



**Usman Institute of Technology**  
**Department of Computer Science Fall 2022**

Name: Muhammad Waleed

Roll no: 20B-115-SE

Course: Software Design and Architecture (SE-308)

Course Instructor: Misbah ud Din

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Muhammad Waleed  
20b-115-se  
SE-B  
SDA Lab#10  
Sir Misbah Ud Deen

## Home Task:

Code:

```
from flask import Flask
from flask_restful import Api, Resource, reqparse, abort

app = Flask(__name__)
API = Api(app)

student_put = reqparse.RequestParser()
student_put.add_argument("Name", type=str, location="form")
student_put.add_argument("Rollno", type=str, location="form")

students = {
    1: {"name": "bajwa", "rollno": "20b-017-se"},
    2: {"name": "aun", "rollno": "20b-118-se"},
    3: {"name": "farhan", "rollno": "20b-055-se"}
}

def notFound(studen_id):
    if studen_id not in students:
        abort(404, message="Student not found")

class Student(Resource):
    def get(self, id):
        notFound(id)
        return students[id]

    def put(self, id):
        newStd = student_put.parse_args()
        students[id] = newStd
        return students[id]

    def post(self, id):
        newStd = student_put.parse_args()
        newid = int(max(students.keys()))+1
        students[newid] = newStd
        print(students)
        return students[newid]

    def delete(self, id):
        del students[id]
```

Muhammad Waleed  
20b-115-se  
SE-B  
SDA Lab#10  
Sir Misbah Ud Deen

```
API.add_resource(Student, "/show/<int:id>")

if __name__=="__main__":
    app.run(debug=True)
```

Output:

GET:

The screenshot shows a REST client interface. The request method is GET, and the URL is http://127.0.0.1:5000/show/1. The status is 200 OK, size is 52 Bytes, and time is 21 ms. The response is a JSON object: {"name": "bajwa", "rollno": "20b-017-se"}.

Method	URL	Status	Size	Time
GET	http://127.0.0.1:5000/show/1	200 OK	52 Bytes	21 ms

Response: {"name": "bajwa", "rollno": "20b-017-se"}

POST

The screenshot shows a REST client interface. The request method is POST, and the URL is http://127.0.0.1:5000/show/1. The status is 200 OK, size is 53 Bytes, and time is 11 ms. The response is a JSON object: {"Name": "waleed", "Rollno": "20b-115-se"}.

Method	URL	Status	Size	Time
POST	http://127.0.0.1:5000/show/1	200 OK	53 Bytes	11 ms

Response: {"Name": "waleed", "Rollno": "20b-115-se"}

Muhammad Waleed  
20b-115-se  
SE-B  
SDA Lab#10  
Sir Misbah Ud Deen

PUT:

The screenshot shows a REST client interface with a PUT request to `http://127.0.0.1:5000/show/5`. The request body is a form with fields: Name (M Waleed), Rollno (20b-115-se), and field name (value). The response is a JSON object: `{ "Name": "M Waleed", "Rollno": "20b-115-se" }`. The status is 200 OK, size is 55 Bytes, and time is 9 ms.

Method	URL	Status	Size	Time
PUT	http://127.0.0.1:5000/show/5	200 OK	55 Bytes	9 ms

Form Fields:

Field	Value
Name	M Waleed
Rollno	20b-115-se
field name	value

Response:

```
{
  "Name": "M Waleed",
  "Rollno": "20b-115-se"
}
```

DELETE:

The screenshot shows a REST client interface with a DELETE request to `http://127.0.0.1:5000/show/2`. The response is `null`. The status is 200 OK, size is 5 Bytes, and time is 6 ms.

Method	URL	Status	Size	Time
DELETE	http://127.0.0.1:5000/show/2	200 OK	5 Bytes	6 ms

Response:

```
null
```

Terminal:

```
127.0.0.1 - - [23/Dec/2022 16:26:16] "GET /show/1 HTTP/1.1" 200 -
127.0.0.1 - - [23/Dec/2022 16:33:31] "POST /show/1 HTTP/1.1" 200 -
127.0.0.1 - - [23/Dec/2022 16:35:53] "PUT /show/5 HTTP/1.1" 200 -
127.0.0.1 - - [23/Dec/2022 16:36:29] "DELETE /show/2 HTTP/1.1" 200 -
```