



API

What is an API?

An API (Application Programming Interface) is a set of rules that allows different software applications to communicate and share data. It abstracts the complexity of underlying systems, providing a standardized interface for integration.

Example

For instance, a mapping app uses a maps API to fetch and display location data. The API handles the data retrieval, allowing the app to show maps without directly accessing map databases.





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How are HTTP status codes categorized in APIs, and what are some examples of each category?





API

1xx (Informational):

- 100 Continue: The initial part of a request has been received and the client should continue with the request.
- 102 Processing: The server has received and is processing the request, but no response is available yet.





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2xx (Successful):

- **200 OK:** The request was successful, and the server has returned the requested data.
- **201 Created:** The request was successful, and a new resource was created.
- **204 No Content:** The request was successful, but there is no content to return.
- **205 Reset Content:** The server successfully processed the request, and the client should reset the view.
- **206 Partial Content:** The server is delivering only part of the resource due to a range header sent by the client.





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3xx (Redirection):

- **301 Moved Permanently:** The resource has been permanently moved to a new URL.
- **302 Found:** The resource has been temporarily moved to a different URL.
- **307 Temporary Redirect:** The resource has been temporarily moved to a different URL, and the client should use the same method for future requests.
- **308 Permanent Redirect:** The resource has been permanently moved to a new URL, and future requests should use this URL.





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4xx (Client Error):

- **400 Bad Request:** The server could not understand the request due to invalid syntax.
- **401 Unauthorized:** Authentication is required, or the provided credentials are invalid.
- **403 Forbidden:** The server understands the request but refuses to authorize it.
- **404 Not Found:** The requested resource could not be found on the server.
- **408 Request Timeout:** The server timed out waiting for the request from the client.
- **429 Too Many Requests:** The user has sent too many requests in a given amount of time.





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5xx (Server Error):

- **500 Internal Server Error:** The server encountered an unexpected condition that prevented it from fulfilling the request.
- **502 Bad Gateway:** The server received an invalid response from an upstream server.
- **503 Service Unavailable:** The server is currently unable to handle the request due to temporary overload or maintenance.
- **504 Gateway Timeout:** The server did not receive a timely response from an upstream server.

