HTTP error status codes provide information about the outcome of an HTTP request. They are grouped into five categories based on the nature of the response:

1. **1xx (Informational Responses)**: These status codes indicate that the server has received the request and is continuing to process it. These are rare and not commonly used in APIs.
   * **100 Continue**: The server has received the request headers, and the client should proceed to send the request body.
   * **101 Switching Protocols**: The server is switching protocols as requested by the client.
2. **2xx (Success Responses)**: These codes indicate that the client’s request was successfully received, understood, and accepted.
   * **200 OK**: The request was successful, and the server returned the requested data.
   * **201 Created**: The request has been fulfilled, and a new resource has been created.
   * **202 Accepted**: The request has been accepted for processing, but the processing is not complete.
   * **204 No Content**: The request was successful, but no content is being returned (often used for DELETE requests).
3. **3xx (Redirection Responses)**: These codes indicate that the client must take additional actions to complete the request (usually a URL redirection).
   * **301 Moved Permanently**: The requested resource has been permanently moved to a new URL.
   * **302 Found**: The requested resource is temporarily located at a different URL.
   * **304 Not Modified**: The resource has not been modified since the last request, often used in caching mechanisms.
4. **4xx (Client Error Responses)**: These codes indicate that the client made an error in the request.
   * **400 Bad Request**: The server cannot process the request due to client-side errors, such as invalid syntax or missing parameters.
   * **401 Unauthorized**: Authentication is required, and the request has not been authenticated. This is common in secure APIs.
   * **403 Forbidden**: The server understands the request but refuses to authorize it. The client does not have permission to access the resource.
   * **404 Not Found**: The server could not find the requested resource. This happens when the URL or resource does not exist.
   * **405 Method Not Allowed**: The HTTP method (e.g., GET, POST, PUT) is not allowed for the requested resource.
   * **408 Request Timeout**: The server timed out waiting for the request from the client.
   * **429 Too Many Requests**: The client has sent too many requests in a given amount of time (rate-limiting).
5. **5xx (Server Error Responses)**: These codes indicate that the server encountered an error while processing the request.
   * **500 Internal Server Error**: A generic error message indicating that something went wrong on the server but no specific details are available.
   * **501 Not Implemented**: The server does not support the functionality required to fulfill the request.
   * **502 Bad Gateway**: The server, while acting as a gateway or proxy, received an invalid response from the upstream server.
   * **503 Service Unavailable**: The server is currently unavailable (overloaded or down for maintenance).
   * **504 Gateway Timeout**: The server, while acting as a gateway or proxy, did not receive a timely response from the upstream server.
   * **505 HTTP Version Not Supported**: The server does not support the HTTP version used in the request.

**Key Client Error Codes:**

* **400 Bad Request**: Common for malformed JSON or invalid parameters.
* **401 Unauthorized**: Missing or incorrect authentication tokens.
* **403 Forbidden**: Insufficient permissions to access the resource.
* **404 Not Found**: The requested URL or resource doesn't exist.
* **429 Too Many Requests**: The API rate limit has been exceeded.

**Key Server Error Codes:**

* **500 Internal Server Error**: A generic server error, often caused by an unexpected issue on the server.
* **502 Bad Gateway**: Used when a proxy server gets an invalid response from the upstream server.
* **503 Service Unavailable**: Indicates temporary downtime or maintenance on the server.
* **504 Gateway Timeout**: The server acting as a gateway times out waiting for a response.

Each status code provides a clear indication of where the problem occurred, whether it's on the client side (4xx) or the server side (5xx), and allows developers to troubleshoot issues accordingly.