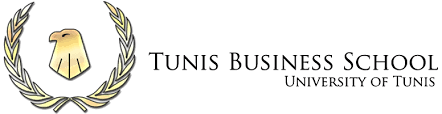
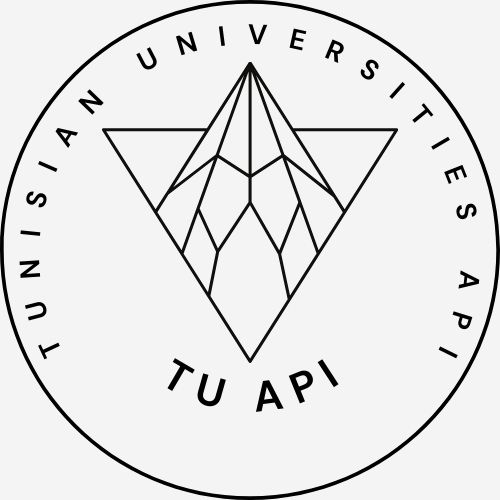
****

**IT 325 Web Service**

**TU API**



# by

# Mechergui Rami

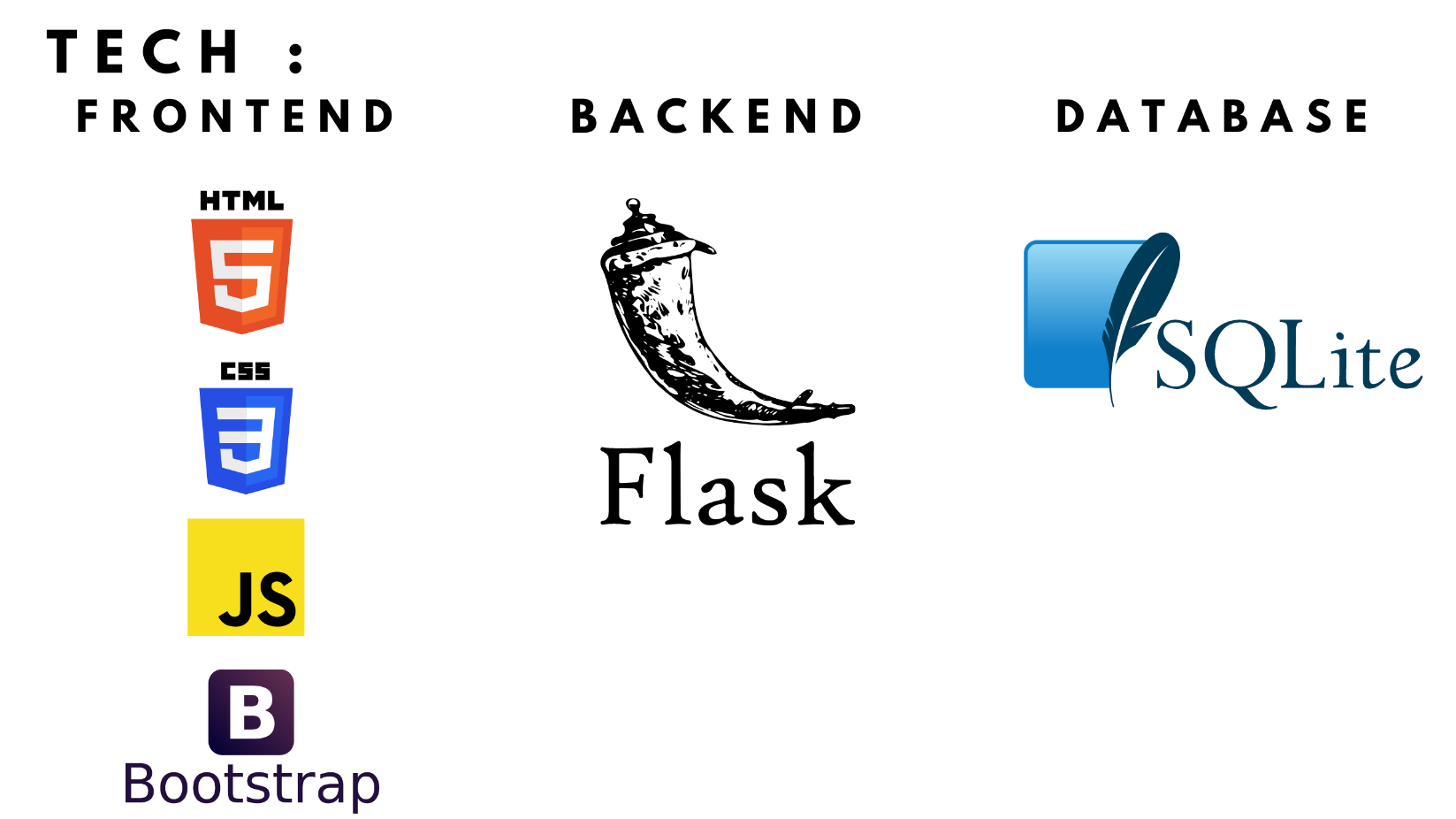
*e-mail: ramimechergui@tbs.u-tunis.tn*

** **

[**https://tuapifinalversion.herokuapp.com/**](https://tuapifinalversion.herokuapp.com/)[**https://github.com/RamiMechergui/tuapifinalversion**](https://github.com/RamiMechergui/tuapifinalversion)

