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
   September 2nd, 2020

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

6. Algernon
   September 2nd, 2020

   All pdf workbooks lab from Pnetlab
   :https://drive.google.com/drive/mobile/folders/19X9O8WoIrNASof5sW-9vD201R-eyT4-e?usp=sharing

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 eqaul 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

   I found these information useful, but how does premium membership can help me pass CCNA exam??

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- Logout

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- Topology Architecture Questions
- Cloud & Virtualization Questions
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- Switch Questions
- VLAN & Trunking Questions
- VLAN & Trunking Questions 2
- STP & VTP Questions
- EtherChannel Questions
- TCP & UDP Questions
- IP Address & Subnetting Questions
- IP Routing Questions
- IP Routing Questions 2
- OSPF Questions
- OSPF Questions 2
- EIGRP Questions
- NAT Questions
- NTP Questions
- Syslog Questions
- HSRP Questions
- Access-list Questions
- AAA Questions

- Security Questions
- Security Questions 2
- DAI Questions
- IPv6 Questions
- DNS Questions
- QoS Questions
- Port Security Questions
- Wireless Questions
- Wireless Questions 2
- SDN Questions
- DNA Center Questions
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- Drag Drop Questions 2
- Drag Drop Questions 3
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