# **★**HTTP Load Testing Practical

- ➤ How can we deploy our HTML code, CSS code, Markdown code, etc. using Apache?
- 1. System Requirement
- a) podman version 3.4.4
- b) Distributor ID: Ubuntu

**Description:** Ubuntu 22.04.3 LTS

Release: 22.04 Codename: jammy

c) Date: Mon, 23 Oct 2023 05:45:39 GMT

Server: Apache/2.4.58 (Unix)

Last-Modified: Sun, 22 Oct 2023 09:30:04 GMT

ETag: "4634-6084ac01d1f00"

Accept-Ranges: bytes Content-Length: 17972 Content-Type: text/html

## 2. Definition of Apache.

**Apache** is a popular open-source web server software that serves web pages and content to users when they visit a website. It handles incoming web requests and delivers the requested web pages to the user's browser.

- 3. System update and Upgrade.
- sudo apt update

```
himanshu@123:~/Desktop/grafana-prometheus-blackbox$ sudo apt update ade [sudo] password for himanshu:

Get:2 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]

Hit:3 http://in.archive.ubuntu.com/ubuntu jammy InRelease

Get:4 http://in.archive.ubuntu.com/ubuntu jammy-updates InRelease [119 kB]

Hit:1 https://packages.cloud.google.com/apt kubernetes-xenial InRelease

Hit:5 http://in.archive.ubuntu.com/ubuntu jammy-backports InRelease

Get:6 http://in.archive.ubuntu.com/ubuntu jammy-proposed InRelease [270 kB]

Fetched 499 kB in 2s (208 kB/s)

Reading package lists... Done

Building dependency tree... Done

Reading state information... Done

All packages are up to date.

himanshu@123:~/Desktop/grafana-prometheus-blackbox$
```

### sudo apt upgrade

```
himanshu@123:~/Desktop/grafana-prometheus-blackbox$ sudo apt upgrade

Reading package lists... Done

Building dependency tree... Done

Reading state information... Done

Calculating upgrade... Done

The following package was automatically installed and is no longer required:

libgtkglext1

#### Step 1 First, we will update and upgrade

Use 'sudo apt autoremove' to remove it.

Get more security updates through Ubuntu Pro with 'esm-apps' enabled:

libmagickcore-6.q16-dev python2.7-minimal libmagickwand-dev imagemagick

libopenexr-dev libopenexr25 libpostproc55 libmagickcore-dev

libmagickcore-6.q16-6-extra libavcodec58 libmagickwand-6.q16-6 libpython2.7

libavuti156 imagemagick-6.q16 libswscale5 libmagickcore-6-arch-config ruby-rack

libavformat58 python2.7-dev libpython2.7-dev libmagickwand-6-headers

python2.7 libpython2.7-minimal libmagickwand-6.q16-dev

libmagickcore-6-headers libpython2.7-stdlib libavfilter7

Learn more about Ubuntu Pro at https://ubuntu.com/pro

0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.

himanshu@123:~/Desktop/grafana-prometheus-blackbox$
```

#### 4. Create File and Folder

- cd Desktop
- mkdir grafana-prometheus-blackbox
- cd grafana-prometheus-blackbox

```
himanshu@123:~/Desktop/grafana-prometheus-blackbox$ 1s

10.png 13.png 16.png 19.png 21.png 24.png 27.png 2.png 32.png 35.png 5.png 8.png index.html README.pdf

11.png 14.png 17.png 1.png 22.png 25.png 28.png 30.png 33.png 3.png 6.png 9.png README.jpeg README.png

12.png 15.png 18.png 20.png 23.png 26.png 29.png 31.png 34.png 4.png 7.png Dockerfile README.md
```

#### 5. Create Dockerfile and Paste this Code

- vim Dockerfile
- Paste code in Dockerfile

FROM httpd:2.4
COPY ./ /usr/local/apache2/htdocs/

```
FROM httpd:2d4esting Practical 🌣 🗈 🛆 s
```

- vim index.html
- Here is the code of the index. Html paste it in this configuration file
   :- index.html code
  - 6. Build container
- podman build -t my-apache-image .

```
himanshu@123:~/Desktop/grafana-prometheus-blackbox$ podman build -t my-apache-image .

STEP 1/2: FROM httpd:2.4

STEP 2/2: COPY ./ /usr/local/apache2/htdocs/

COMMIT my-apache-image
--> b0975b1e11f

Successfully tagged localhost/my-apache-image:latest
b0975b1e11f37936dbc00ea15382b5251d2149e3f8158e1a3b74fa0a49e4feca
```

- podman build: This is the command to initiate the image-building process.
- **-t my-apache-image:** The -t flag is used to set the name and optionally a tag for the image being built. In this case, "my-apache-image" is the name you've given to the image. You can think of it as a user-defined name for the image.

