JSON Object()

- **Enclose Objects in `{}`:**
JSON objects are wrapped in curly braces.({} এর ভিতরে থাকবে।)

- **Key-Value Pairs (ডাটা {} এর ভিতরে key-value pair এ থাকবে।)**

  - Keys must always be **strings** (in double quotes).(key অবশ্যই string এ থাকবে।)
  - Values can be a string, number, boolean, `null`, another object, or an array.

- **Use Double Quotes: .(string অবশ্যই “ ” এ থাকবে।)**
Strings and keys must be enclosed in **double quotes**

- **Commas Separate Pairs:**
Use commas between key-value pairs, but **no trailing comma** after the last pair.

- **Arrays in `[]`:.(array অবশ্যই [] এ থাকবে।)**
Arrays are enclosed in square brackets, and elements can be of any JSON type.

- **Valid Data Types:**

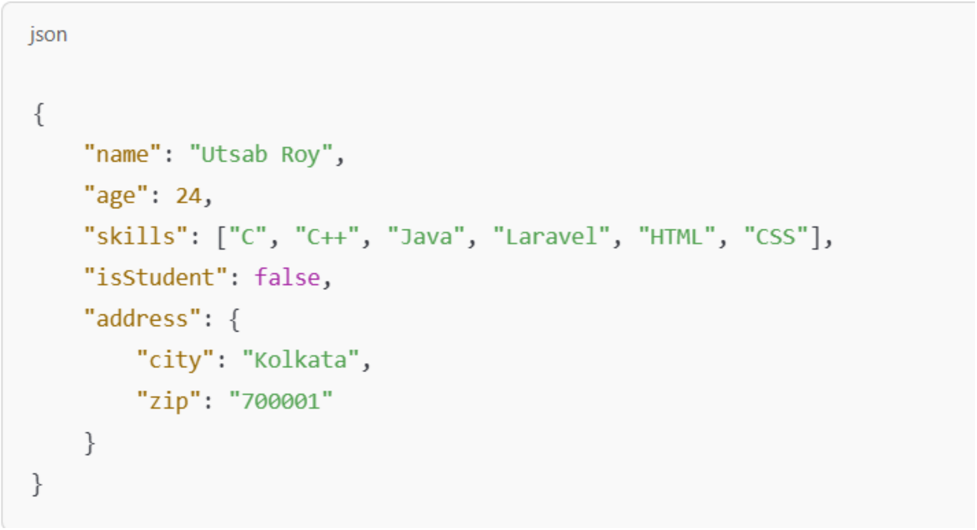
  - String: `"text"`
  - Number: `123` or `12.34`
  - Boolean: `true` or `false`
  - Null: `null`
  - Object: `{ "key": "value" }`
  - Array: `[ "item1", "item2" ]`

- **No Comments:**
JSON does not support comments.

- **Whitespace:**
Whitespace (spaces, tabs, newlines) is allowed and ignored.

Example JSON Object:

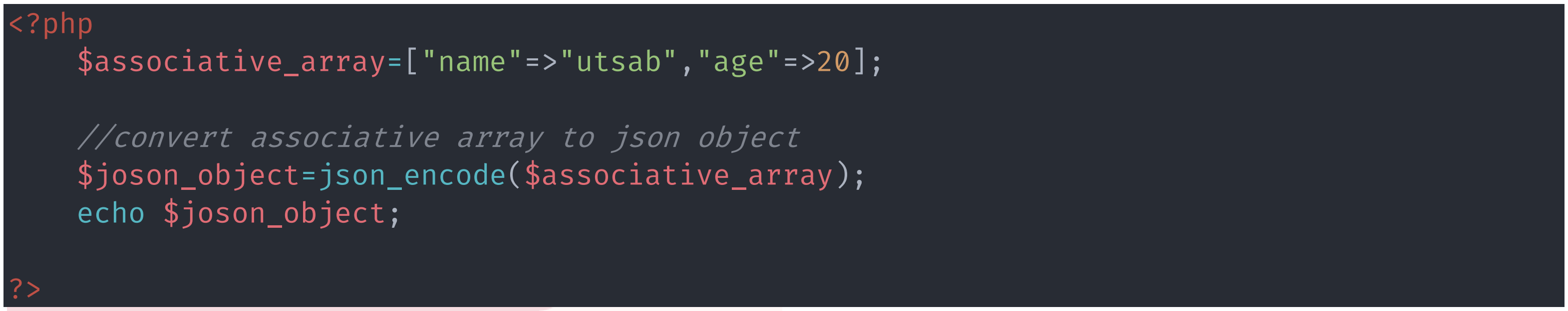
Here’s an example of a well-formed JSON object:



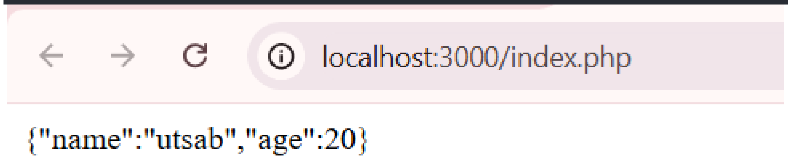
```json
{
    "name": "Utsab Roy",
    "age": 24,
    "skills": ["C", "C++", "Java", "Laravel", "HTML", "CSS"],
    "isStudent": false,
    "address": {
        "city": "Kolkata",
        "zip": "700001"
    }
}
```

JSON ENCODE:

JSON OBJECT FROM ASSOCIATIVE ARRAY(একটা associative array কে JSON Object এ নিব।)

