CACHED [api 3/6] COPY requirements.txt /app/	0.0s
=> CACHED [api 4/6] RUN pip install -r requirements.txt	0.0s
=> CACHED [api 5/6] COPY *.py /app/	0.0s
=> CACHED [api 6/6] RUN chmod a+x *.py	0.0s
=> [api] exporting to image	0.0s
=> => exporting layers	0.0s
=> => writing image sha256:4d273f711c3cdb7de8f8c01986c7ac0c3538fd8ec3aac0	0.0s
=> => naming to docker.io/library/linkextractor-api:step4-python	0.0s

```

If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.
=> => naming to docker.io/library/linkextractor-api:step4-python 0.0s
[+] Running 3/3
✓ Network linkextractor_default Create... 0.1s
✓ Container linkextractor-web-1 Starte... 0.7s
✓ Container linkextractor-api-1 Starte... 0.8s
[node1] (local) root@192.168.0.13 ~/linkextractor
$ docker container ls
CONTAINER ID   IMAGE                                COMMAND                  CREATED
STATUS        PORTS          NAMES
fe4c804f8ff8   linkextractor-api:step4-python      "./main.py"             8 second
s ago        Up 7 seconds   0.0.0.0:5000->5000/tcp   linkextractor-api-1
6bce6ec2a066   php:7-apache                        "docker-php-entrypoi..." 8 second
s ago        Up 7 seconds   0.0.0.0:80->80/tcp      linkextractor-web-1
[node1] (local) root@192.168.0.13 ~/linkextractor
$ curl -i http://localhost:5000/api/http://example.com/
HTTP/1.1 200 OK
Server: Werkzeug/2.3.6 Python/3.11.4
Date: Tue, 18 Jul 2023 15:53:14 GMT
Content-Type: application/json
Content-Length: 79
Connection: close

[{"href":"https://www.iana.org/domains/example","text":"More information..."}]
[node1] (local) root@192.168.0.13 ~/linkextractor
$ sed -i 's/Link Extractor/Super Link Extractor/g' www/index.php
[node1] (local) root@192.168.0.13 ~/linkextractor

```

If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

HEAD is now at 2a3ec3e Synchronize branch step4

[node1] (local) root@192.168.0.13 ~/linkextractor

\$ docker-compose down

[+] Running 3/3

✓ Container linkextractor-api-1 Remove... 10.4s

✓ Container linkextractor-web-1 Remove... 1.5s

✓ Network linkextractor_default Remove... 0.1s

[node1] (local) root@192.168.0.13 ~/linkextractor

\$ git checkout step5

branch 'step5' set up to track 'origin/step5'.

Switched to a new branch 'step5'

[node1] (local) root@192.168.0.13 ~/linkextractor

\$ tree

```
.
├── README.md
├── api
│   ├── Dockerfile
│   ├── linkextractor.py
│   ├── main.py
│   └── requirements.txt
├── docker-compose.yml
└── www
    ├── Dockerfile
    └── index.php
```

3 directories, 8 files

If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

3 directories, 8 files

```
[node1] (local) root@192.168.0.13 ~/linkextractor
```

```
$ cat www/Dockerfile
```

```
FROM      php:7-apache
```

```
LABEL     maintainer="Sawood Alam <@ibnesayeed>"
```

```
ENV       API_ENDPOINT="http://localhost:5000/api/"
```

```
COPY      . /var/www/html/
```

```
[node1] (local) root@192.168.0.13 ~/linkextractor
```

```
$ cat api/main.py
```

```
#!/usr/bin/env python
```

```
import os
```

```
import json
```

```
import redis
```

```
from flask import Flask
```

```
from flask import request
```

```
from linkextractor import extract_links
```

```
app = Flask(__name__)
```

```
redis_conn = redis.from_url(os.getenv("REDIS_URL", "redis://localhost:6379"))
```

```
@app.route("/")
```

```
def index():
```

```
    return "Usage: http://<hostname>[:<prt>]/api/<url>"
```