26 January , 2022

**THE LIST OF TECHNOLOGIES USED :**

****

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**1.1-Overview**

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**1-Getting started with the TU API :**

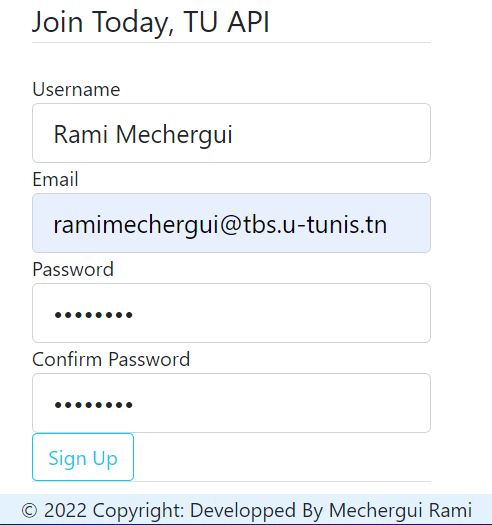
**1.1- Overview**

The TU API is used to get data about **Tunisian Universities** . Our API returns [JSON-encoded](http://www.json.org/) responses, and uses standard HTTP response codes and authentication.(Source of Data [www.mes.tn](http://www.mes.tn) )

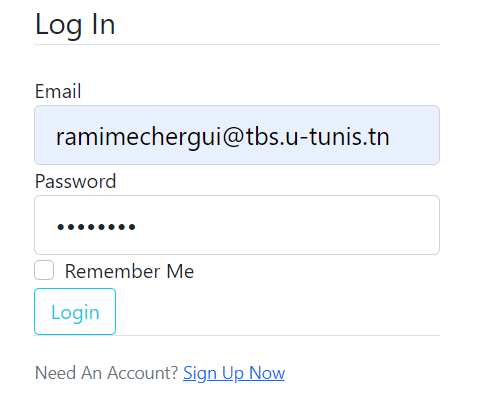
**1.2- How to use TU API**

**Method 1 :**

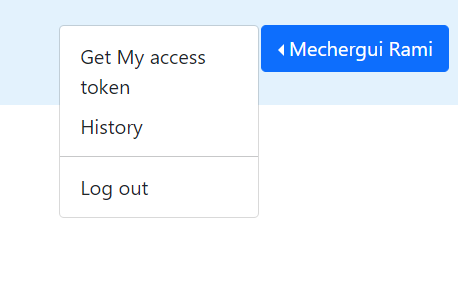
First of all , you have to sign up , as show below :



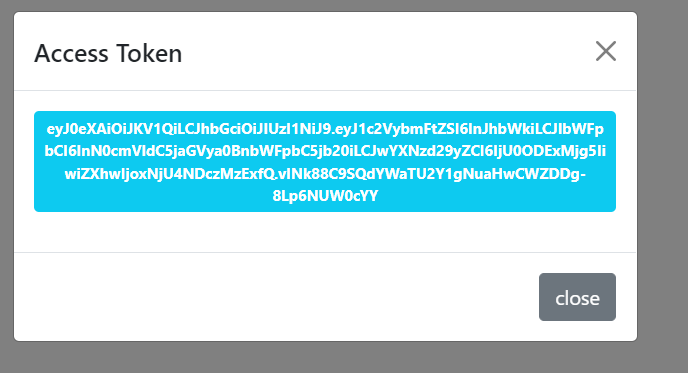
And then Login :



After Signing Up press on Get My access token:

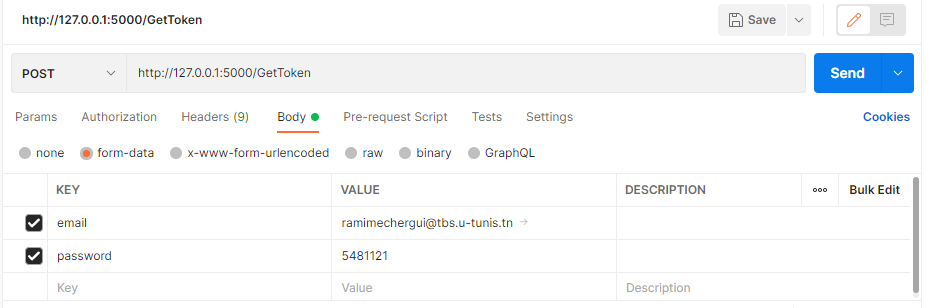


A new window will be displayed :