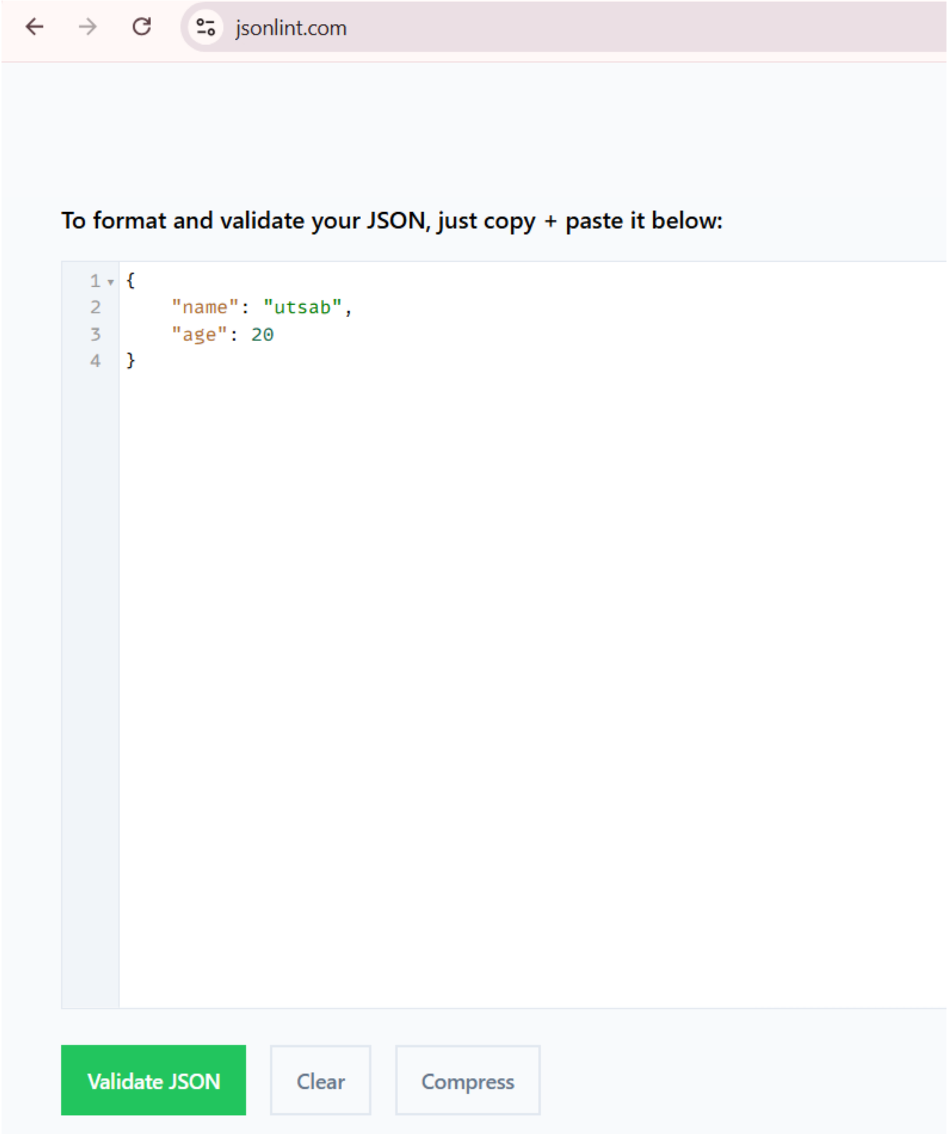


```php
<?php
    $associative_array=["name"=>"utsab","age"=>20];

    //convert associative array to json object
    $joson_object=json_encode($associative_array);
    echo $joson_object;

?>
```



```
{"name":"utsab","age":20}
```

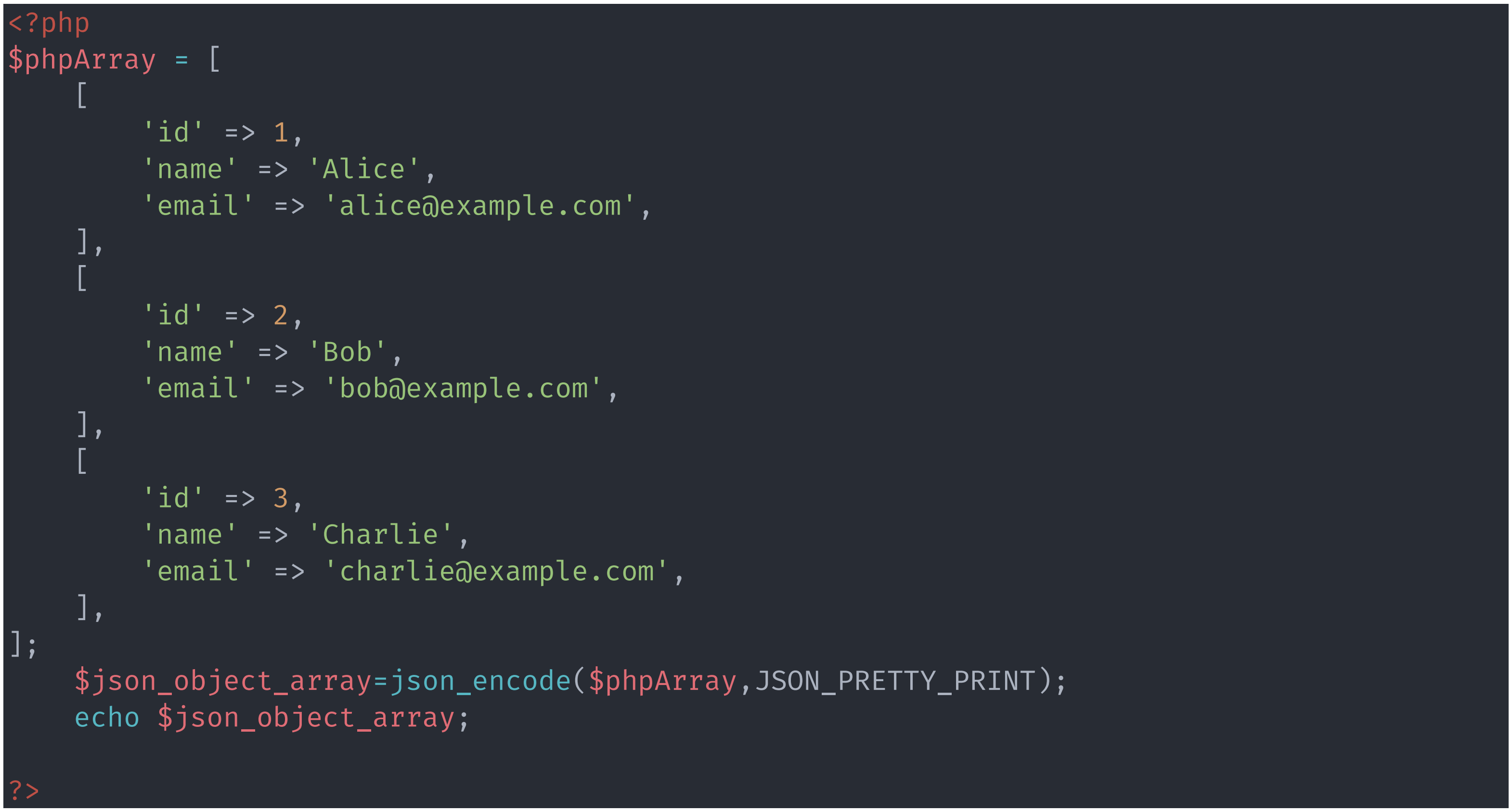
Jsonlint এ গিয়ে validate করতে পারি/চেক করতে পারি json format ঠিক আছে কিনা।