If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

```
return "Usage: http://<hostname>[:<prt>]/api/<url>"
```

```
@app.route("/api/<path:url>")
def api(url):
    qs = request.query_string.decode("utf-8")
    if qs != "":
        url += "?" + qs

    jsonlinks = redis_conn.get(url)
    if not jsonlinks:
        links = extract_links(url)
        jsonlinks = json.dumps(links, indent=2)
        redis_conn.set(url, jsonlinks)

    response = app.response_class(
        status=200,
        mimetype="application/json",
        response=jsonlinks
    )

    return response
```

```
app.run(host="0.0.0.0")
```

```
[node1] (local) root@192.168.0.13 ~/linkextractor
```

```
$ cat docker-compose.yml
```

```
version: '3'
```

If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

version: '3'

services:

api:

image: linkextractor-api:step5-python

build: ./api

ports:

- "5000:5000"

environment:

- REDIS_URL=redis://redis:6379

web:

image: linkextractor-web:step5-php

build: ./www

ports:

- "80:80"

environment:

- API_ENDPOINT=http://api:5000/api/

redis:

image: redis

[node1] (local) root@192.168.0.13 ~/linkextractor

\$ docker-compose up -d --build

[+] Running 7/7

✓ redis 6 layers	[■■■■■■■■]	0B/0B	Pulled	6.6s
✓ faef57eae888	Pull complete			4.0s
✓ bb595d48e52d	Pull complete			4.1s
✓ d479b54c3bb2	Pull complete			4.2s

If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

✓ faef57eae888 Pull complete	4.0s
✓ bb595d48e52d Pull complete	4.1s
✓ d479b54c3bb2 Pull complete	4.2s
✓ 2044989c541a Pull complete	6.3s
✓ 01e4ba5495fa Pull complete	6.3s
✓ ed7a9fd4b0ea Pull complete	6.3s

[+] Building 3.8s (14/17)

[+] Building 4.1s (14/17)

[+] Building 4.7s (14/17)

[+] Building 8.6s (18/18) **FINISHED**

=> [web internal] load build definition from Dockerfile	0.0s
---	------

=> => transferring dockerfile: 196B	0.0s
-------------------------------------	------

=> [web internal] load .dockerignore	0.0s
--------------------------------------	------

=> => transferring context: 2B	0.0s
--------------------------------	------

=> [api internal] load .dockerignore	0.0s
--------------------------------------	------

=> => transferring context: 2B	0.0s
--------------------------------	------

=> [api internal] load build definition from Dockerfile	0.0s
---	------

=> => transferring dockerfile: 325B	0.0s
-------------------------------------	------

=> [web internal] load metadata for docker.io/library/php:7-apache	0.0s
--	------

=> [web internal] load build context	0.1s
--------------------------------------	------

=> => transferring context: 4.63kB	0.0s
------------------------------------	------

=> [web 1/2] FROM docker.io/library/php:7-apache	0.1s
--	------

=> [api internal] load metadata for docker.io/library/python:3	0.2s
--	------

=> [web 2/2] COPY . /var/www/html/	0.1s
------------------------------------	------

=> [api 1/6] FROM docker.io/library/python:3@sha256:d73088ce13d5a1eec1dd0	0.0s
---	------

=> [api internal] load build context	0.0s
--------------------------------------	------