**Method 2 :**

**You have to send a form based request**

****

**Endpoint : /GetToken**

**http verb : POST**

**Valid Response :**

{

    "Access Token": "eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJ1c2VybmFtZSI6Ik1lY2hlcmd1aSBSYW1pIiwiZW1haWwiOiJyYW1pbWVjaGVyZ3VpQHRicy51LXR1bmlzLnRuIiwicGFzc3dvcmQiOiI1NDgxMTI4OSIsImV4cCI6MTY1ODcxMzI3Nn0.fdWi0ItRQb52NPoaFyesUAtoTWSNKW\_KK6BvAvQeUaw"

}

**Error code 403 (Forbidden)**

{

    "Response": "wrong email or password"

}

**Note : All API requests without a valid token in the header will fail .**

If token is not provided : **Error code 401 (Unauthorized)**

{

    "message": "Token is missing"

}

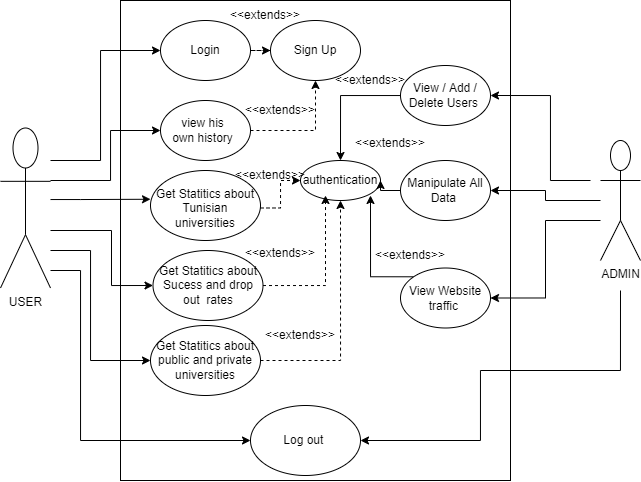
If token is invalid : **Error code 401 (Unauthorized)**

{

    "message": "Token is invalid !!"