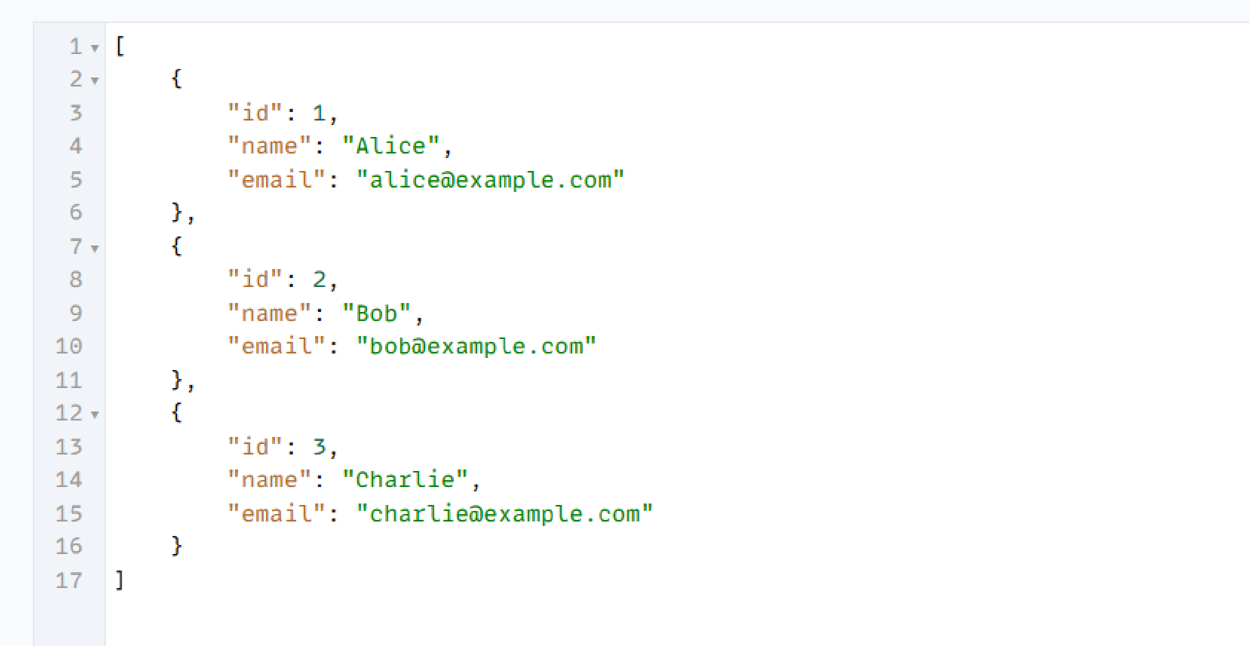
To format and validate your JSON, just copy + paste it below:

```
{
    "name": "utsab",
    "age": 20
}
```

//JSON OBJECT ARRAY



```php
<?php
$phpArray = [
    [
        'id' => 1,
        'name' => 'Alice',
        'email' => 'alice@example.com',
    ],
    [
        'id' => 2,
        'name' => 'Bob',
        'email' => 'bob@example.com',
    ],
    [
        'id' => 3,
        'name' => 'Charlie',
        'email' => 'charlie@example.com',
    ],
];
    $json_object_array=json_encode($phpArray,JSON_PRETTY_PRINT);
    echo $json_object_array;

?>
```

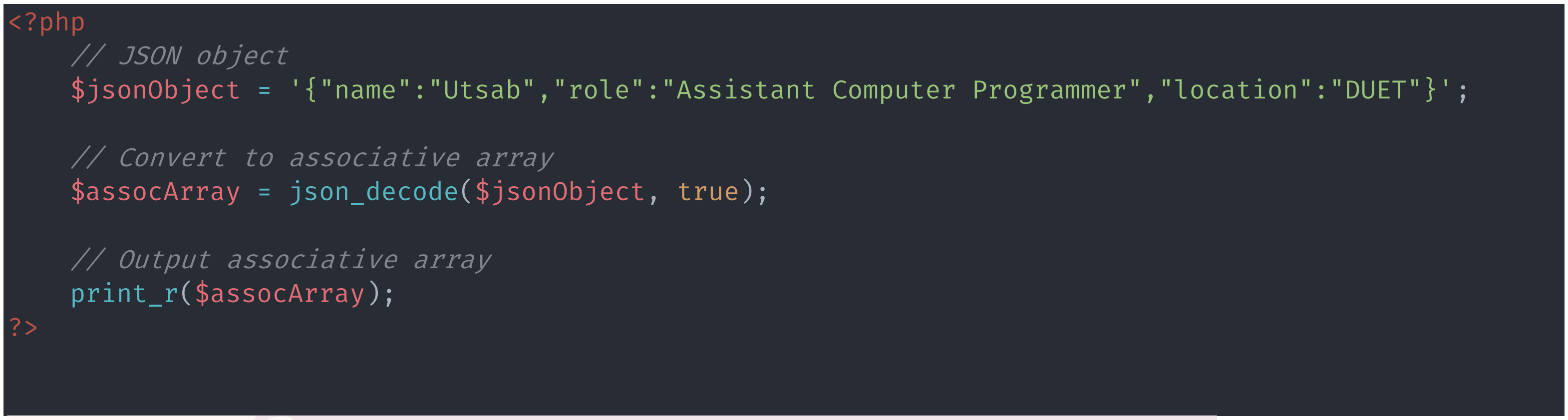


```json
[
    {
        "id": 1,
        "name": "Alice",
        "email": "alice@example.com"
    },
    {
        "id": 2,
        "name": "Bob",
        "email": "bob@example.com"
    },
    {
        "id": 3,
        "name": "Charlie",
        "email": "charlie@example.com"
    }
]
```