If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

```
=> [web internal] load build context                                0.1s
=> => transferring context: 4.63kB                                0.0s
=> [web 1/2] FROM docker.io/library/php:7-apache                 0.1s
=> [api internal] load metadata for docker.io/library/python:3   0.2s
=> [web 2/2] COPY . /var/www/html/                               0.1s
=> [api 1/6] FROM docker.io/library/python:3@sha256:d73088ce13d5a1eec1dd0 0.0s
=> [api internal] load build context                              0.0s
=> => transferring context: 977B                                  0.0s
=> CACHED [api 2/6] WORKDIR /app                                  0.0se
=> [api 3/6] COPY requirements.txt /app/                          0.1se
=> [web] exporting to image                                       0.0st
=> => exporting layers                                           0.0s
=> => writing image sha256:47aa23a7a3184bbb5a6a3f6b1251c894e55554b1df413d 0.0s
=> => naming to docker.io/library/linkextractor-web:step5-php    0.0s
=> [api 4/6] RUN pip install -r requirements.txt                 6.7s
=> [api 5/6] COPY *.py /app/                                     0.0s
=> [api 6/6] RUN chmod a+x *.py                                  1.0s
=> [api] exporting to image                                       0.5s
=> => exporting layers                                           0.5s
=> => writing image sha256:8c7d0f89f6c2d80c7d6344d8b3a7e69b3bd71ecced29e7 0.0s
=> => naming to docker.io/library/linkextractor-api:step5-python 0.0s
[+] Running 4/4
✓ Network linkextractor_default      Crea...      0.0s
✓ Container linkextractor-web-1      Star...      0.9s
✓ Container linkextractor-redis-1    St...        0.9s
✓ Container linkextractor-api-1      Star...      0.8s
```

If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

✓ Container linkextractor-api-1 Star... 0.8s

[node1] (local) root@192.168.0.13 ~/linkextractor

\$ docker-compose exec redis redis-cli monitor

OK

^C[node1] (local) root@192.168.0.13 ~/linkextractor

\$ sed -i 's/Link Extractor/Super Link Extractor/g' www/index.php

[node1] (local) root@192.168.0.13 ~/linkextractor

\$ git reset --hard

HEAD is now at 3dbb7eb Synchronize branch step5

[node1] (local) root@192.168.0.13 ~/linkextractor

\$ docker-compose down

[+] Running 4/4

✓ Container linkextractor-api-1 Remo... 10.4s

✓ Container linkextractor-web-1 Remo... 1.5s

✓ Container linkextractor-redis-1 Re... 0.7s

✓ Network linkextractor_default Remo... 0.1s

[node1] (local) root@192.168.0.13 ~/linkextractor

\$ git checkout step6

branch 'step6' set up to track 'origin/step6'.

Switched to a new branch 'step6'

[node1] (local) root@192.168.0.13 ~/linkextractor

\$ tree

```
.
├── README.md
├── api
└── Dockerfile
```

If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

```
|   |— Dockerfile
|   |— Gemfile
|   |— linkextractor.rb
|— docker-compose.yml
|— logs
|— www
   |— Dockerfile
   |— index.php
```

4 directories, 7 files

[node1] (local) root@192.168.0.13 ~/linkextractor

\$ cat api/linkextractor.rb

```
#!/usr/bin/env ruby
```

```
# encoding: utf-8
```

```
require "sinatra"
```

```
require "open-uri"
```

```
require "uri"
```

```
require "nokogiri"
```

```
require "json"
```

```
require "redis"
```

```
set :protection, :except=>:path_traversal
```

```
redis = Redis.new(url: ENV["REDIS_URL"] || "redis://localhost:6379")
```

If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

```
redis = Redis.new(url: ENV["REDIS_URL"] || "redis://localhost:6379")
```

```
Dir.mkdir("logs") unless Dir.exist?("logs")
```

```
cache_log = File.new("logs/extraction.log", "a")
```

```
get "/" do
```

```
  "Usage: http://<hostname>[:<prt>]/api/<url>"
```

```
end
```

```
get "/api/*" do
```

```
  url = [params['splat'].first, request.query_string].reject(&:empty?).join("?")
```

```
  cache_status = "HIT"
```

```
  jsonlinks = redis.get(url)
```

```
  if jsonlinks.nil?
```

```
    cache_status = "MISS"
```

```
    jsonlinks = JSON.pretty_generate(extract_links(url))
```

```
    redis.set(url, jsonlinks)
```

```
  end
```

```
  cache_log.puts "#{Time.now.to_i}\t#{cache_status}\t#{url}"
```

```
  status 200
```

```
  headers "content-type" => "application/json"
```

```
  body jsonlinks
```

```
end
```


