

Source: [What Is an API, and How Do Developers Use Them? \(howtogeek.com\)](http://howtogeek.com)

- **Analogy:** API (application programming interface) is like a menu in a restaurant
 - list of dishes with descriptions of the dishes → API has list of operations with their descriptions
- APIs allow developers to save time by taking advantage of a platform's implementation (reduces amount of code and creates consistency)
- **Examples**
 - If you want to embed a web browser to show one or more web pages → use the WKWebView API to embed a WebKit (Safari) browser object in your application
 - If you want to capture photos or video from the iPhone's camera → use the camera API to embed the iPhone's built-in camera in your app
 - NOTE: when Apple improves the camera API, all the apps that rely on it will take advantage of that improvement automatically
 - Dialog box on Windows
 - Support fingerprint authentication on Android
 - When a website wants access to your exact physical location, the only way they can get it is via the location API

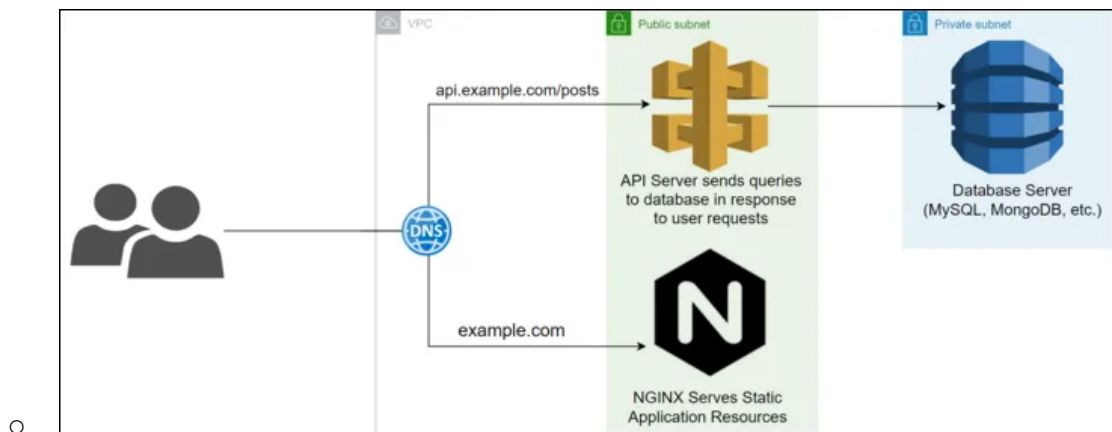
Source: [API Documentation Made Easy with OpenAPI & Swagger](#)

- The better the interface that's used to consume APIs, the higher the chance of achieving your objectives
- "API documentation is the information that is required to successfully consume and integrate with an API."
 - Clear & concise documentation lets consumers of your API easily adopt it into their apps
 - Documentation is a major part of the overall user experience
- **Challenges**
 - APIs evolve rapidly during development cycles
 - Can be difficult to maintain and update documentation
 - Facilitating interaction between multiple web services → communication can be difficult

- Swagger Specification → OpenAPI Specification
 - Ability to help streamline the documentation for RESTful APIs
 - Generating documentation for your API
 - Helps better visualize APIs
 - The SwaggerUI has interactivity so consumers can get comfortable with it before using it in their code base

Source: [How Do You Build an API Server? \(howtogeek.com\)](https://howtogeek.com)

- Example: A web app that needs to connect to a database and fetch data (like posts made by users). Users can't connect directly to the database (security flaw), so you need a server in the middle that takes requests from the user, interprets them, then securely queries the database to get the information.



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- The client side JavaScript application will make a request to the API server, which will handle it from there
- “You can create API servers with any language---all you need is the ability to listen to and respond to HTTP requests, and the ability to connect to a database”
- Can set up server with Express.JS
 - Web application framework that runs on Node (server-side JavaScript)
- Connecting a database
 - Install the Node.JS driver for your database
 - Give connection details to Express
 - Connect to it like you would from normal JavaScript (or whatever other language you're using to build your API server)