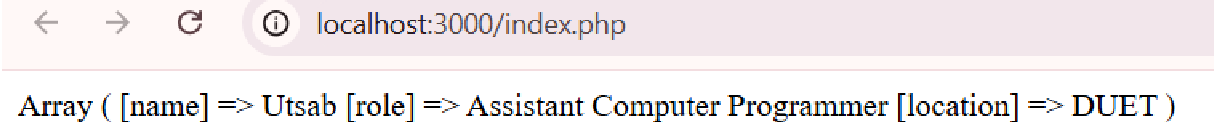
JSON Decode: JSON Object কে Associative Array তে নিবে:

Use the `json_decode()` function with the second parameter set to `true` to decode a JSON object into an associative array.

If the second parameter of `json_decode()` is set to `false` (or omitted), it will return a PHP object instead of an associative array.(TRUE না করলে PHP OBJECT পাব।)



```php
<?php
    // JSON object
    $jsonObject = '{"name":"Utsab","role":"Assistant Computer Programmer","location":"DUET"}';

    // Convert to associative array
    $assocArray = json_decode($jsonObject, true);

    // Output associative array
    print_r($assocArray);
?>
```

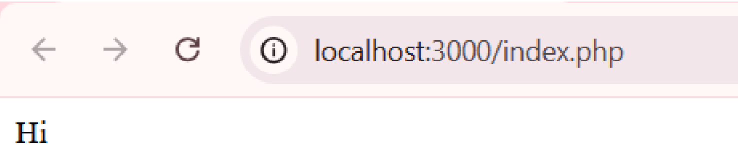


```
Array ( [name] => Utsab [role] => Assistant Computer Programmer [location] => DUET )
```

GET PUT DELETE UPDATE PATCH

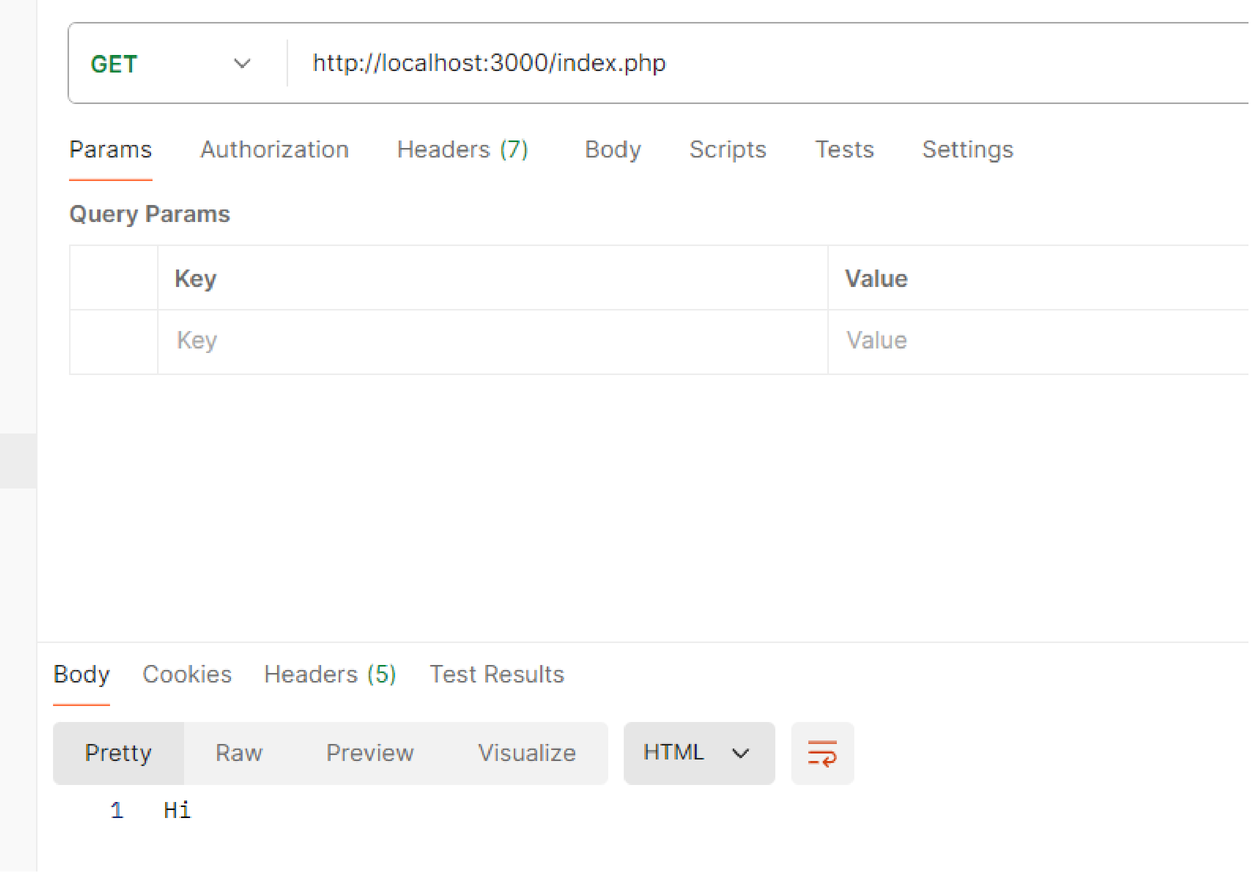
GET REQUEST :