If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

end

```
def extract_links(url)
  links = []
  doc = Nokogiri::HTML(open(url))
  doc.css("a").each do |link|
    text = link.text.strip.split.join(" ")
    begin
      links.push({
        text: text.empty? ? "[IMG]" : text,
        href: URI.join(url, link["href"])
      })
    rescue
    end
  end
  links
end
```

[node1] (local) root@192.168.0.13 ~/linkextractor

\$ cat api/Dockerfile

```
FROM      ruby:2.6
LABEL     maintainer="Sawood Alam <@ibnesayeed>"

ENV       LANG C.UTF-8
ENV       REDIS_URL="redis://localhost:6379"

WORKDIR   /app
```

If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

```
WORKDIR      /app
COPY         Gemfile /app/
RUN          bundle install

COPY         linkextractor.rb /app/
RUN          chmod a+x linkextractor.rb

CMD          ["/linkextractor.rb", "-o", "0.0.0.0"]
[node1] (local) root@192.168.0.13 ~/linkextractor
$ cat docker-compose.yml
version: '3'
```

```
services:
```

```
  api:
    image: linkextractor-api:step6-ruby
    build: ./api
    ports:
      - "4567:4567"
    environment:
      - REDIS_URL=redis://redis:6379
    volumes:
      - ./logs:/app/logs
```

```
  web:
    image: linkextractor-web:step6-php
    build: ./www
    ports:
```

If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

ports:

- "80:80"

environment:

- API_ENDPOINT=http://api:4567/api/

redis:

image: redis

[node1] (local) root@192.168.0.13 ~/linkextractor

\$ docker-compose up -d --build

[+] Building 41.6s (18/18) FINISHED

=> [api internal] load .dockerignore 0.0s

=> => transferring context: 2B 0.0s

=> [api internal] load build definition from Dockerfile 0.0s

=> => transferring dockerfile: 373B 0.0s

=> [web internal] load .dockerignore 0.0s

=> => transferring context: 2B 0.0s

=> [web internal] load build definition from Dockerfile 0.0s

=> => transferring dockerfile: 140B 0.0s

=> [api internal] load metadata for docker.io/library/ruby:2.6 0.4s

=> [web internal] load metadata for docker.io/library/php:7-apache 0.0s

=> [web internal] load build context 0.0s

=> => transferring context: 4.57kB 0.0s

=> CACHED [web 1/2] FROM docker.io/library/php:7-apache 0.0s

=> [web 2/2] COPY . /var/www/html/ 0.1s

=> [web] exporting to image 0.0s

=> => exporting layers 0.0s

=> => writing image sha256:01e12688ffd9b1f63133ff2273b8cdd2fd8453c5501583 0.0s

If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

```
=> => writing image sha256:01e12688ffd9b1f63133ff2273b8cdd2fd8453c5501583 0.0s
=> => naming to docker.io/library/linkextractor-web:step6-php 0.0s
=> [api 1/6] FROM docker.io/library/ruby:2.6@sha256:a79c8ddb7f3d3748427e 33.0s
=> => resolve docker.io/library/ruby:2.6@sha256:a79c8ddb7f3d3748427e2d3a4 0.0s
=> => sha256:a79c8ddb7f3d3748427e2d3a45dcae6d42f1d80d9ae3 1.86kB / 1.86kB 0.0s
=> => sha256:b71cca836fff8e4f14f8575e25a157f3e253bcd1a039 7.29kB / 7.29kB 0.0s
=> => sha256:6aefca2dc61dcbcd268b8a9861e552f9cdb69e5724 54.94MB / 54.94MB 0.6s
=> => sha256:967757d5652770cfa81b6cc7577d65e06d336173da11 5.16MB / 5.16MB 0.2s
=> => sha256:771a810704167e55da8a19970c5dfa6eb795dfee3254 2.00kB / 2.00kB 0.0s
=> => sha256:c357e2c68cb3bf1e98dcb3eb6ceb16837253db7153 10.87MB / 10.87MB 0.2s
=> => sha256:32a180f5cf85702e7680719c40c39c07972b1176 196.70MB / 196.70MB 2.6s
=> => sha256:c766e27afb21eddf9ab3e4349700ebe697c32a4c6a 54.58MB / 54.58MB 1.1s
=> => sha256:ac0f2cbcefb35e4530dc103f764c05af8ab6b8a9de164b36 200B / 200B 0.7s
=> => sha256:9c8a39a9be946d172ec9cb947630763435952f1e64 21.68MB / 21.68MB 1.0s
=> => extracting sha256:6aefca2dc61dcbcd268b8a9861e552f9cdb69e57242faec64 6.6s
=> => sha256:3fdd4263cfa33c03da28ce7a8157b2861fc47ac5e335e1f0 175B / 175B 1.1s
=> => extracting sha256:967757d5652770cfa81b6cc7577d65e06d336173da116d1fb 0.6s
=> => extracting sha256:c357e2c68cb3bf1e98dcb3eb6ceb16837253db71535921d69 0.5s
=> => extracting sha256:c766e27afb21eddf9ab3e4349700ebe697c32a4c6ada6af4f 6.0s
=> => extracting sha256:32a180f5cf85702e7680719c40c39c07972b1176355df5a6 15.8s
=> => extracting sha256:ac0f2cbcefb35e4530dc103f764c05af8ab6b8a9de164b360 0.0s
=> => extracting sha256:9c8a39a9be946d172ec9cb947630763435952f1e6477b6047 1.7s
=> => extracting sha256:3fdd4263cfa33c03da28ce7a8157b2861fc47ac5e335e1f0e 0.0s
=> [api internal] load build context 0.0s
=> => transferring context: 1.30kB 0.0s
=> [api 2/6] WORKDIR /app 0.1s
```


If the commandline doesn't appear in the terminal, make sure popups are enabled or try resizing the browser window.

```
=> [api 2/6] WORKDIR      /app                                0.1s
=> [api 3/6] COPY         Gemfile /app/                        0.1s
=> [api 4/6] RUN          bundle install                      6.5s
=> [api 5/6] COPY         linkextractor.rb /app/              0.0s
=> [api 6/6] RUN          chmod a+x linkextractor.rb          1.0s
=> [api] exporting to image                                0.4s
=> => exporting layers                                    0.4s
=> => writing image sha256:e50ba52532965f95e1abaea872738938424baeab14d9c4 0.0s
=> => naming to docker.io/library/linkextractor-api:step6-ruby 0.0s
```

[+] Running 4/4

```
✓ Network linkextractor_default      Crea...          0.1s
✓ Container linkextractor-redis-1    St...           1.2s
✓ Container linkextractor-web-1      Star...          1.1s
✓ Container linkextractor-api-1      Star...          1.2s
```

[node1] (local) root@192.168.0.13 ~/linkextractor

\$ curl -i http://localhost:4567/api/http://example.com/

HTTP/1.1 200 OK

Content-Type: application/json

Content-Length: 97

X-Content-Type-Options: nosniff

Server: WEBrick/1.4.4 (Ruby/2.6.10/2022-04-12)

Date: Tue, 18 Jul 2023 16:03:28 GMT

Connection: Keep-Alive

```
[
  {
```

Connection: Keep-Alive

```
[
  {
    "text": "More information...",
    "href": "https://www.iana.org/domains/example"
  }
]
```

[node1] (local) root@192.168.0.13 ~/linkextractor

\$ tail -f logs/extraction.log

^C

[node1] (local) root@192.168.0.13 ~/linkextractor

\$ docker-compose down

[+] Running 4/4

✓ Container linkextractor-api-1	Remo...	0.5s
✓ Container linkextractor-web-1	Remo...	1.4s
✓ Container linkextractor-redis-1	Re...	0.5s
✓ Network linkextractor_default	Remo...	0.1s

[node1] (local) root@192.168.0.13 ~/linkextractor

\$ cat logs/extraction.log

1689696208 MISS http://example.com/

[node1] (local) root@192.168.0.13 ~/linkextractor

^C

[node1] (local) root@192.168.0.13 ~/linkextractor

\$ Gopal Kumar ^C

[node1] (local) root@192.168.0.13 ~/linkextractor

\$