

Day 15: Python Libraries

This is [#90DaysofDevops](#) challenge under the guidance of [Shubham Londhe](#) sir.

Day 15 TASK

check this for task:

<https://github.com/LondheShubham153/90DaysOfDevOps/blob/master/2023/day15/tasks.md>

Reading JSON and YAML in Python

- As a DevOps Engineer you should be able to parse files, be it txt, json, yaml, etc.
- You should know what all libraries one should use in Python for DevOps.
- Python has numerous libraries like `os`, `sys`, `json`, `yaml` etc that a DevOps Engineer uses in day to day tasks.



Tasks

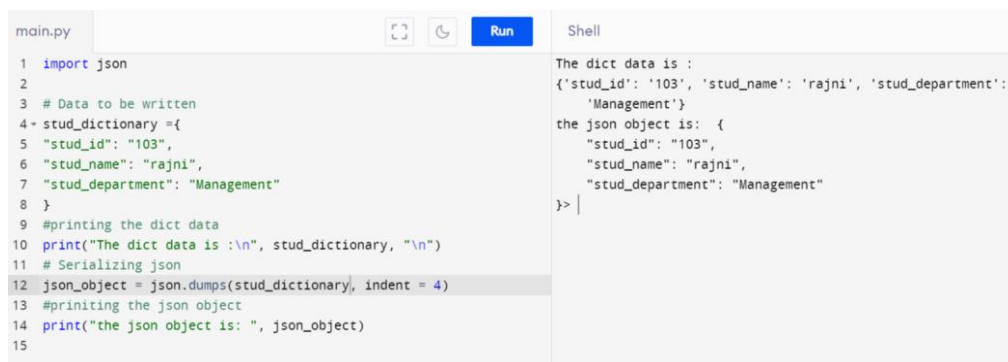
1. **Create a Dictionary in Python and write it to a json File.**

JSON stands for JavaScript Object Notation. It means that a script (executable) file which is made of text in a programming language, is used to store and transfer the data.

Function Used:

- `json.dumps()`
- `json.dump()`

Here we will be using **`json.dumps()`**

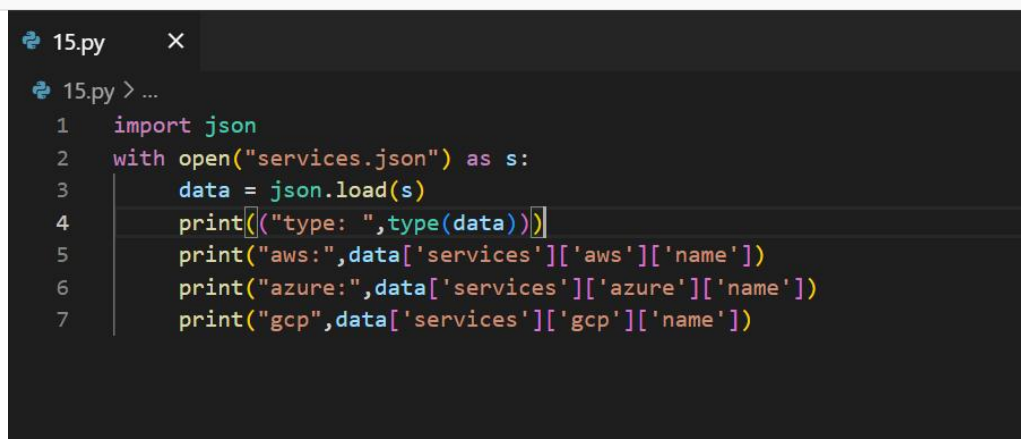


```
main.py
1 import json
2
3 # Data to be written
4 stud_dictionary = {
5     "stud_id": "103",
6     "stud_name": "rajni",
7     "stud_department": "Management"
8 }
9 #printing the dict data
10 print("The dict data is :\n", stud_dictionary, "\n")
11 # Serializing json
12 json_object = json.dumps(stud_dictionary, indent = 4)
13 #printing the json object
14 print("the json object is: ", json_object)
15
```

```
Shell
The dict data is :
{'stud_id': '103', 'stud_name': 'rajni', 'stud_department':
'Management'}
the json object is: {
    "stud_id": "103",
    "stud_name": "rajni",
    "stud_department": "Management"
}>
```

