**JSON**

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* **JSON covered topic:**

1. **What is JSON.**
2. **Advantage of JSON.**
3. **JSON string.**
4. **JSON data type.**
5. **How to JSON data with JavaScript.**
6. **How to Deal JSON data with PHP.**
7. **Other Knowledge Next?**

# **: JSON:**

1. **What is JSON?**

**Ans: JSON stands for JavaScript Object Notation.**

* **JSON is a data representation format.**
* **JSON is often used when data is sent from a server to a web page.**
* **Syntax: rules of JSON.**
* **Data in a name and value pair.**
* **Data is separated by a comma.**
* **Curly braces holds the objects.**
* **Square brackets hold the arrays.**
* **Its file extension is .json.**
* **Ex: demo.json**

1. **Advantages of JSON:**

* **JSON is a language independent.**
* **JSON is a very light-weighted and most suitable for exchanging the huge amount of data.**
* **JSON represent complex data easily.**

1. **How to create a JSON string data.**

* **Use back tick outside of curly braces it’s called JSON string.**

**Syntax:**

 let json\_str = `{

            "name":"dravinanshu Mishra",

             "age":20,

             "college":null,

             "subjects":["c","php","python"]

        }`;

1. **Data type in JSON?**

* **String:**
* **Integer:**
* **Boolean:**
* **Null:**
* **Array:**
* **Object:**

**Ex: ex of all json data and its type.**

**{**

**“name”: “ashu”, 🡺string data**

**“age”: 20, 🡺integer data.**

**“profession”: “web developer”,**

**“married”: false, 🡺boolean data.**

**“college”: null, 🡺null data.**

**“array”: [“java”, ”c”, ”php”], 🡺array**

**“object”:{**

**“sub1”:1,**

**“sub2”:[“one”, “two”, “three”]**

**} 🡺 object type complex of data.**

**}**

1. **How to deal JSON data within JavaScript.**

* **JSON.stringify(): JSON.stringify () method converts a JavaScript object into a JSON string.**
* **It is converted into plain text (string).**
* **when sending data to a web server, the data has become a string.**

**Syntax:**

**JSON.stringify(object);**

**Example:**

  <script>

         //create a JavaScript Object.

          let js\_obj = {

             name: "Dravinanshu Mishra",

             age: 24,

             college: null,

             subjects:["C","PHP","JavaScript"]

        };

//converts JavaScript Object into json string.

        let str = JSON.stringify(js\_obj);

        console.log(js\_obj);

        console.log(str);

    </script>

**Output:**

Object

age: 24college: nullname: "Dravinanshu Mishra"subjects: (3) ['C', 'PHP', 'JavaScript'][[Prototype]]: Object 🡺js object

{"name":"Dravinanshu Mishra","age":24,"college":null,"subjects":["C","PHP","JavaScript"]} 🡺json string.

* **JSON.parse(): JSON.parse () method converts JSON string into JavaScript object.**
* **When receiving data from a web server, the data is always a string.**

**Syntax:**

**JSON.parse(string);**

**Ex:**

 <script>

        //json string.

        let json\_str = `{

             "name":"ASHU",

             "age":24,

             "college":null,

             "subjects":["c","Java"]

        }`;

        //json string converts JS object.

         let convert = JSON.parse(json\_str);

         console.log(convert);

        console.log(json\_str);

    </script>

**Output:**

{name: 'ASHU', age: 24, college: null, subjects: Array(2)}age: 24college: nullname: ['c', 'Java'][[Prototype]]: Object **🡺JavaScript object**

{

"name":"ASHU",

"age":24,

"college":null,

"subjects":["c","Java"]

} **🡺 json string**

1. **How to deal JSON Data within PHP?**

* **json\_encode(): json\_encode () method is used to converts / encodes the php array data or php object data into a json string data.**

**Syntax:**

**json\_encode($array\_name or $objectName);**

* **json\_decode(): json\_decode () method is used to converts the JSON string data into a php array data or php object data.**
* **By default, it is a false 🡺 in false it returns PHP object.**
* **In true, it returns PHP associative array.**

**Syntax:**

**json\_decode($variable\_name, true/false);**

* **How to converts PHP array data into a JSON string format.**

<?php

   $ob = array("Name"=> "Dravinanshu Mishra", "Age"=> 24, "College"=> null, "Subjects"=> ["C","PHP"]);

   echo var\_dump($ob);

   //how to converts array into JSON.

   $newData = json\_encode($ob);

   echo "</br><br>";

   echo var\_dump($newData);

?>

**Output:**

array(4) { ["Name"]=> string(18) "Dravinanshu Mishra" ["Age"]=> int(24) ["College"]=> NULL ["Subjects"]=> array(2) { [0]=> string(1) "C" [1]=> string(3) "PHP" } } 🡺 php Array data.  
  
string(76) "{"Name":"Dravinanshu Mishra","Age":24,"College":null,"Subjects":["C","PHP"]}" 🡺JSON string data.

* **How to Converts PHP Object Data into a JSON string format.**

<?php

//create an object in php.

class students{

    public $name="";

    public $age="";

    public $college=null;

    public $subject=[];

}

$obj = new students();

$obj->name="Dravinanshu Mishra";

$obj->age=24;

$obj->college=null;

$obj->subject=["C","Java","PHP"];

echo var\_dump($obj);

echo "</br><br>";

//converts php objects into json string format.

$newData = json\_encode($obj);

echo var\_dump($newData);

?>

Output:

object(students)#1 (4) { ["name"]=> string(18) "Dravinanshu Mishra" ["age"]=> int(24) ["college"]=> NULL ["subject"]=> array(3) { [0]=> string(1) "C" [1]=> string(4) "Java" [2]=> string(3) "PHP" } } 🡺 php object data.  
  
string(82) "{"name":"Dravinanshu Mishra","age":24,"college":null,"subject":["C","Java","PHP"]}" 🡺 json string data.

* **How to write JSON string Data inside in PHP.**
* **If we write JSON string inside in php syntax the we use outside of wrap single quotes.**

**Ex:**

<?php

 $json\_str = '{

    "name":"Dravinanshu",

    "age":20,

    "college":null,

    "subject":["C","Java"]

 }';

echo var\_dump($json\_str);

?>

Output:

string(96) "{ "name":"Dravinanshu", "age":20, "college":null, "subject":["C","Java"] }" 🡺 JSON string write in PHP syntax.

* **How to converts JSON Data into PHP Objects?**

<?php

 $json\_str = '{

    "name":"Dravinanshu",

    "age":20,

    "college":null,

    "subject":["C","Java"]

 }';

 echo var\_dump($json\_str);

 $newData = json\_decode($json\_str);

  echo "</br></br>";

 echo var\_dump($newData);

?>

**Output:**

string(96) "{ "name":"Dravinanshu", "age":20, "college":null, "subject":["C","Java"] }" 🡺 JSON string Data.  
  
object(stdClass)#1 (4) { ["name"]=> string(11) "Dravinanshu" ["age"]=> int(20) ["college"]=> NULL ["subject"]=> array(2) { [0]=> string(1) "C" [1]=> string(4) "Java" } } 🡺 PHP object Data.