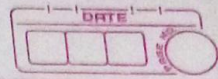


# Assignment B7



Date of Completion :-

Date of submission :-

Title - Study & demonstrate the use of encoding & decoding JSON objects using  
Java / Perl / PHP / Python / Ruby

Objective - To understand & implement encoding & decoding of JSON object.

Software package :- VS code  
python

Learning outcomes :-

We will be able to understand how JSON object are encoded & decoded using python.

pre-requisites :- python

## Theory :-

JSON objects can be created with Javascript

Let us see the various way of creating JSON objects using Javascript:

- Creation of an empty object :

```
var JSONObj = {};
```

- Creation of new object

```
var JSONObj = new Object();
```

- Creation of object with attribute bookName with value in string, attribute price with numeric value

Attribute is accessed by using ':' operator

```
var JSONObj = { "bookname" : "VB BLACK B",  
                 "price" : 5003;
```

JSON functions :-

- i) JSON.encode : It returns JSON representation of a value.



1. json.decode: It decodes a JSON string
2. json.last\_error: It returns the last error occurred.

### Encoding

json.load()

json.encode() function is used for encoding which returns JSON representation of a value.

Syntax: json.load(file)

string json.encode (value [, options = 0])

The value parameter specifies value being specified

JSON\_HEX\_QUOT

JSON\_HEX\_TAG

JSON\_HEX\_APOS

JSON\_NUM

e.g.

for python the json is package which need to import

we need to set var to json.load()

```
data = json.load(file)
```

```
for i in range(len(data["Employee"])):
    for j, k in data["Employee"][i].items():
        print(j, ":", k)
    print("\n")
return ('Total Number of Records are {}')
```



JSON library can parse JSON from string or file.

JSON library is part of built in JSON package so No need to install it.

Parsing :-

1. Conversion from JSON to python
2. Conversion from python to JSON

Decoding :-

json.dump function used to insert new record.

Syntax:- `json.dump(' ')`

E.g. :-

```
with open('dbms.json', 'w') as f1:
    data['employee'].append(newRecord)
    json.dump(data, f1, indent=4)
    return('Record inserted Successfully')
```

Conclusion :-

We have implemented the JSON object encoding & decoding using python successfully.

## Code: -

```
import json

with open('C:\Swapnil\Engineering Third Semester\Database lab\B7\dbms.json') as f:
    data = json.load(f)

def main():
    def displayAll():
        for i in range(len(data["Employee"])):
            for j,k in data["Employee"][i].items():
                print(j," : ",k)
            print('\n')

        return('Total Number of Records are {}'.format(len(data["Employee"])))

    def displayById():
        id_ = int(input('Enter the id'))
        flag = 0
        for i in range(len(data["Employee"])):
            if data["Employee"][i]["id"] == id_:
                flag = 1
                for j,k in data["Employee"][i].items():
                    print(j," : ",k)
                print('\n')
        return('Record Not Present \n\n ') if flag == 0 else ('Record Present')

    def insertNewRecord():
        global data
        newRecord = {}
```

```
listOfIds = [i["id"] for i in data["Employee"]]
id_ = int(input('Enter the id number\n '))
if id_ in listOfIds:
    return('Id Already Present\n ')
else:
    newRecord["id"] = id_
    newRecord["name"] = input('Enter the name')
    newRecord["designation"] = input('Enter the Designation')
    newRecord["salary"] = int(input('Enter the Salary of the Employee'))
    newRecord["hobbies"] = input('Enter the hobbies\n').split()
    with open('dbms.json','w') as f1:
        data['Employee'].append(newRecord)
        json.dump(data,f1,indent=4)
        return('Record Inserted Successfully\n')
```

```
boolvalue = True
while boolvalue:
    print('1. To display all data')
    print('2. To display by id')
    print('3. To insert a new Data')
    ch = input()
    print('\n')
```

```
switcher = {
    "1":displayAll,
    "2":displayById,
    "3":insertNewRecord
}
try:
    fun = switcher[ch]
```

```
        print(fun())
    except TypeError:
        print('Enter a valid choice\n ')

    choice = input('Do you want to continue Y/N')

    boolvalue = True if choice in ['y','Y'] else False

main()
```

**Screenshots:-**

```
File Edit Selection View Go Run Terminal Help
JsonPy.py - Visual Studio Code [Administrator]

1: Code
+
-
x

Enter the id2
Record Not Present

Do you want to continue Y/Ny
1. To display all data
2. To display by id
3. To insert a new Data
2

Enter the id56
id : 56
name : suyash
designation : android dev
salary : 56000
hobbies : ['cricket', 'meme']

Record Present
Do you want to continue Y/Ny
1. To display all data
2. To display by id
3. To insert a new Data
3

Enter the id number
2
Enter the nameswapnil
Enter the Designation web dev
Enter the Salary of the Employee 20000
Enter the hobbies
cricket
Record Inserted Successfully

Do you want to continue Y/Ny
1. To display all data
2. To display by id
3. To insert a new Data
1

id : 1
name : vaibhav

Ln 22, Col 37 Spaces: 4 UTF-8 CRLF Python
83% 21:49 30-11-2020
```



```
File Edit Selection View Go Run Terminal Help
JsonPy.py - Visual Studio Code [Administrator]

1: Code
+
-
x

Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\Users\ANIKET GHULE> python -u "c:\Swapnil\JsonPy.py"
1. To display all data
2. To display by id
3. To insert a new Data
1

id : 1
name : vaibhav
designation : Developer
salary : 45000
hobbies : ['playing Cricket', 'chess']

id : 56
name : suyash
designation : android dev
salary : 56000
hobbies : ['cricket', 'meme']

Total Number of Records are 2
Do you want to continue Y/Ny
1. To display all data
2. To display by id
3. To insert a new Data
2

Enter the id2
Record Not Present

Do you want to continue Y/Ny
1. To display all data
2. To display by id
3. To insert a new Data
2
```

Select Python Interpreter 0 0 0

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83%

File Edit Selection View Go Run Terminal Help

JsonPy.py - Visual Studio Code [Administrator]

1: Code

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

```
Enter the hobbies
cricket
Record Inserted Successfully

Do you want to continue Y/N/y
1. To display all data
2. To display by id
3. To insert a new Data
1

id : 1
name : vaibhav
designation : Developer
salary : 45000
hobbies : ['playing Cricket', 'chess']

id : 56
name : suyash
designation : android dev
salary : 56000
hobbies : ['cricket', 'meme']

id : 2
name : swapnil
designation : web dev
salary : 20000
hobbies : ['cricket']

Total Number of Records are 3
Do you want to continue Y/N/
```

Select Python Interpreter 0 0 0

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Type here to search

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