- The dot (.) at the end of the command represents the build context. It specifies the path to the directory containing the Dockerfile for Container File and any associated files needed to build the image. In this case, it is set to the current directory, indicating that the Dockerfile for Container File is in the same directory where the podman build command is being run.
- podman images : Check Images

#### 7. Run Container

• podman run -d -p 8080:80 my-apache-image

himanshu@123:~/Desktop/grafana-prometheus-blackbox\$ podman run -d -p 8080:80 my-apache-image acc820708ebc6d825a691ab6276f8d18b7a49877574f5ea8089c85e2a1557825

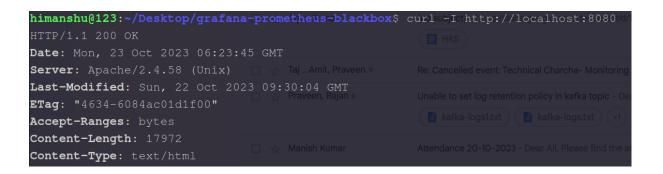
- **podman run:** This is the command to create and run a container.
- -d: The -d flag is used to run the container in detached mode. This
  means the container runs in the background, and you get your
  command prompt back in the terminal. The container continues to run
  independently.
- **-p 8080:80:** The -p flag is used to map ports between the host and the container. In this case, it is mapping port 8080 on the host to port 80 in the container. This means that you can access the Apache web server running in the container by connecting to port 8080 on your host machine. Port 80 inside the container is where the Apache web server typically listens.
- my-apache-image: This is the name of the image you want to use to create the container. The container will be based on the image named "my-apache-image."

podman ps : Check container is Running or Not .



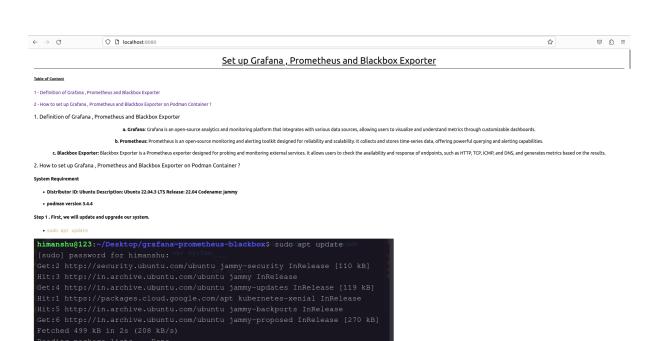
#### 8. Check Localhost

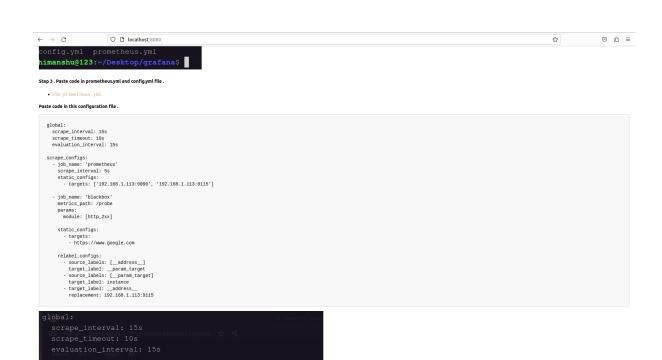
• curl -l http://localhost:8080



- **curl:** Curl is a command-line tool and library for making HTTP requests. In this case, it's being used to interact with a web server.
- -I: The -I flag instructs curl to make an HTTP HEAD request instead of a full GET request. An HTTP HEAD request only retrieves the headers of a web page, not the content. This is useful for checking the server's response headers, such as the status code and various header fields, without actually downloading the page content.
- http://localhost:8080: This is the URL to which the HTTP HEAD request is being made. In this case, it's set to http://localhost:8080, which typically corresponds to a web server running on your local machine and listening on port 8080.

