How to improve d8 performance

Ref links
https://www.valuebound.com/resources/blog/a-beginners-guide-to-performance-optimization-drupal-8

1. Caching

What is caching?

Caching is a popular technique to optimize the website. It is a process that stores web data (HTML, CSS, Image) in some accessible space. For instance, when a user request for a web page for the first time it stores readable content or information in the cache memory and whenever viewer request the same HTTP page again it retrieves the stored data and display to users. This is how it makes loading web page fast.

There are mainly two types of caching: Client-side caching and Server side caching. Except for this two caching methods, pages can be cached in the database, **Drupal primarily cache information within its database.**

Core caching techniques of Drupal 8

Make sure **“Internal Dynamic Page Cache” and “Internal Page Cache”** are installed and enabled by default.

Internal Page Cache Module : This core module is for anonymous users. If you have an e-commerce website and you have “Add to cart” functionality for an anonymous user then this kind of caching can be done using the module. In case you don’t need this functionality then turn it off.

Internal dynamic page cache: This module is similar to Internal Page Cache and the only difference between the two is that it cache for both anonymous user and logged in user.

https://www.srijan.net/blog/the-fundamentals-of-caching-in-drupal-8

Drupal external caching technique:

- **CSS/JS Aggregation:** There is a module for CSS/JS aggregation, dubbed Advanced CSS/JS Aggregation. Drupal has its own aggregation capabilities, but AdvAgg module greatly enhances these by offering more effective approaches to file grouping, caching, and compression.
- **Varnish cache:** Varnish is a program that speeds up a website while reducing the load on the web server. You can accelerate the site performance using various other modules, such as Varnish purge and Advanced Varnish Cache.
- **Memcache:** Memcache improves Drupal application performance by moving standard caches out of the database. In Drupal 8, there are two types of Memcached modules: Memcache and Memcache Storage Have a look at how to configure Memcached modules with Drupal 8.

Use MariaDB instead of mysql

Use Nginx instead of Apache

REF THIS LINK

https://www.valuebound.com/resources/blog/a-beginners-guide-to-performance-optimization-drupal-8

https://wp-rocket.me/blog/varnish-http-cache-server/

```
// Don't cache this page.

$content['#cache']['max-age'] = 0;
```