

# PHP Curl

## What is PHP cURL?

**PHP cURL** (Client URL) is a library that allows PHP to send and receive data through URLs. It's used to make HTTP requests to interact with APIs, websites, or other servers.

With **cURL**, you can:

- Make **GET, POST, PUT, DELETE, or PATCH** requests.
- Send **data** to APIs (like JSON or form data).
- **Receive responses** from other servers (like API data).

## How Does PHP cURL Work?

The **cURL library** opens a connection to a URL, sends a request, and captures the response. This is very useful for interacting with **APIs**.

## Why Use cURL?

- To **consume REST APIs** (like retrieving weather info or sending payment requests).
- To **scrape websites** (gather content from a web page).
- To **test APIs** by sending different types of requests.

### Basic Example: GET Request Using cURL

This example makes a **GET** request to a URL and displays the response.

```
<?php
// Initialize cURL
$ch = curl_init();
// Set the URL
curl_setopt($ch, CURLOPT_URL,
"https://jsonplaceholder.typicode.com/posts");
// Set the option to return the response as a string
curl_setopt($ch, CURLOPT_RETURNTRANSFER, true);

// Execute the request
$response = curl_exec($ch);
// Close the cURL session
curl_close($ch);
// Display the response
echo $response;
?>
```

#### Explanation:

1. **curl\_init()**: Initializes a new cURL session.
2. **curl\_setopt()**: Sets options like the URL and how the response should be handled.
3. **curl\_exec()**: Executes the request and stores the response.
4. **curl\_close()**: Closes the session to free up resources.
5. **echo \$response;**: Displays the server's response.

### Example: POST Request Using cURL

This example sends data to a server using **POST**.

```
<?php
// Initialize cURL
$ch = curl_init();
// Set the URL and other options
curl_setopt($ch, CURLOPT_URL, "https://jsonplaceholder.typicode.com/posts");
curl_setopt($ch, CURLOPT_POST, true); // Set request to POST
curl_setopt($ch, CURLOPT_RETURNTRANSFER, true);
// Set the data to send
$data = json_encode([
    "title" => "Test Post",
    "body" => "This is a test",
    "userId" => 1]);
curl_setopt($ch, CURLOPT_POSTFIELDS, $data);
// Set headers
curl_setopt($ch, CURLOPT_HTTPHEADER, [
    "Content-Type: application/json",
    "Content-Length: " . strlen($data)
]);
// Execute the request
$response = curl_exec($ch);
// Close cURL
curl_close($ch);
// Display the response
echo $response;
?>
```

### Explanation:

- This **POST** request sends a JSON object with the title, body, and userId to the server.

## Summary

**PHP cURL** is a powerful tool to send HTTP requests from your PHP scripts. It helps:

- **Consume REST APIs** (like sending or retrieving data).
- **Interact with servers** programmatically (like logging in or sending form data).
- **Test APIs** by making GET, POST, or other requests.