#### Show on Web Browser





- The content has been written in HTML code and has been set up on Apache. Now, we will check the response of this content.
- ➤ What are HTTP responses and how many types of HTTP responses are there?

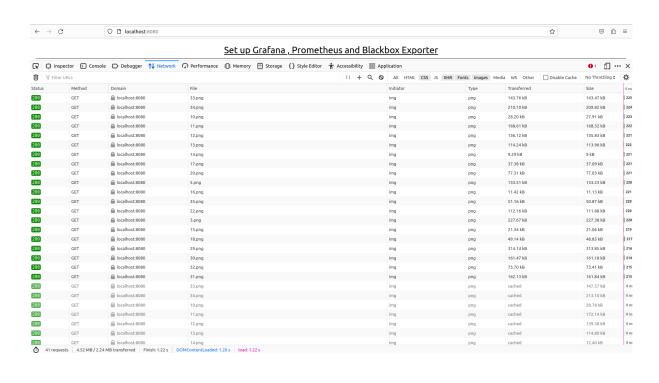
HTTP responses are messages sent by web servers to a client, like a web browser, to show the result of an HTTP request. They convey whether the request was successful ("200 OK"), encountered an error ("404 Not Found" for missing pages), or faced server problems ("500 Internal Server Error").

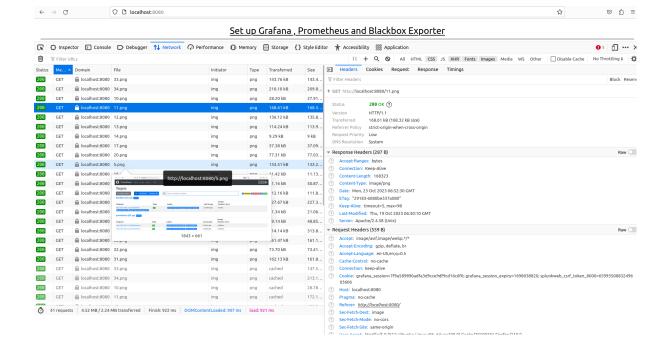
## > HTTP Responses

- After a server receives a request (like a GET request), it sends back an HTTP response.
- The response contains information about whether the request was successful and, if so, the data you requested.

### There are several common HTTP response types:

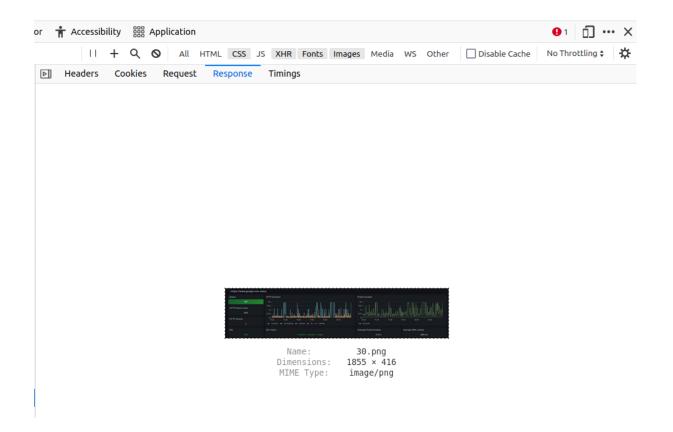
 200 OK: This means the request was successful, and the server is sending back the requested data. For example, when you load a webpage, you receive a 200 OK response along with the webpage's content.

