

LAB-1

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

- three-digit numbers returned by a server in response to a client's request to indicate the status of the requested resource or action.
 - 1xx (Informational): The server has received the request and is continuing to process it.
 - 2xx (Successful): The request was successfully received, understood, and accepted.
 - 3xx (Redirection): The requested resource has been moved or is temporarily unavailable, and the client should take additional action to complete the request.
 - 4xx (Client Error): The server cannot process the request due to a client error, such as a malformed request or authentication failure.
 - 5xx (Server Error): The server encountered an error while processing the request.

2-What database is used by Prometheus?

- Prometheus uses its own custom time-series database, designed for storing and querying time-series data. The database is optimized for performance and scalability, and can handle large amounts of data with high write and query throughput. The data is stored in a compressed and efficient format, and is automatically purged over time. Prometheus also provides a query language, called PromQL, for easy analysis of time-series data.

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

- metrics used to collect and analyze data from different systems and applications. Here are some of the most common types:

- Counter: A counter is a monotonically increasing value that counts the number of times an event has occurred, such as the number of requests or errors.
- Gauge: A gauge is a value that can increase or decrease over time, such as the amount of CPU usage or memory consumption.
- Histogram: A histogram is a way to track the distribution of values in a dataset, such as the response time of a web application.
- Summary: A summary is similar to a histogram, but it also provides quantiles that can help identify outliers or unusual values in the dataset.