Browsers and most tools make GET requests by default when you enter a URL into the address bar or click a link. (মূলত আমরা url এ হিট করলে get request কল হয়।)



localhost:3000/index.php

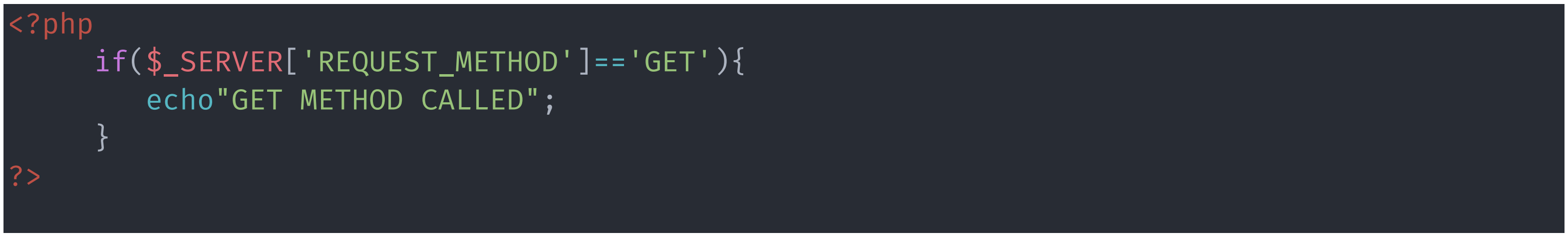
Hi



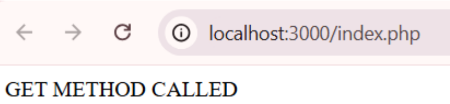
GET http://localhost:3000/index.php

```
Hi
```

এখানে http://localhost:3000/index.php এ হিট করলে $_SERVER['REQUEST_METHOD'] এ GET Request যাবে |

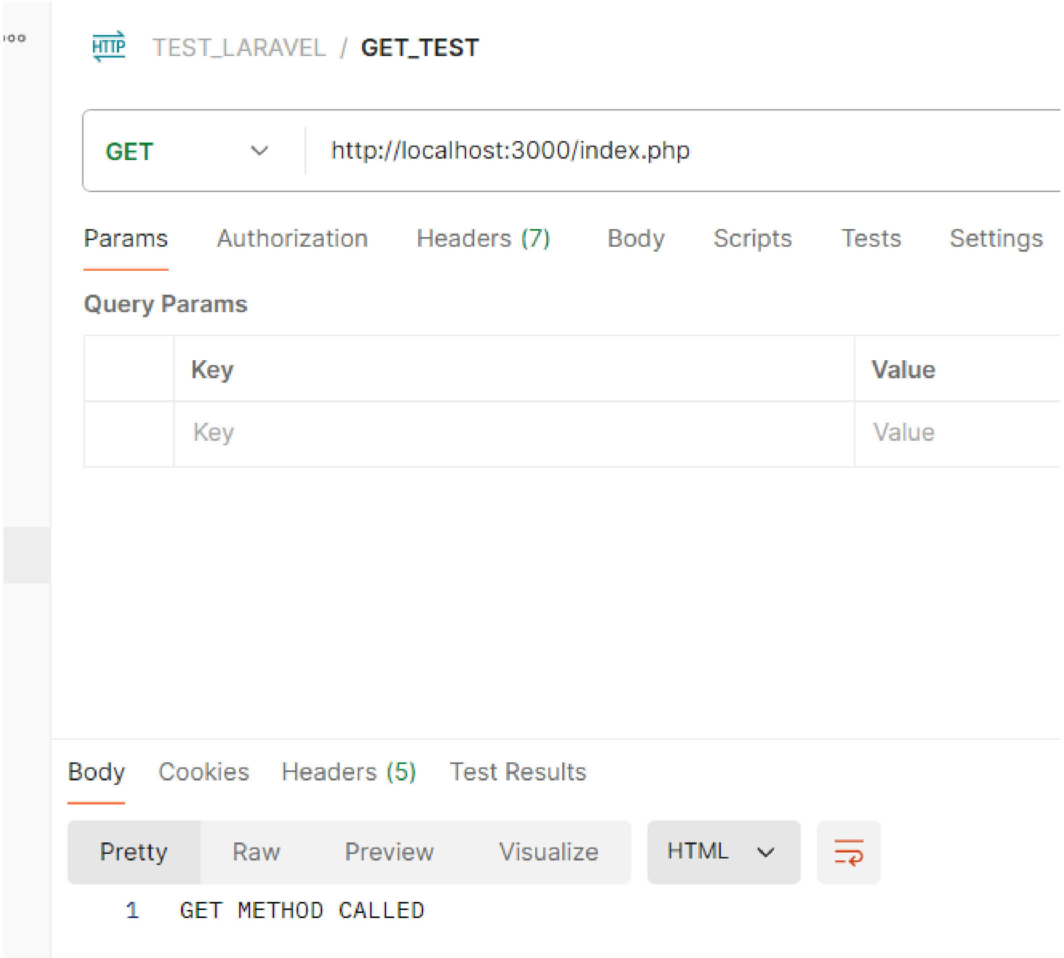


```php
<?php
    if($_SERVER['REQUEST_METHOD']=='GET'){
       echo"GET METHOD CALLED";
    }
?>
```



localhost:3000/index.php

GET METHOD CALLED



GET http://localhost:3000/index.php

Query Params

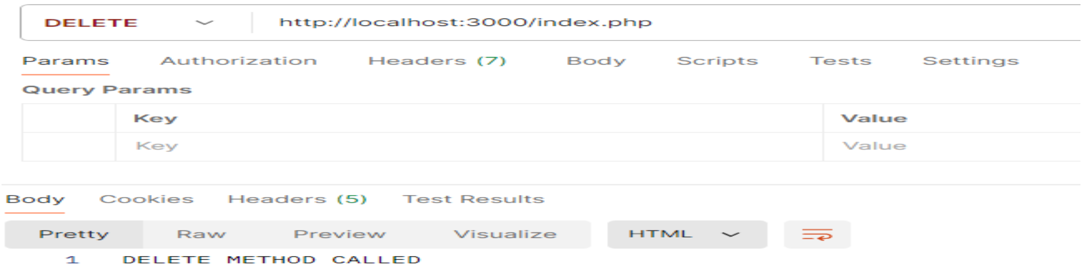
Key	Value
Key	Value

```
1   GET METHOD CALLED
```