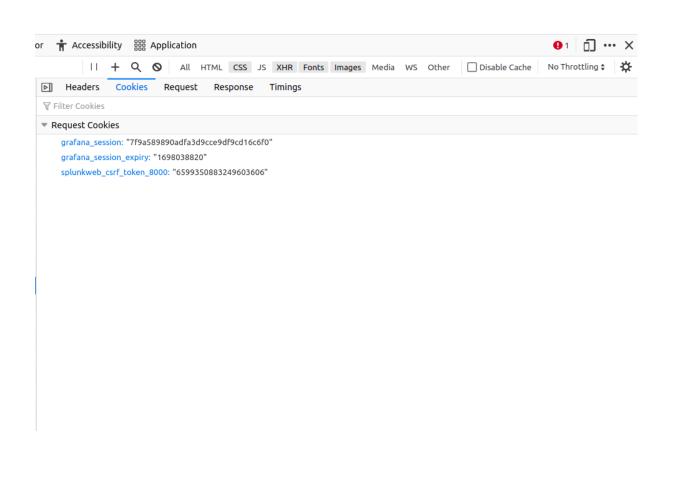






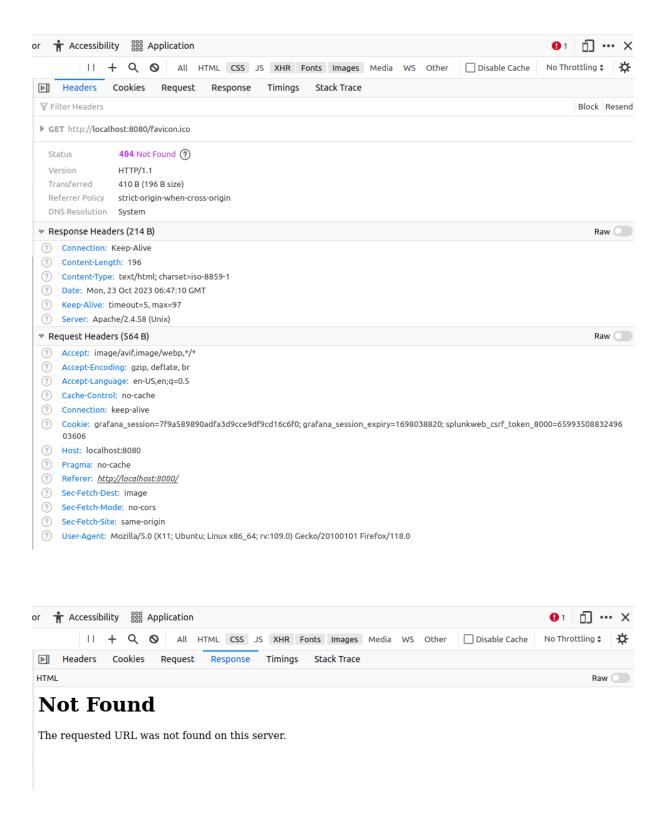
<b>□</b> Ins	pector D Conso	le Debugger 🚺 Network	Performar	
<b>□</b>				
Status	Method	Domain	File	
[200]	GET	a localhost:8080	33.png	
[200]	GET	☐ localhost:8080	34.png	
[200]	GET	a localhost:8080	10.png	
[200]	GET	a localhost:8080	11.png	
[200]	GET	☐ localhost:8080	12.png	
[200]	GET	a localhost:8080	13.png	
[200]	GET	a localhost:8080	14.png	
[200]	GET	a localhost:8080	17.png	
[200]	GET	☐ localhost:8080	20.png	
[200]	GET	a localhost:8080	5.png	
[200]	GET	☐ localhost:8080	16.png	
[200]	GET	☐ localhost:8080	35.png	
[200]	GET	☐ localhost:8080	22.png	
[200]	GET	a localhost:8080	3.png	
[200]	GET	☐ localhost:8080	15.png	
[200]	GET	☐ localhost:8080	18.png	
[200]	GET	a localhost:8080	29.png	
[200]	GET	☐ localhost:8080	30.png	
[200]	GET	a localhost:8080	32.png	
[200]	GET	a localhost:8080	31.png	
[200]	GET	a localhost:8080	33.png	
[200]	GET	a localhost:8080	34.png	
[200]	GET	a localhost:8080	10.png	
[200]	GET	a localhost:8080	11.png	
[200]	GET	a localhost:8080	12.png	
[200]	GET	a localhost:8080	13.png	
200	GET	☐ localhost:8080	14.png	





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```

**2. 404 Not Found:** This response indicates that the server couldn't find the requested resource. It's like a "page not found" error.

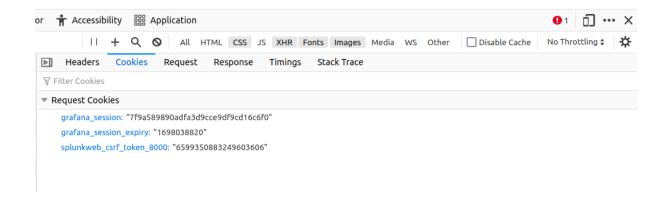


**3. 500 Internal Server Error:** This response indicates that something went wrong on the server while processing your request. It's a generic error message for server-side issues.

