

# Data Representation

## Lab 05.3: AJAX calls to REST

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In this lab we want to make the AJAX calls that will call the RESTful API

- The server serves out a RESTfull api that performs CRUD operations on cars

Action	Method	URL	Sample params	Sample return
Get all	GET	/cars	none	{ cars:[ {...},{...},{...} ] }
Find by id	GET	/cars/ <i>reg</i>	none	{car: { "reg":"12 D 1234", "make":"Fiat", "model":"Punto", "price":3000 } }
Create	POST	/cars	{ "reg":"12 D 1234", "make":"Fiat", "model":"Punto", "price":3000 }	{ "reg":"12 D 1234", "make":"Fiat", "model":"Punto", "price":3000 }
Update	PUT	/cars/ <i>reg</i>	{ "price":3000 }	{ "reg":"12 D 1234", "make":"Fiat", "model":"Punto", "price":3000 }
delete	DELETE	/cars/ <i>reg</i>	none	{ "done":true }

1. Copy the server from the lecture folder and run it and test it.
2. Test that we can call the server from the web page, by creating a webpage called testgetall.html.
3. open browser and open <http://127.0.0.1:5000/testgetall.html>

```
<html>
  <head>
    <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.4.1/jquery.min.js"><
  /script>
    <title>
      test get all
    </title>
  </head>
  <body>
    <button onclick="getAll()">getAll</button>
    <div id="output"></div>
    <table id="carsTable">
      <tr>
        <th>reg</th><th>make</th><th>model</th><th>price</th><th></th><th></th>
      </tr>
    </table>
  </body>
  <script>
    function getAll(){
      $.ajax({
        "url": "http://127.0.0.1:5000/cars",
        "method": "GET",
        "data": "",
        "dataType": "JSON",
        "success": function(result) {
          console.log(result);
        },
        "error": function(xhr, status, error) {
          console.log("error: "+status+" msg:"+error);
        }
      });
    }
  </script>
</html>
```

4. If you get this error,

it is because you opened the html file directly and did not through the server. Id the url looks like. <file:///C:/morespace/Dropbox/gmit/dataRepresentation/code/week05-REST/testgetall.html>

EXTRA: Modify this page so that it stores each of the cars to the table (You have the code from week 2 that adds a car to a table, you just need to call it from success function for each car)

## Create

5. Make a web page that tests the create (call it *testCreate.html*)

```
function createCar(){
    var car = {"reg":"12 D 1234","make":"Fiat","model":"Punto",
"price":3000}
    console.log(JSON.stringify(car));
    $.ajax({
        "url": "http://127.0.0.1:5000/cars",
        "method":"POST",
        "data":JSON.stringify(car),
        "dataType": "JSON",
        contentType: "application/json; charset=utf-8",
        "success":function(result){
            console.log(result);
            document.getElementById("output").innerText = JSON.
stringify(result);
        },
        "error":function(xhr,status,error){
            console.log("error: "+status+" msg:"+error);
        }
    });
}
```

## Update

### 6. Test the update (call it testUpdate.html)

```
function updateCar() {
    var car = {"reg": "181 G 1234", "make": "Ford", "model": "Modeo", "price": "00"}
    console.log(JSON.stringify(car));
    $.ajax({
        "url": "http://127.0.0.1:5000/cars/"+encodeURIComponent(car.reg),
        "method": "PUT",
        "data": JSON.stringify(car),
        "dataType": "JSON",
        contentType: "application/json; charset=utf-8",
        "success": function(result) {
            console.log(result);
            document.getElementById("output").innerText = JSON.stringify(result);
        },
        "error": function(xhr, status, error) {
            console.log("error: " + status + " msg: " + error);
        }
    });
}
```

## Delete

### 7. Test delete (call it testDelete.html)

```
function deleteCar() {
    var car = {"reg": "12 D 1234"}
    console.log(JSON.stringify(car));
    $.ajax({
        "url": "http://127.0.0.1:5000/cars/"+encodeURIComponent(car.
reg),
        "method": "DELETE",
        "data": "",
        "dataType": "JSON",
        contentType: "application/json; charset=utf-8",
        "success": function(result) {
            console.log(result);
            document.getElementById("output").innerHTML = J
SON.stringify(result);
        },
        "error": function(xhr, status, error) {
            console.log("error: "+status+" msg:"+error);
        }
    });
}
```