PUT DELETE UPDATE PATCH:

```php
<?php
     if($_SERVER['REQUEST_METHOD']=='GET'){
        echo"GET METHOD CALLED";
     }
     if($_SERVER['REQUEST_METHOD']=='POST'){
        echo "POST METHOD CALLED";
     }
     if($_SERVER['REQUEST_METHOD']=='DELETE'){
        echo "DELETE METHOD CALLED";
     }
?>
```

যে request দিব সেই কনডিশন TRUE হবে এবং আউটপুট দেখাবে।এখানে DELETE requests পাঠানো হয়েছে।



DELETE http://localhost:3000/index.php

Query Params

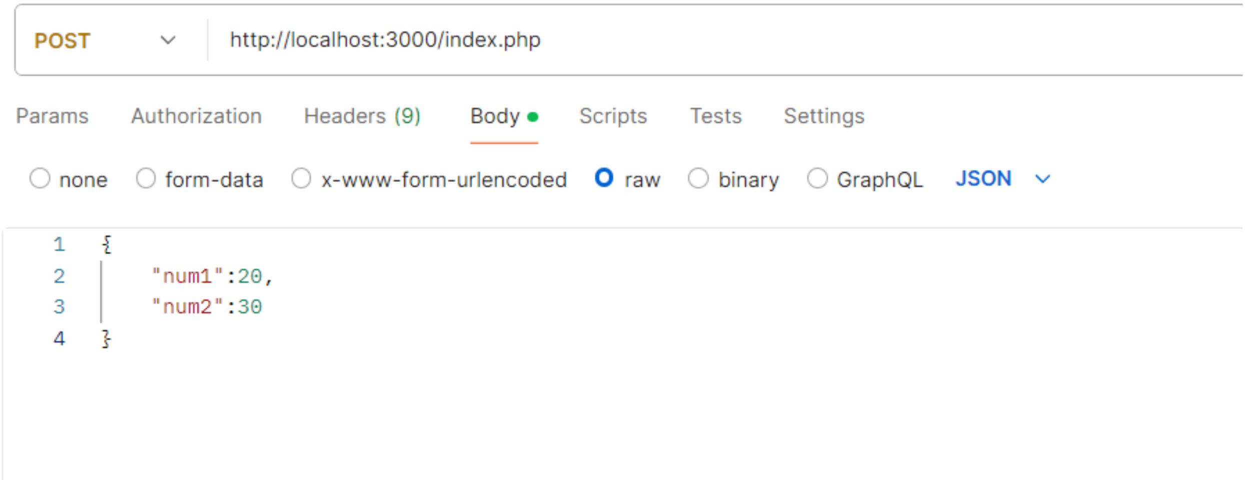
Key	Value
Key	Value

```
1   DELETE METHOD CALLED
```

এখানে POSTMAN কাজ করছে Front End হিসেবে (HTML এর FORM এর মাধ্যমে ডাটা পাঠাতে পারি যা POSTMAN দিয়ে করতেছি)এবং PHP কাজ করছে BackEnd হিসেবে(ডাটা প্রসেস করতেছে)।

JSON ডাটা পাঠাব SERVER এ এবং PHP সেটাকে প্রসেস করবে ও আউটপুট দেখাবে:

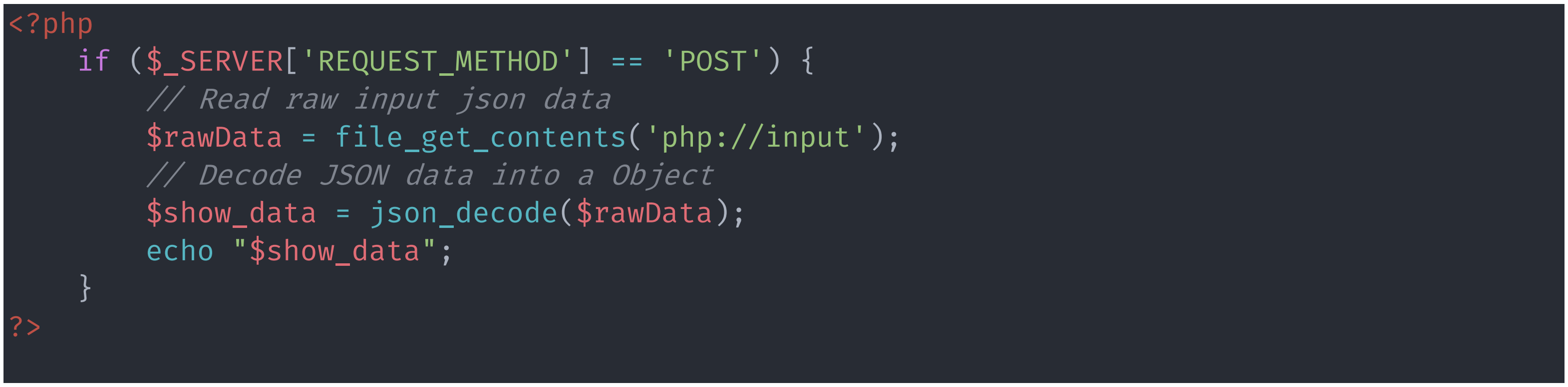
1.JSON data send using post request



POST http://localhost:3000/index.php

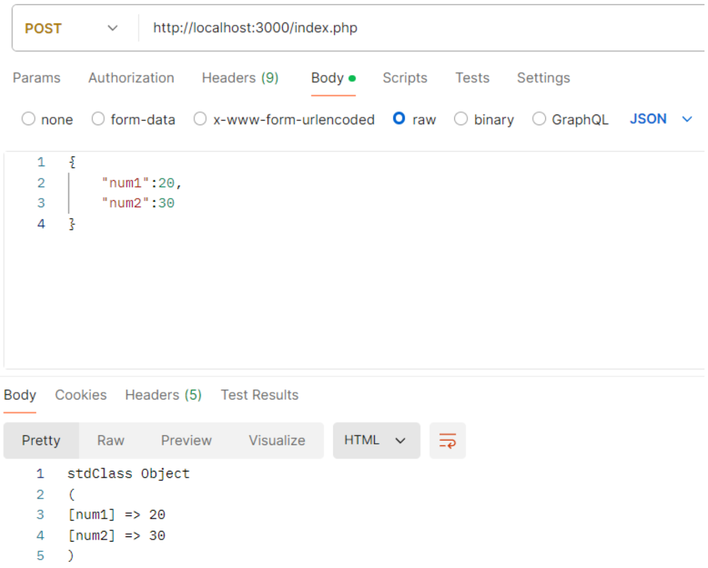
```
{
    "num1":20,
    "num2":30
}
```

2.recive the data and process the data and show the data



```
<?php
    if ($_SERVER['REQUEST_METHOD'] == 'POST') {
        // Read raw input json data
        $rawData = file_get_contents('php://input');
        // Decode JSON data into a Object
        $show_data = json_decode($rawData);
        echo "$show_data";
    }
?>
```

OUTPUT:

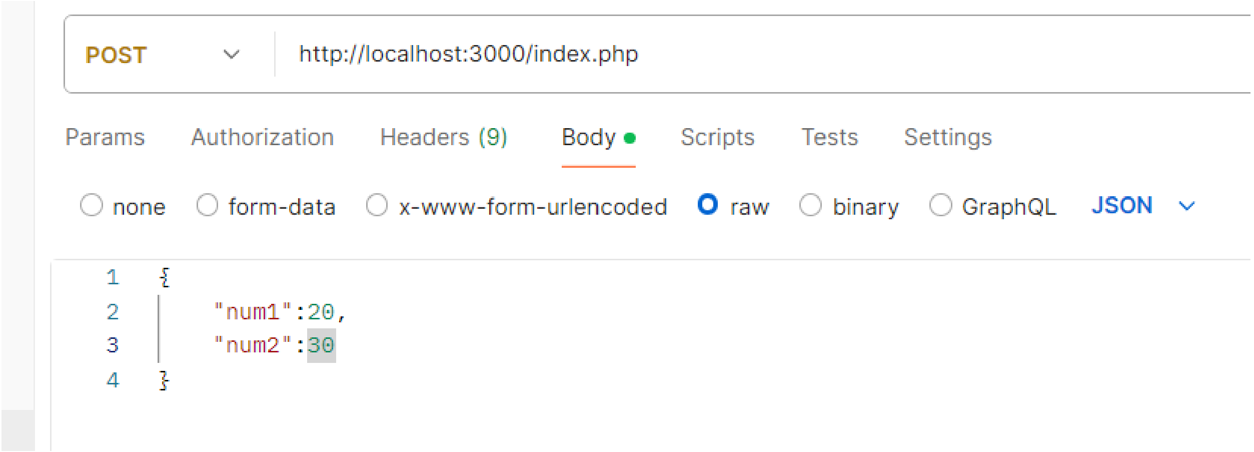


POST http://localhost:3000/index.php

```
{
    "num1":20,
    "num2":30
}
```

```
stdClass Object
(
[num1] => 20
[num2] => 30
)
```

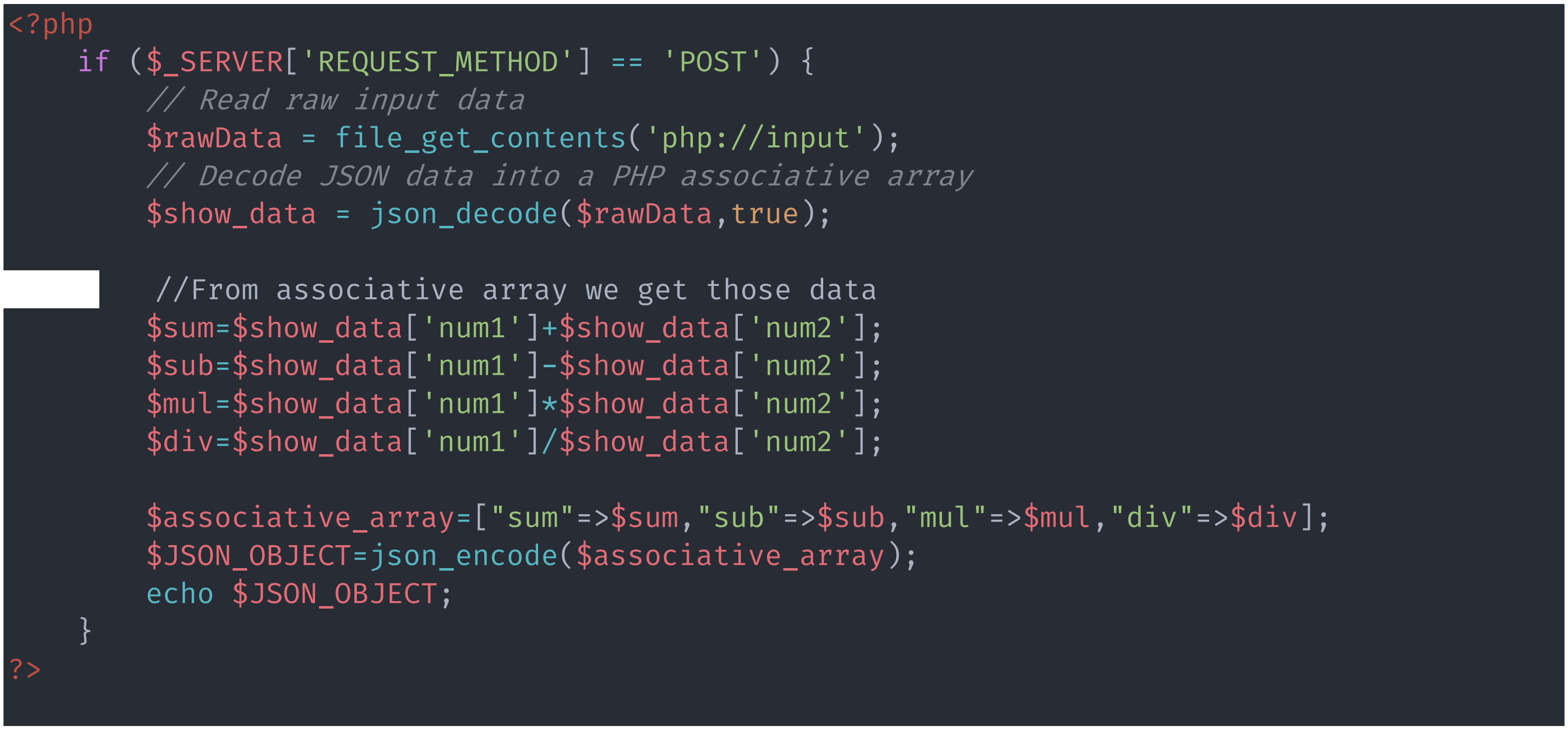
Another Example send json data and recive & process and print processed json data.