- **4. 301 Moved Permanently:** This is a redirection response. It tells your browser that the requested resource has moved to a new location, and it provides the new URL.
- **5. 403 Forbidden:** This means that you don't have permission to access the requested resource. It's like an "access denied" error.
- 6. 502 Bad Gateway: This response indicates that a server acting as a gateway or proxy received an invalid response from an upstream server.

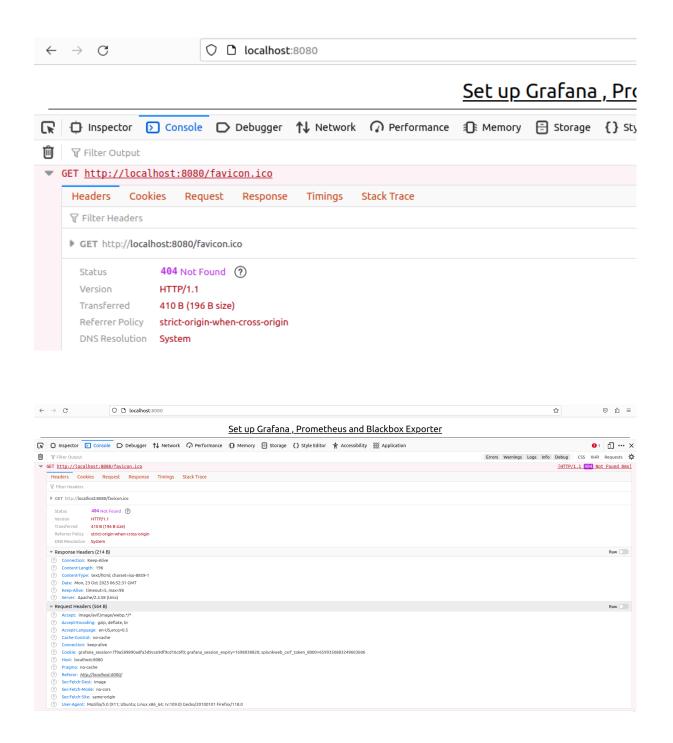
### > What are Cookies and How can they work?

**Cookies** are small pieces of data that websites store on your computer. They help websites remember information about you, like login status or preferences. When you revisit the site, your browser sends the cookie data back, so the website recognizes you without needing to log in again.



### ➤ What is Console and How can it work?

The **console** in web development is like a special tool that helps web developers find and fix problems in their websites. It's like a secret window where you can see errors, test code, and check how the website talks to the internet. It's very useful for making sure websites work correctly.



## **>** What are Common Headers ?

Common HTTP headers include **"Content-Type"** for specifying the type of data in the response, "User-Agent" to identify the client making the request, and "Authorization" for authentication. These headers help in data interpretation, client identification, and security within HTTP requests and responses.

ŗ Re	sponse Headers (287 B)	Raw 🔘
?	Accept-Ranges: bytes	
?	Connection: Keep-Alive	
?	Content-Length: 168323	
?	Content-Type: image/png	
?	Date: Mon, 23 Oct 2023 06:52:30 GMT	
?	ETag: "29183-6080be337a080"	
?	Keep-Alive: timeout=5, max=98	
?	Last-Modified: Thu, 19 Oct 2023 06:30:10 GMT	
?	Server: Apache/2.4.58 (Unix)	
ŗ Re	quest Headers (559 B)	Raw 🔘
?	Accept: image/avif,image/webp,*/*	
?	Accept-Encoding: gzip, deflate, br	
?	Accept-Language: en-US,en;q=0.5	
?	Cache-Control: no-cache	
?	Connection: keep-alive	
?	Cookie: grafana_session=7f9a589890adfa3d9cce9df9cd16c6f0; grafana_session_expiry=1698038820; splunkweb_csrf_token_8000=659935003606	8832496
?	Host: localhost:8080	
?	Pragma: no-cache	
?	Referer: http://localhost:8080/	
?	Sec-Fetch-Dest: image	
?	Sec-Fetch-Mode: no-cors	
?	Sec-Fetch-Site: same-origin	
?	User-Agent: Mozilla/5.0 (X11; Ubuntu; Linux x86_64; rv:109.0) Gecko/20100101 Firefox/118.0	