1-   What is different http status code and explain meaning of each of them?
- Informational responses $(100 - 199)$
- Successful responses $(200 - 299)$
- Redirection messages $(300 - 399)$
- Client error responses $(400 - 499)$
- Server error responses $(500 - 599)$

- 204 No Content

   There is no content to send for this request, but the headers may be useful. The user agent may update its cached headers for this resource with the new ones

- 451 Unavailable For Legal Reasons
  The user agent requested a resource that cannot legally be provided, such as a web page censored by a government
- 500 Internal Server Error

  The server has encountered a situation it does not know how to handle.

- 501 Not Implemented

  The request method is not supported by the server and cannot be handled. The only methods that servers are required to support (and therefore that must not return this code) are GET and HEAD.

- 502 Bad Gateway

  This error response means that the server, while working as a gateway to get a response needed to handle the request, got an invalid response.

- 503 Service Unavailable

  The server is not ready to handle the request. Common causes are a server that is down for maintenance or that is overloaded. Note that together with this response, a user-friendly page explaining the problem should be sent. This response should be used for temporary conditions and the Retry-After HTTP header should, if possible, contain the estimated time before the recovery of the service. The webmaster must also take care about the caching-related headers that are sent along with this response, as these temporary condition responses should usually not be cached.

- 504 Gateway Timeout

  This error response is given when the server is acting as a gateway and cannot get a response in time.

- 505 HTTP Version Not Supported

  The HTTP version used in the request is not supported by the server.

- 506 Variant Also Negotiates

The server has an internal configuration error: the chosen variant resource is configured to engage in transparent content negotiation itself, and is therefore not a proper end point in the negotiation process.

- 507 Insufficient Storage (WebDAV)

    The method could not be performed on the resource because the server is unable to store the representation needed to successfully complete the request.

- 508 Loop Detected (WebDAV)

    The server detected an infinite loop while processing the request.

- 510 Not Extended

    Further extensions to the request are required for the server to fulfill it.

- 511 Network Authentication Required

    Indicates that the client needs to authenticate to gain network access.

2-   What database is used by Prometheus?

Prometheus has a sophisticated local storage subsystem. For indexes, it uses LevelDB. For the bulk sample data, it has its own custom storage layer, which organizes sample data in chunks of constant size (1024 bytes payload). These chunks are then stored on disk in one file per time series.

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

Gauge metrics can increase or decrease. Represent a count of occurrences in a time interval. Counter metrics can only increase during the time interval. Represent a running count of occurrences, and measure the change in the value of the metric from the previous data point.

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

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