**Lab1**

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

## 1: Information

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| **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

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| **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 |
| 204 No Content | The request has been successfully processed, but is not returning any content |
| 205 Reset Content | The request has been successfully processed, but is not returning any content, and requires that the requester reset the document view |
| 206 Partial Content | The server is delivering only part of the resource due to a range header sent by the client |

3: Redirection

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| **Message:** | **Description:** |
| 300 Multiple Choices | A link list. The user can select a link and go to that location. Maximum five addresses |
| 301 Moved Permanently | The requested page has moved to a new URL |
| 302 Found | The requested page has moved temporarily to a new URL |
| 303 See Other | The requested page can be found under a different URL |
| 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

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| **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

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| --- | --- |
| **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?)

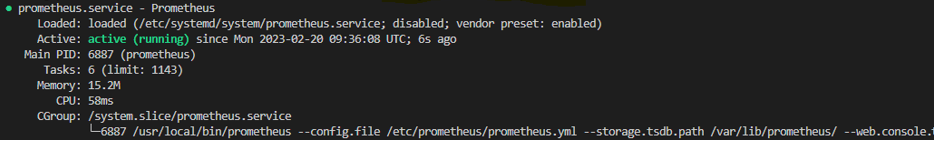
* Gauge: The gauge metric type can be used for values that go down as well as up, such as current memory

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



Graphical user interface, text, application, email

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

Graphical user interface, text, application, email

Description automatically generatedGraphical user interface, text, application

Description automatically generated