

Lab1

1-what is different http status code and explain meaning of each of them ?

1: Information

Message:	Description:
100 Continue	The server has received the request headers, and the client should proceed to send the request body
101 Switching Protocols	The requester has asked the server to switch protocols
103 Early Hints	Used with the Link header to allow the browser to start preloading resources while the server prepares a response

2: Successful

Message:	Description:
200 OK	The request is OK (this is the standard response for successful HTTP requests)
201 Created	The request has been fulfilled, and a new resource is created
202 Accepted	The request has been accepted for processing, but the processing has not been completed

203 Non-Authoritative Information	The request has been successfully processed, but is returning information that may be from another source
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204 No Content	The request has been successfully processed, but is not returning any content
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205 Reset Content	The request has been successfully processed, but is not returning any content, and requires that the requester reset the document view
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206 Partial Content	The server is delivering only part of the resource due to a range header sent by the client
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3: Redirection

Message:	Description:
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300 Multiple Choices	A link list. The user can select a link and go to that location. Maximum five addresses
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301 Moved Permanently	The requested page has moved to a new URL
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302 Found	The requested page has moved temporarily to a new URL
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303 See Other	The requested page can be found under a different URL
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304 Not Modified

Indicates the requested page has not been modified since last requested

307 Temporary Redirect

The requested page has moved temporarily to a new URL

308 Permanent Redirect

The requested page has moved permanently to a new URL

4: Client Error

Message:

Description:

400 Bad Request

The request cannot be fulfilled due to bad syntax

401 Unauthorized

The request was a legal request, but the server is refusing to respond to it. For use when authentication is possible but has failed or not yet been provided

402 Payment Required

Reserved for future use

403 Forbidden

The request was a legal request, but the server is refusing to respond to it

404 Not Found

The requested page could not be found but may be available again in the future

405 Method Not Allowed

A request was made of a page using a request method not supported by that page

406 Not Acceptable

The server can only generate a response that is not accepted by the client

407 Proxy Authentication Required

The client must first authenticate itself with the proxy

408 Request Timeout

The server timed out waiting for the request

409 Conflict

The request could not be completed because of a conflict in the request

410 Gone

The requested page is no longer available

411 Length Required

The "Content-Length" is not defined. The server will not accept the request without it

412 Precondition Failed

The precondition given in the request evaluated to false by the server

413 Request Too Large

The server will not accept the request, because the request entity is too large

414 Request-URI Too Long

The server will not accept the request, because the URI is too long. Occurs when you convert a POST request to a GET request with a long query information

415 Unsupported Media Type

The server will not accept the request, because the media type is not supported

416 Range Not Satisfiable

The client has asked for a portion of the file, but the server cannot supply that portion

417 Expectation Failed

The server cannot meet the requirements of the Expect request-header field

5: Server Error

Message:	Description:
500 Internal Server Error	A generic error message, given when no more specific message is suitable
501 Not Implemented	The server either does not recognize the request method, or it lacks the ability to fulfill the request
502 Bad Gateway	The server was acting as a gateway or proxy and received an invalid response from the upstream server
503 Service Unavailable	The server is currently unavailable (overloaded or down)
504 Gateway Timeout	The server was acting as a gateway or proxy and did not receive a timely response from the upstream server

505 HTTP Version Not Supported

The server does not support the HTTP protocol version used in the request

511 Network Authentication Required

The client needs to authenticate to gain network access

2-What database is used by Prometheus?

Prometheus includes a local on-disk time series database, but also optionally integrates with remote storage Systems

3-what is the difference between different metrics types (counter, gauge,histogram)

- Counters: The counter metric type is used for any value that increases, such as a request count or error count. Importantly, a counter should never be used for a value that can decrease. (How many events occur?)
- Gauge: The gauge metric type can be used for values that go down as well as up, such as current memory usage or the number of items in a queue. (the current state)
- Histograms: The histogram metric type measures the frequency of value observations that fall into specific predefined buckets. (how long the event take?)

4-install Prometheus on your localhost or on server in any cloud provider

```
• prometheus.service - Prometheus
  Loaded: loaded (/etc/systemd/system/prometheus.service; disabled; vendor preset: enabled)
  Active: active (running) since Mon 2023-02-20 09:36:08 UTC; 6s ago
  Main PID: 6887 (prometheus)
  Tasks: 6 (limit: 1143)
  Memory: 15.2M
  CPU: 58ms
  CGroup: /system.slice/prometheus.service
          └─6887 /usr/local/bin/prometheus --config.file /etc/prometheus/prometheus.yml --storage.tsdb.path /var/lib/prometheus/ --web.console.f
```

5-add any new target to prometheus.yaml file and apply any query on it using promql language

☐ Use local time ☐ Enable query history ☒ Enable autocomplete ☒ Enable highlighting ☒ Enable linter

Q

Expression (press Shift+Enter for newlines)

Execute

Table

Graph

<

Evaluation time

>

No data queried yet

Remove Panel

Add Panel

Targets

All Unhealthy Collapse All

Q

Filter by endpoint or labels

node-exporter (1/1 up) [show less](#)

Endpoint	State	Labels	Last Scrape	Scrape Duration	Error
http://localhost:9100/metrics	UP	instance="localhost:9100" job="node-exporter"	-21.903s ago	13.411ms	

prometheus (1/1 up) [show less](#)

Endpoint	State	Labels	Last Scrape	Scrape Duration	Error
http://localhost:9090/metrics	UP	instance="localhost:9090" job="prometheus"	-22.134s ago	4.735ms	

☐ Use local time ☐ Enable query history ☒ Enable autocomplete ☒ Enable highlighting ☒ Enable linter

Q

node_cpu_seconds_total{job="node-exporter",mode="idle"}

Table

Graph

<

Evaluation time

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node_cpu_seconds_total(cpu="0", instance="localhost:9100", job="node-exporter", mode="idle")

Add Panel