

1. What is Express?

Express is a widely-used web application framework for Node.js, designed to simplify the development of server-side applications and APIs. It provides a streamlined approach to building web servers by offering a range of features for routing, middleware management, and request handling. With Express, developers can efficiently set up server endpoints, process incoming requests, and send responses, making it easier to create robust and scalable web applications.

2. What is the role of Request and Response in creating routes in Express?

In Express, the `Request` and `Response` objects are fundamental for handling HTTP routes. The `Request` object represents the incoming HTTP request from the client, containing vital information such as request parameters, query strings, headers, and the body of the request. This allows the server to access and process data sent by the client. The `Response` object, on the other hand, is used by the server to send back a response to the client. It provides methods to set status codes, headers, and response data, enabling developers to customize the server's reply according to the request received. Together, these objects facilitate the dynamic interaction between the client and server within Express routes.

3. Discuss the difference between GET and POST methods.

The `GET` and `POST` methods are essential HTTP methods used for different types of interactions with web resources. The `GET` method is used to request data from a server without modifying any resources, making it ideal for retrieving and displaying information. It is idempotent, meaning that multiple identical requests should have the same effect as a single request. Conversely, the `POST` method is used to submit data to the server, often resulting in changes or creation of resources, such as adding new records or updating existing ones. Unlike `GET`, `POST` is not idempotent; multiple identical requests may produce different results or side effects. Thus, `GET` is used for fetching data, while `POST` is used for sending data to the server for processing.