**HTTP Response Status Codes**

HTTP status codes are issued by a server in response to a client's request and indicate the result of the request. These codes are grouped into categories based on their purpose and meaning.

**Categories of Status Codes**

| **Category** | **Range** | **Meaning** |
| --- | --- | --- |
| **1xx** | 100–199 | Informational: Request received, continuing process. |
| **2xx** | 200–299 | Success: The request was successfully received, understood, and accepted. |
| **3xx** | 300–399 | Redirection: The client must take additional action to complete the request. |
| **4xx** | 400–499 | Client Error: The request contains bad syntax or cannot be fulfilled. |
| **5xx** | 500–599 | Server Error: The server failed to fulfill a valid request. |

**Common HTTP Status Codes by Category**

**1xx Informational**

1xx codes are rarely used in practice and are mainly relevant during intermediate stages of request handling.

| **Code** | **Description** | **Meaning** |
| --- | --- | --- |
| **100** | Continue | The server received the initial request part; the client should continue. |
| **101** | Switching Protocols | The server agrees to switch to a different protocol as requested by the client. |
| **102** | Processing (WebDAV) | The server has received and is processing the request but no response is available yet. |

**2xx Success**

Indicates that the request was successfully processed.

| **Code** | **Description** | **Meaning** |
| --- | --- | --- |
| **200** | OK | The request was successful, and the response contains the requested data. |
| **201** | Created | The request was successful, and a new resource was created. |
| **202** | Accepted | The request has been accepted but not yet processed. |
| **204** | No Content | The server successfully processed the request, but no content is returned. |
| **206** | Partial Content | The server is delivering only part of the resource due to a range header. |

**3xx Redirection**

Indicates that further action is needed by the client to complete the request.

| **Code** | **Description** | **Meaning** |
| --- | --- | --- |
| **301** | Moved Permanently | The requested resource has been permanently moved to a new URI. |
| **302** | Found | The requested resource resides temporarily at a different URI. |
| **304** | Not Modified | The requested resource has not been modified; the client can use cached data. |
| **307** | Temporary Redirect | The resource is temporarily moved to another URI; the method should not change. |
| **308** | Permanent Redirect | The resource is permanently moved to another URI; the method should not change. |

**4xx Client Errors**

Indicates an error caused by the client (e.g., bad input, unauthorized access).

| **Code** | **Description** | **Meaning** |
| --- | --- | --- |
| **400** | Bad Request | The server cannot process the request due to client-side syntax errors. |
| **401** | Unauthorized | Authentication is required and has failed or not been provided. |
| **403** | Forbidden | The client is authenticated but does not have permission to access the resource. |
| **404** | Not Found | The requested resource does not exist on the server. |
| **405** | Method Not Allowed | The HTTP method used is not allowed for the requested resource. |
| **409** | Conflict | The request could not be completed due to a conflict with the current state of the resource. |
| **413** | Payload Too Large | The request entity is larger than the server is willing or able to process. |
| **429** | Too Many Requests | The client has sent too many requests in a given amount of time (rate limiting). |

**5xx Server Errors**

Indicates an error caused by the server when it fails to process a valid request.

| **Code** | **Description** | **Meaning** |
| --- | --- | --- |
| **500** | Internal Server Error | The server encountered an unexpected condition that prevented it from fulfilling the request. |
| **501** | Not Implemented | The server does not support the requested functionality. |
| **502** | Bad Gateway | The server received an invalid response from an upstream server. |
| **503** | Service Unavailable | The server is temporarily unable to handle the request due to maintenance or overload. |
| **504** | Gateway Timeout | The server did not receive a timely response from an upstream server. |
| **505** | HTTP Version Not Supported | The server does not support the HTTP version used in the request. |

**Common Use Cases**

**1. 200 OK**

**Use Case**:

* Fetching user data from an API. **Example**:

GET /users/1 HTTP/1.1

Host: api.example.com

**Response**:

{

"id": 1,

"name": "John Doe"

}

**2. 201 Created**

**Use Case**:

* Creating a new resource in a database. **Example**:

POST /users HTTP/1.1

Host: api.example.com

Content-Type: application/json

{

"name": "Jane Doe"

}

**Response**:

HTTP/1.1 201 Created

Location: /users/2

**3. 404 Not Found**

**Use Case**:

* When a client requests a non-existent resource. **Example**:

GET /users/999 HTTP/1.1

Host: api.example.com

**Response**:

HTTP/1.1 404 Not Found

**4. 401 Unauthorized**

**Use Case**:

* When authentication is required but not provided. **Example**:

GET /protected/resource HTTP/1.1

Host: api.example.com

**Response**:

HTTP/1.1 401 Unauthorized

**5. 500 Internal Server Error**

**Use Case**:

* When a server encounters an unexpected error. **Example**:

GET /users HTTP/1.1

Host: api.example.com

**Response**:

HTTP/1.1 500 Internal Server Error