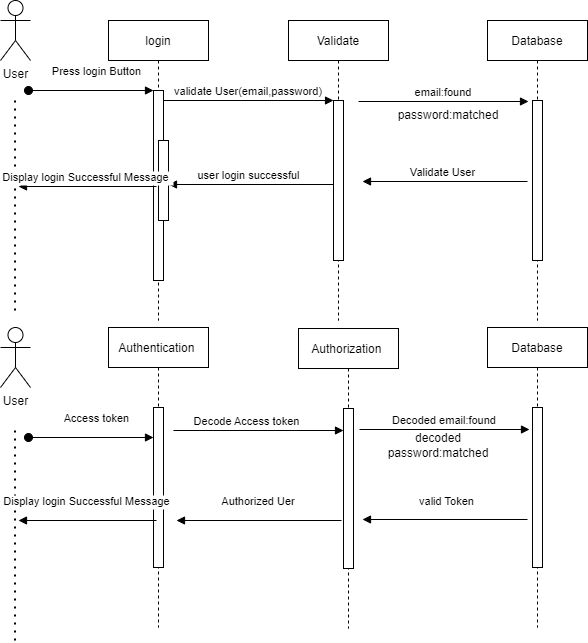
}

**1.4 - Use case diagram**



**TU API USE CASE DIAGRAM**

**1.5 - Sequence diagram**

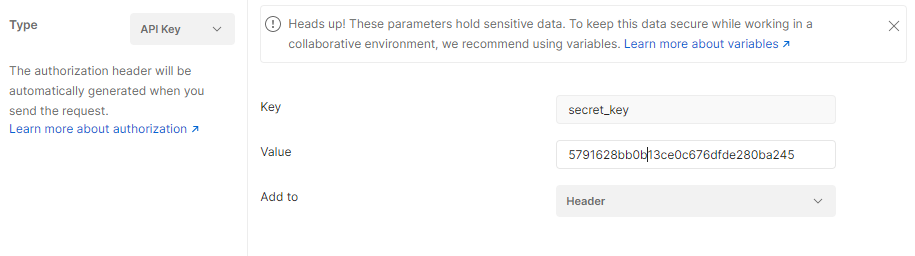
****

**TU API sequence diagram**

**2 - User Endpoints**

|  |  |  |  |
| --- | --- | --- | --- |
| **http verb** | **Endpoint** | **Description** | **Response** |
| **GET** | /user/list\_of\_universities | Returns the list of Tunisian universities | {"List of tunisian univeristies": [          "University of Ezzitouna",          "University of Tunis",          "University of Tunis el manar",          "University of Carthage",          "University of Manouba",          "University of Jendouba",          "University of Sousse",          "University of Monastir",          "University of Kairouan",          "University of Sfax",          "University of Gabes",          "University of Gafsa",          "Directorate General   for Technology Studies (DGET)",          "Virtual University",      ]  } |
| **GET** | /user/list\_of\_universities/UniversityName | Returns the number of students with university from 2014 to 2020 | {"University of Ezzitouna": [          {"2014\_2015": "2443"},          {"2015\_2016": "2418"},          {"2016\_2017": "2475"},          {"2017\_2018": "2400"},  {"2018\_2019": "2566"},  {"2019\_2020": "2555"}]} |
| **GET** | /user/rates | Returns the list of rates that we gathered information about | {      "List of rates": [          "Success",          "Drop\_out",          "Number of Drop\_outs"      ]  } |
| **GET** | /user/rates/:Status | Returns the rates of specified status from 2014 to 2019 | {"Success": [{"2014\_2015": "66.1%"},  {"2015\_2016": "70.2%"},           {"2016\_2017": "70.8%"},           {"2017\_2018": "72.9%"},  {"2018\_2019": "71.1%"},           {"2019\_2020": "Not yet"}       ]} |
| **GET** | /user/rates/<status>/<year1>-<year2> | Returns the rates of specified status in a specific year | {"Success": {"2016\_2017": "70.8%"}} |
| **GET** | /user/total\_Cost\_per\_student | Returns the list of total expenditures from 2014 to 2019 | {"Total expenditures":  [{"2014\_2015": "1340928 TND"},          {"2015\_2016": "1276863 TND"},          {"2016\_2017": "1431661 TND"},          {"2017\_2018": "1486969 TND"},          {"2018\_2019": "1644664 TND"}]  } |
| **GET** | /user/total\_Cost\_per\_student/<year1>-<year2> | Returns the total expenditure in a specific year | {"Total expenditures": [  {"2015\_2016": "1276863 TND"}]  } |
| **GET** | /user/Total\_Number\_Of\_Student | Returns the number of students in public and private from 2014 to 2020 | {"Total Number of students(Public & Private)": [          {"2014\_2015": "322625"},          {"2015\_2016": "294486"},          {"2016\_2017": "282204"},          {"2017\_2018": "272261"},          {"2018\_2019": "267154"},          {"2019\_2020": "269424"}      ]  } |
| **GET** | /user/Prop-private-total-student | Returns the proportion of students in the private sector in relation to total number | {"Proportion of students in the private sector   in relation to total student": [          {"2014\_2015": "9,4%"},  {"2015\_2016": "10,4%"},  {"2016\_2017": "11,1%"},  {"2017\_2018": "11,5%"},  {"2018\_2019": "12,5%"},  {"2019\_2020": "12,9%"}      ]  } |
| **GET** | /user/N-Of-Stu-per-100-student | Get the number of students per 100 thousands inhabitant | {"Number of students per 100 thousand   inhabitants": [          {"2014\_2015": "2892"},          {"2015\_2016": "2622"},          {"2016\_2017": "2467"},  {"2017\_2018": "2351"},          {"2018\_2019": "2279"},  {"2019\_2020": "2301"}      ]  } |

**In order to get Access to Admin Endpoints the secret key should be provided in the header :**



**3-Admin Endpoints :**

|  |  |  |  |
| --- | --- | --- | --- |
| **HTTP** | **Endpoint** | **Description** | **Response** |
| **DELETE** | /admin/users/delete?  email=example@gmail.com  \*\*\*email of the user to delete | Delete a user with the specified email | {   "Response": "User Deleted  Sucessfully"  } |
| **PUT** | /admin/University\_Name?year1=2015  &year2=2016  &New\_Stat=2480  \*\* year1  \*\* year2  \*New\_Stat | Update the data of university table | {   "response": "Item modified  Sucessfully"  } |
| **PUT** | /admin/rates/Success?  year1=2016&  year2=2017&  New\_Stat=0 | Update the data of rates table | {      "response": "Item modified  Sucessfully"  } |

**4-Error code Table**

|  |  |  |
| --- | --- | --- |
| **Code** |  | **Description** |
| **2xx** | OK | Everything worked as expected |
| **4xx** | Bad request | The request was unacceptable, often due to missing a required parameter |
| **401** | Unauthorized | Unauthorized  No valid API key provided |
| **402** | Request Failed | The parameters were valid but the request failed |
| **403** | Forbidden | The API key doesn’t have permissions to perform the request |
| **404** | Not found | The requested resource doesn’t exist |
| **500,502,503,504** | Server Error | Something went wrong on the server |

**Note :**

**This product is considered as an MVP with just enough features as a proof of work .**

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