ANSWER 2-

Web APIs, or Application Programming Interfaces, are sets of rules and protocols that enable different software applications to communicate and interact with each other. In the context of the web, Web APIs are interfaces provided by web servers or web browsers that allow developers to access and manipulate web-based services and resources. Web APIs define a set of endpoints (URLs) and methods (such as GET, POST, PUT, DELETE) that developers can use to perform specific operations or retrieve data from a server.

These APIs follow certain standards and conventions to ensure interoperability between different systems. Web APIs serve as a bridge between client-side applications (such as web browsers or mobile apps) and server-side systems, enabling them to exchange data and perform actions. They allow developers to access various functionalities and services, including:

Retrieving data: Web APIs provide a way to request and retrieve data from a server. For example, an API for a weather service might provide a method to fetch the current weather information for a specific location.

Manipulating data: Web APIs allow developers to modify or update data on a server. For instance, an API for a social media platform might provide methods to create new posts, update user profiles, or delete comments.

Integration with third-party services: Many Web APIs are designed to enable integration with external services or platforms. For example, payment gateways often offer APIs that allow developers to process transactions within their own applications.

Authentication and authorization: Web APIs often include mechanisms for user authentication and authorization, ensuring that

only authorized users can access certain resources or perform specific actions.

Real-time communication: Some Web APIs facilitate real-time communication between client and server, enabling features like live chat, real-time updates, or collaborative editing.

Web APIs are crucial for building web applications that leverage external services, access data from different sources, or provide functionalities beyond the capabilities of the client-side application. They provide a standardized and structured way for applications to interact and exchange information, enabling developers to create powerful and interconnected web experiences