# Node JS Questions

## 1. What is Node.js?

Node.js is a back-end JavaScript runtime environment. It is an open source, platform-independent runtime JavaScript environment that executes JavaScript code on Server. It is built on the V8 Chrome JavaScript engine.

## 2. List the uses of Node.js.

Single-page applications like Gmail, Twitter that run on JavaScript with Node.js as backend. Real-time chat, messaging, or online games. Applications that require immediate, real-time answers utilize Node.js.

## 3. Compare other popularly used frameworks with Node.js.?

Node.js distinguishes itself from other server-side frameworks or technologies such as Ruby on Rails, Java, PHP, and.net by utilizing asynchronous I/O and single-thread event-driven programming. JavaScript programming abilities may be used by developers to create server-side apps.

## 4. List functionalities of some of the Node.js core modules.?

The Node.js HTTP server is created using the classes, events, and methods of the HTTP module. URL includes techniques for URL resolution and parsing. Path includes methods to deal with file paths, while the fs module has classes, events, and methods that deal with file I/O.

## 5. Differentiate between Angular and Node.js?

Angular supports mobile browser and Node.js is used in designing

Android application with Android JS. Node.js are based on asynchronous, event driven non-blocking I/O applications and Angular utilizes objects and directives

6. **Explain Event-driven programming.?**
   Events are programs that are dependent on how users interact with a graphical user interface, such as hitting a submit button, choosing an option from a radio button, inputting text into a text field, or uploading an image file. A method that is called is an event handler or listener, which can also be a callback. It uses user input as parameters and does various activities in response to user and browser actions, such as page load and HTML page popup.

7. **Explain Event Loop in Node.js.?**
   Event Loop is a technology that enables Node.js to continue uninterruptedly executing I/O operations to the system kernel. Node.js starts an event loop that handles input script processing async API requests, call process. Event loop processing is followed by nextTick() or scheduling timers.

8. **Describe NPM and its functionality in Node.js?** More than 350,000 JavaScript libraries are available in the Node Package Manager (NPM), an online resource that may be used to easily create Node.js projects and effective apps. It is a command line tool that provides inversion and dependency support for an online repository.

9. **Explain REPL with context to Node.js?**
   A computer's REPL environment is where the system replies to a command by producing an output. There are some task like read, eval, print, loop.
10. **What is the difference between setImmediate() and setTimeout()?**

After procedure, setTimeout() is called. After the current code has run and before any I/O events, use nextTick(). setTimeout() schedules script execution to begin once a minimum threshold of milliseconds has passed. After setTimeout(), setImmediate() is run, and the callback is added to the check queue for the following event loop cycle. The event loop's check handler phase is where this command is handled. Following the conclusion of the current poll phase, setImmediate() runs script.

## 11. How Crypto is used in Node.js??

The hash, HMAC, cipher, decode, sign, and verify functions of OpenSSL are contained in the Node.js crypto module. The crypto module developed an algorithm that is used for data encryption and decryption as well as for securely storing encrypted passwords in databases.

## 12. How assert is used in Node.js??

Node.js Function assertion uses assert modules. The assert function checks invariants and outputs nothing if the condition is met; otherwise, the console displays an assertion error.

## 13. How DNS module is used in Node.js??

Functionalities like Domain Name System (DNS) lookup and operating system name resolution employ the DNS module. A website address is like DNS. As an illustration, www.yahoo.com is transformed into an IP Address (202.165.107.50).

## 14. Explain package.json file of Node.js?

Package.json is a JSON file found in the Node.js root directory that holds information on projects such as their description, version, distribution, licensing, end-user configuration, and npm. This file manages dependencies, identifies the project, and informs npm of the project's metadata values.

### 15. Explain Buffer class in Node.js?

The Node.js buffer class offers a method for controlling binary data streams.JavaScript does not accept binary data, in contrast to Unicode. To process TCP streams or file systems, it is important to handle octet streams.

## MongoDB Questions

### 1. What is MongoDB?

A C++-based NoSQL database, MongoDB is free and open-source. It employs documents that resemble JSON and optional schemas. It is a cross-platform, document-oriented database that offers simple scalability.

MongoDB operates on the Collection and Document concepts. It incorporates features like secondary indexes, range queries, sorting, aggregations, and geographic indexes along with the capacity to scale out.

2. **What are some of the advantages of MongoDB?.** MongoDB enables field, range-based, and string pattern matching queries. to search the database's data. MongoDB supports main and secondary indexes on any field. MongoDB mostly use JavaScript objects in place of procedures. MongoDB employs a dynamic database structure. MongoDB is incredibly simple to scale up or down.

3. **What is a Collection in MongoDB?**

In MongoDB, a collection is a group of documents. If a document is the MongoDB equivalent of a row in a relational database, then a collection is the MongoDB equivalent of a table.

## 4. What are Databases in MongoDB?

MongoDB groups collections into databases. MongoDB can host several databases, each grouping together collections. And they are - Admin, local, config.

## 5. How do you Delete a Document?

MongoDB's CRUD API has deleteOne() and deleteMany() functions for this purpose. The first parameter for both of these methods is a filter document. The filter sets a set of criteria against which documents will be removed.