

JSON PHP

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A common use of JSON is to read data from a web server, and display the data in a web page.

This chapter will teach you how to exchange JSON data between the client and a PHP server.

The PHP File

PHP has some built-in functions to handle JSON.

Objects in PHP can be converted into JSON by using the PHP function `json_encode()` :

PHP file

```
<?php
$myObj->name = "John";
$myObj->age = 30;
$myObj->city = "New York";

$myJSON = json_encode($myObj);

echo $myJSON;
?>
```

[Show PHP file »](#)

example above:

Example

Use `JSON.parse()` to convert the result into a JavaScript object:

```
const xmlhttp = new XMLHttpRequest();
xmlhttp.onload = function() {
  const myObj = JSON.parse(this.responseText);
  document.getElementById("demo").innerHTML = myObj.name;
}
xmlhttp.open("GET", "demo_file.php");
xmlhttp.send();
```

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PHP Array

Arrays in PHP will also be converted into JSON when using the PHP function `json_encode()` :

PHP file

```
myJSON = JSON_encode($myArr);
```

```
echo $myJSON;
```

```
?>
```

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The Client JavaScript

Here is a JavaScript on the client, using an AJAX call to request the PHP file from the array example above:

Example

Use `JSON.parse()` to convert the result into a JavaScript array:

```
var xmlhttp = new XMLHttpRequest();
xmlhttp.onload = function() {
    const myObj = JSON.parse(this.responseText);
    document.getElementById("demo").innerHTML = myObj[2];
}
xmlhttp.open("GET", "demo_file_array.php", true);
xmlhttp.send();
```

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PHP Database

PHP is a server side programming language, and can be used to access a database.

Imagine you have a database on your server, and you want to send a request to it from the client where you ask for the 10 first rows in a table called "customers".

On the client, make a JSON object that describes the numbers of rows you want to return.

Example

Use `JSON.stringify()` to convert the JavaScript object into JSON:

```
const limit = {"limit":10};
const dbParam = JSON.stringify(limit);
xmlhttp = new XMLHttpRequest();
xmlhttp.onload = function() {
    document.getElementById("demo").innerHTML = this.responseText;
}
xmlhttp.open("GET","json_demo_db.php?x=" + dbParam);
xmlhttp.send();
```

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Example explained:

- Define an object containing a "limit" property and value.
- Convert the object into a JSON string.
- Send a request to the PHP file, with the JSON string as a parameter.
- Wait until the request returns with the result (as JSON)
- Display the result received from the PHP file.

Take a look at the PHP file:

PHP file

```
<?php
header("Content-Type: application/json; charset=UTF-8");
$obj = json_decode($_GET["x"], false);

$conn = new mysqli("myServer", "myUser", "myPassword", "Northwind");
$stmt = $conn->prepare("SELECT name FROM customers LIMIT ?");
$stmt->bind_param("s", $obj->limit);
$stmt->execute();
$result = $stmt->get_result();
$outp = $result->fetch_all(MYSQLI_ASSOC);
```

PHP File explained:

- Convert the request into an object, using the PHP function `json_decode()` .
- Access the database, and fill an array with the requested data.
- Add the array to an object, and return the object as JSON using the `json_encode()` function.

Use the Data

Example

```
xmlhttp.onload = function() {  
  const myObj = JSON.parse(this.responseText);  
  let text = "";  
  for (let x in myObj) {  
    text += myObj[x].name + "<br>";  
  }  
  document.getElementById("demo").innerHTML = text;  
}
```

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PHP Method = POST

When sending data to the server, it is often best to use the HTTP `POST` method.

To send AJAX requests using the `POST` method, specify the method, and the correct header.

The data sent to the server must now be an argument to the `send()` method:

Example

```
const myObj = JSON.parse(this.responseText);
let text = "";
for (let x in myObj) {
  text += myObj[x].name + "<br>";
}
document.getElementById("demo").innerHTML = text;
}
xmlhttp.open("POST", "json_demo_db_post.php");
xmlhttp.setRequestHeader("Content-type", "application/x-www-form-urlencoded");
xmlhttp.send("x=" + dbParam);
```

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The only difference in the PHP file is the method for getting the transferred data.

PHP file

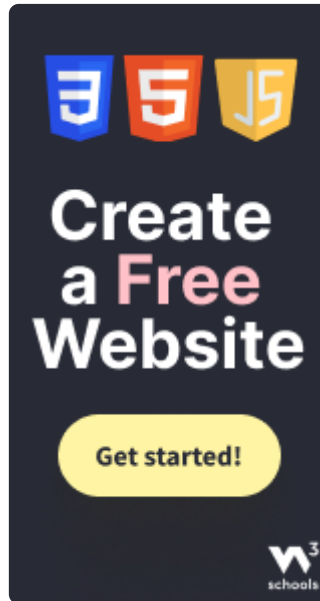
Use \$_POST instead of \$_GET:

```
<?php
header("Content-Type: application/json; charset=UTF-8");
$obj = json_decode($_POST["x"], false);

$conn = new mysqli("myServer", "myUser", "myPassword", "Northwind");
$stmt = $conn->prepare("SELECT name FROM customers LIMIT ?");
$stmt->bind_param("s", $obj->limit);
$stmt->execute();
$result = $stmt->get_result();
$outp = $result->fetch_all(MYSQLI_ASSOC);

echo json_encode($outp);
?>
```

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