2. Read a json file `services.json` kept in this folder and print the service names of every cloud service provider.

```
output
aws : ec2
azure : VM
gcp : compute engine
```



```
15.py x
15.py > ...
1 import json
2 with open("services.json") as s:
3     data = json.load(s)
4     print(("type: ", type(data)))
5     print("aws:", data['services']['aws']['name'])
6     print("azure:", data['services']['azure']['name'])
7     print("gcp", data['services']['gcp']['name'])
```

```
('type: ', <class 'dict'>)
aws: EC2
azure: VM
gcp Compute Engine
```

output

3. Read YAML file using python, file `services.yaml` and read the contents to convert yaml to json

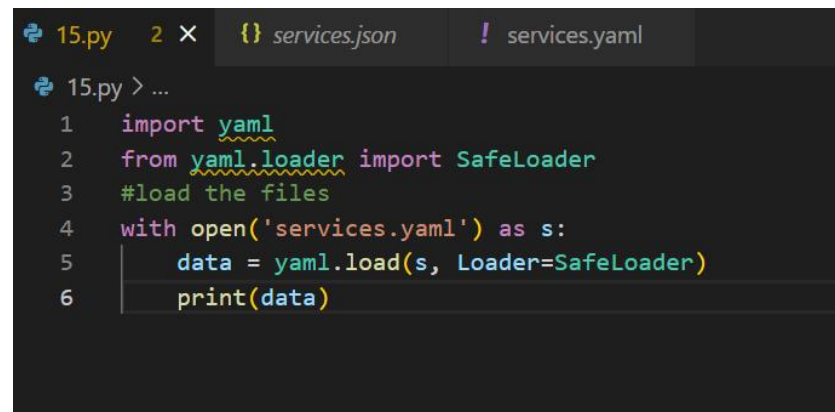
[PyYAML](#) is a YAML parser and emitter for Python.

To install pyYAML module use command.

We need to use PyYAML module's `yaml.load()` function. This function parses and converts a YAML object to a Python dictionary (`dict` object).

This process is known as Deserializing YAML into a Python.

```
#pip install pyYAML
```



```
15.py 2 X {} services.json ! services.yaml
15.py > ...
1  import yaml
2  from yaml.loader import SafeLoader
3  #load the files
4  with open('services.yaml') as s:
5      data = yaml.load(s, Loader=SafeLoader)
6      print(data)
```

```
{'services': {'debug': 'on', 'aws': {'name': 'EC2', 'type': 'pay per hour', 'instances': 500, 'count': 500}, 'azure': {'name': 'VM', 'type': 'pay per hour', 'instances': 500, 'count': 500}, 'gcp': {'name': 'Compute Engine', 'type': 'pay per hour', 'instances': 500, 'count': 500}}}
```

output

`json.dumps()` function will convert a subset of Python objects into a json string.

```
day15.py > ...
1 import yaml
2 import json
3
4 # Open the file and load the file
5 with open('services.yaml','r') as f:
6     data = yaml.safe_load(f)
7     print(data)
8
9 with open('new.json','w') as json_f:
10     json.dump(data,json_f)
11
12 final_output = json.dumps(json.load(open('new.json')),indent=2)
13 print("json_file :\n",final_output)
```

PROBLEMS 1 OUTPUT TERMINAL GITLENS DEBUG CONSOLE

```
{'services': {'debug': 'on', 'aws': {'name': 'EC2', 'type': 'pay per hour', 'instances': 500, 'count': 500}, 'azure': {'name': 'VM', 'type': 'pay per hour', 'instances': 500, 'count': 500}, 'gcp': {'name': 'Compute Engine', 'type': 'pay per hour', 'instances': 500, 'count': 500}}}
json_file :
{
  "services": {
    "debug": "on",
    "aws": {
      "name": "EC2",
      "type": "pay per hour",
      "instances": 500,
      "count": 500
    },
    "azure": {
      "name": "VM",
      "type": "pay per hour",
      "instances": 500,
      "count": 500
    },
    "gcp": {
```

Please, feel free to drop any questions in the comments below. I would be happy to answer them.

If this post was helpful, please do follow and click the clap

_Thank you for reading

_Rajani