# MERN Stack Assignment 5

## 1.Apart from MERN Stack, what other stacks are you familiar with?

A Stack refers to any combination of programming languages and technologies or a combination of software products. MERN Stack is a popular and powerful stack to work in. Apart from MERN Stack, these are stacks I'm familiar with:
1. MEAN (MongoDB, Express.js, AngularJS, Node.js)
2. MEVN (MongoDB, Express.js, Vue, Node.js)
3. LAMP (Linux, Apache, MySQL, PHP)
4. The Lightweight Stack (Java + Spring)

## 2.In Express JS, what do you mean by middleware?

Express.js is a routing and middleware framework for handling the different routing of the webpage and it works between the request and response cycle. Middleware literally means anything we put in the middle of one layer of the software and another. Middleware gets executed after the server receives the request and before the controller actions send the response. Middleware has the access to the request object, responses object, and next it can process the request before the server send a response.

## 3. What exactly do you mean when you say "sharding"?

The word "shard" means "a small part of a whole". Therefore, sharding means dividing a larger part into smaller parts. Sharding helps the system to keep data into different resources according to the sharding process. Sharding makes the database smaller, faster, easily manageable and it also reduces the transaction cost of the database.

**4.Describe a few examples Where can the MERN Stack be used?**

MERN Stack is a collection of technologies that enables faster application development. MERN Stack is ideal for cloud-based projects where you require intensive JSON and dynamic web interfaces. MERN Stack is widely used to build web applications which involves workflow management, News aggregation, To-do apps and Calendars, Interactive forums, social products etc.

**5.What do you mean when you say "threads"?**

A thread of execution is simply called as a thread. Thread is nothing but a set of instructions to be executed by the CPU. A thread is a component of a process. Every process has one or more threads.

1. **Single threaded:**

   Single threaded means that a process is designed to have only one thread of execution. This means only one set of instructions executes at once.

2. **Multi-threaded:**

   Multi-threaded means that a process has two or more threads. So, it can execute multiple instructions simultaneously. Several instructions can run at a time.