

JSON Tutorial

May 20th, 2020 Go to comments

JavaScript Object Notation (JSON) is a human readable and very popular format used by web services, programming languages (including Python) and APIs to read/write data. JSON is also a subject of the CCNA 200-301 so in this article we will learn some basic knowledge of JSON and how to use Python to process JSON.

JSON syntax structure:

- + uses curly braces {} to hold objects and square brackets [] to hold arrays
- + JSON data is written as key/value pairs
- + A key/value pair consists of a key (must be a string in double quotation marks ""), followed by a colon :, followed by a value. For example: "name": "John"
- + Each key must be unique
- + Values must be of type string, number, object, array, boolean or null
- + Multiple key/value within an object are separated by commas,

JSON can use arrays. Arrays are used to store multiple values in a single variable. For example:

```
{
"name":"John",
"age":30,
"cars":[ "Ford", "BMW", "Fiat"]
}
```

In the above example, "cars" is an array which contains three values "Ford", "BMW" and "Fiat".

If we have a JSON string, we can convert (parse) it into Python by using the json.loads() method, which returns a Python dictionary:

```
import json
myvar = '{"name":"John", "age":30, "cars":[ "Ford", "BMW", "Fiat"]}'
parse_myvar = json.loads(myvar)
print(parse_myvar["cars"][0])
```

The result:

Ford

Note:

- + Python comes with a built-in package called json for encoding and decoding JSON data so we need to "import json" first
- + If you want to write a variable in multiple lines or with special characters (including NEWLINES, TABs) then you should use triple quotes """. For example the "myvar" variable above can be written as follows:

```
myvar = """
{
    "name":"John",
    "age":30,
```

```
"cars":[ "Ford", "BMW", "Fiat"]
}
```

Comments (9) Comments

1. Anonymous

July 18th, 2020

Good to see about SDN .. Can you put some stuff on SDWAN as well

2. 9tut

July 19th, 2020

@Anonymous: You can find tutorials about SDWAN at: certprepare.com.

3. siri

September 1st, 2020

@9TUT taking membership helps us to pass CCNA?

4. 9tut

September 2nd, 2020

@siri: Yes, you can pass this exam with our Premium Membership.

5. fake

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6. Algernon

September 2nd, 2020

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7. Andrew

January 28th, 2021

Sorry basic question – for the Python result of "Ford" above, how do you write the JSON script to output other values into Python eg. BMW or Fiat. ?

8. MoG

February 1st, 2021

@Andrew >> print(parse_myvar["cars"][0]) << is the important line for the output. The zero within the output modifire argument does distinguish which part of the array [Ford,BWM;Fiat] is shown. The array positions equal the following:

Ford = position 0

BWM= position 1

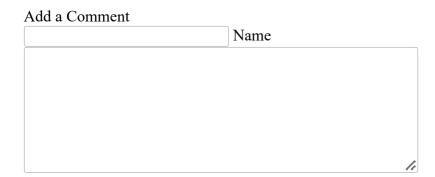
Fiat = position 2

So if you change the zero in the last line, to any of the numbers above, you would recive your desired date.

9. Anonymous

September 29th, 2021

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