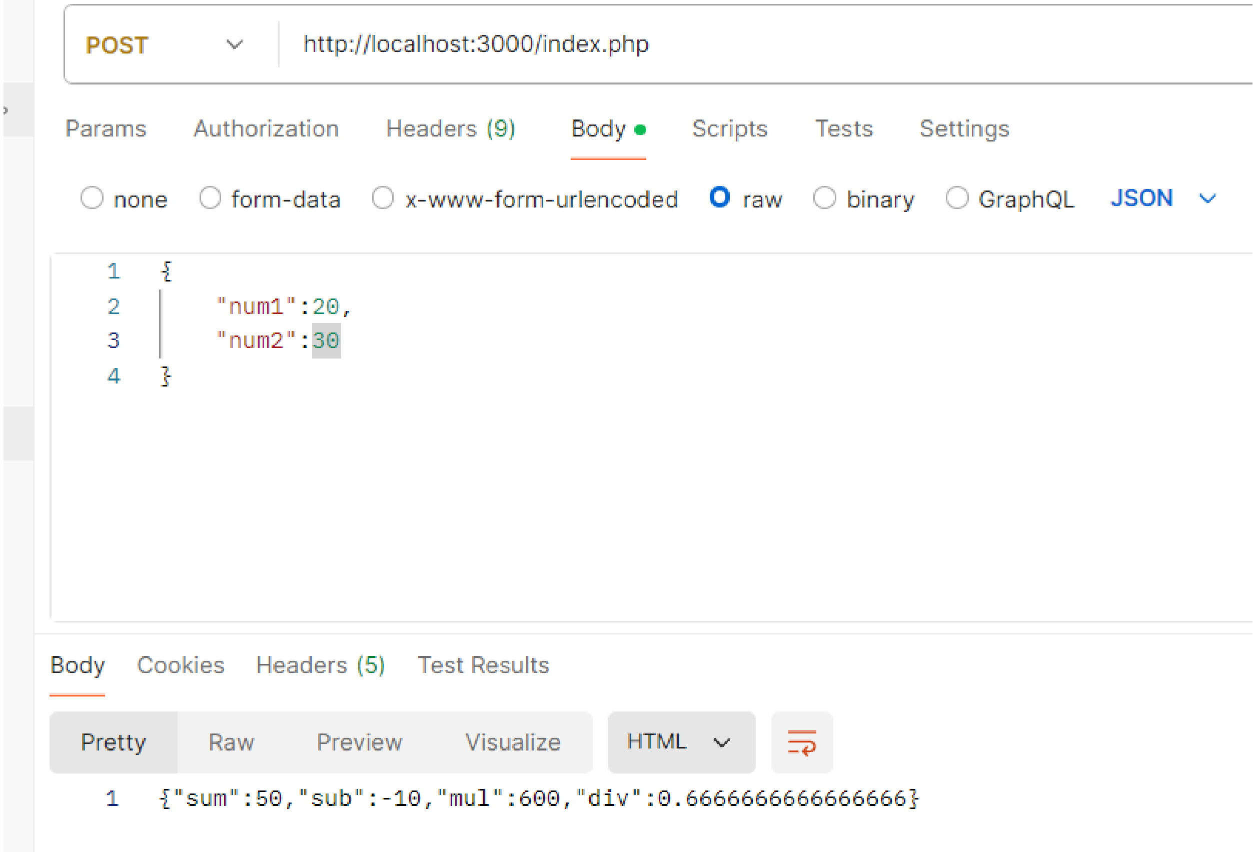
POST http://localhost:3000/index.php

○ none ○ form-data ○ x-www-form-urlencoded ● raw ○ binary ○ GraphQL JSON

```
{
    "num1":20,
    "num2":30
}
```



```
<?php
    if ($_SERVER['REQUEST_METHOD'] == 'POST') {
        // Read raw input data
        $rawData = file_get_contents('php://input');
        // Decode JSON data into a PHP associative array
        $show_data = json_decode($rawData,true);

         //From associative array we get those data
        $sum=$show_data['num1']+$show_data['num2'];
        $sub=$show_data['num1']-$show_data['num2'];
        $mul=$show_data['num1']*$show_data['num2'];
        $div=$show_data['num1']/$show_data['num2'];

        $associative_array=["sum"=>$sum,"sub"=>$sub,"mul"=>$mul,"div"=>$div];
        $JSON_OBJECT=json_encode($associative_array);
        echo $JSON_OBJECT;
    }
?>
```



POST http://localhost:3000/index.php

```
{
    "num1":20,
    "num2":30
}
```

```
{"sum":50,"sub":-10,"mul":600,"div":0.6666666666666666}
```