

Teori & Praktikum 1: JSON Data

JSON Data - A Name and a Value (Nama dan nilai)

JSON data ditulis sebagai pasangan dari nama/nilai.

Pasangan nama/nilai terdiri dari nama field (dalam kutip ganda), diikuti dengan titik dua, dan diikuti dengan sebuah nilai, contoh:

```
"name":"John"
```

JSON Values/Nilai

JSON, nilai harus salah satu dari tipe data berikut:

- a string
- a number
- an object (JSON object)
- an array
- a boolean
- null

JSON Strings

Strings in JSON must be written in double quotes. Example

```
{ "name":"John" }
```

JSON Numbers

Numbers in JSON must be an integer or a floating point. Example

```
{ "age":30 }
```

JSON Objects

Values in JSON can be objects. Example

```
{  
  "employee":{ "name":"John", "age":30, "city":"New York" }  
}
```

JSON Arrays

Values in JSON can be arrays. Example

```
{  
  "employees":[ "John", "Anna", "Peter" ]  
}
```

JSON Booleans

Values in JSON can be true/false. Example

```
{ "sale":true }
```

JSON null

Values in JSON can be null. Example

```
{ "middlename":null }
```

Contoh JSON:

JSON Data:

```
{ "name":"John", "age":30, "car":null }
```

JSON Object:

```
{  
  "employee": {  
    "name": "sonoo",  
    "salary": 56000,  
    "married": true  
  }  
}
```

JSON Object with Strings:

```
{  
  "name": "sonoo",  
  "email": "sonoojaiswal1987@gmail.com"  
}
```

JSON Object with Numbers:

```
{  
  "integer": 34,  
  "fraction": .2145,  
  "exponent": 6.61789e+0  
}
```

JSON Object with Booleans:

```
{  
  "first": true,  
  "second": false  
}
```

JSON Nested Object Example:

```
{
  "firstName": "Sonoo",
  "lastName": "Jaiswal",
  "age": 27,
  "address" : {
    "streetAddress": "Plot-6, Mohan Nagar",
    "city": "Ghaziabad",
    "state": "UP",
    "postalCode": "201007"
  }
}
```

JSON Array of Strings:

```
["Sunday", "Monday", "Tuesday", "Wednesday", "Thursday", "Friday", "Saturday"]
```

JSON Array of Numbers:

```
[12, 34, 56, 43, 95]
```

JSON Array of Booleans:

```
[true, true, false, false, true]
```

JSON Array of Objects:

```
{"employees":[
  {"name":"Ram", "email":"ram@gmail.com", "age":23},
  {"name":"Shyam", "email":"shyam23@gmail.com", "age":28},
  {"name":"John", "email":"john@gmail.com", "age":33},
  {"name":"Bob", "email":"bob32@gmail.com", "age":41}
]}
```

JSON Multidimensional Array:

```
[
  [ "a", "b", "c" ],
  [ "m", "n", "o" ],
  [ "x", "y", "z" ]
]
```

Latihan:

1. Buatlah file json yang nilainya memiliki tipe data sbb:

- a string
- a number
- an object (JSON object)
- an array
- a boolean
- null