**Vaccination Registration project Details**

**Modules**

* Flask
* requests
* json
* pymongo
* Datetime
* Jsonify

**Project Overview**

This app is created for vaccine registration, and I have used the mongo DB atlas to store the data into the database. In this project I have used Flask Framework I have implemented 6 API’s and one database name is given and two table names are given.

**USE CASE COVERED**

**For user:**

* Registering the user with the Name, PhoneNumber, Age, Pincode, Aadhar No
* User can login through his PhoneNumber and password.
* User should be able to see the available time slots on a given day for vaccine registration first/second dose based on his vaccination status.
* Users can register a slot for the first/second dose of the vaccine register and it will show in like this formatte **1st dose** on **1st June 11 AM**.
* Users can register for the second dose, only after completing their first dose of vaccine. Once the registered time slot is lapsed, the user will be considered as vaccinated for that registered dose (first/second).
* User can update/change his registered slot, till 24 hours prior to his registered slot time

**For admin**

* Login using admin credentials There won’t be any api for registering the admin. His credentials are manually created in the database
* Check the registered slots for the vaccine (first dose /second dose/total) on a given day
* Vaccine slot details
* Assuming that the vaccination drive is happening only from 1st June ‘21 to 30th June ’21 the user can register only between this month.
* Timings of the vaccine : 10 AM to 5 PM everyday
* Each vaccine slot will be of duration 30 minutes. So slots will be like 10:00 AM to 10:30 AM, 10:30 AM to 11:00 AM etc
* In each vaccine slot there will be 10 vaccine doses available (vaccine dose is same for first/second doses. So both users with first dose or second dose can register).
* So total available vaccine doses => 30\*14\*10 => 4,200
* Once 10 vaccine doses in a slot is registered, that time slot will not be available for further registrations unless the registered user modifies his time slot to a different slot.

**Request URL for the API**

* **http://127.0.0.1:5000/**

**API USED :**

**1)@app.route(“/newMemberRegistration”,Methods=[‘post’]).**

**2) @app.route(“/user/login”,methods=[‘POST’])**

**3)@app.route(“/user/checckinDate”, methods=[‘POST’])**

**4) @app.route(“/user/bookslot”,methods=[‘PUT’])**

**5) @app.route(“/user/changeBookedSlot”,methods=[‘PUT’])**

**6) @app.route(“/getRegisteredSlot/<date>”,method=[‘GET’])**

**Description**

**New Member registration:**

* I have created an API called **@app.route(“/newMemberRegistration”,Methods=[‘post’]).**
* Next I have created a function to insert the new records.so users can register for vaccination with all the mandatory fields like Name, Age, Phone Number, Pincode, aadharNum, passcode.
* If the Aadhar number is already present in MongoDB then the API will show the Response as “Member Already registered” else if Aadhar is not present we receive Response as “ “Member is successfully registered” and all the Request details will be stored in MongoDb Members Collection.
* And also i am cross verifying the Request Values for all the mandatory fields,in case if any above mentioned fields are empty then we receive response as “Please enter the “ Field Name

**Login Credentials Validator:**

* User can login through the API called **@app.route(“/user/login”,methods=[‘POST’])**
* Next, I have created one method to login called ValidateLogindetails() in this method if the user does not provide the details then it will show please enter the missing value. Then if phone number and login details is not equal to zero then it will return entered credtials are valid else it phone number and login details are equal to zero then it will show Invalid credentials.

**Checking slot based on Slots:**

* Next created an API for vaccine available status and API used is **@app.route(“/user/checckinDate”, methods=[‘POST’])**
* Next method is checkslotBaseOnDate() the user can register for vaccine only from 1-june-2021 to 30-june-2021 if the user is not selecting from this month or the year then it will show please select the Date in June 2021 in DD-MM-YYYY. if the user is selecting from the above date then it will show the date and total availability of the vaccine.

# Booking Vaccination Slot

* API used for the booking of the vaccine is **@app.route(“/user/bookslot”,methods=[‘PUT’])**
* The function used here is book VaccineSlot() data used here is Date ,Vaccination slot, Dose, Aadhar here why we used only these data is on which date the user want the vaccination, vaccination slot is used on which time user want to register and user want first dose or second dose of the vaccination Aadhar is used for identifying for first dose or second dose or how much time the user is taking the vaccination.

## Use Case 1: When User Booking for First Dose for First Time.

* If the Dose in the Request is equal to first dose then API will verify the Vaccine Dose in the MongoDB Members collection data based on the Aadhar number given in the request.
* If the Member is already registered and booking the dose for the first time then the API will check the available Doses on the given Vaccine Slots as per the request body.
* If the user registering for the first dose, for the first time then API will check the availability of the Dose on the Given Slot for the given dose(first\second).’
* If the Dose are Available for the given slot then the respective slot will be booked, Updating the Slot details with the user. If slot is successfully booked user receives the response as “Successfully registered for the 1st dose on 1st June 11AM”
* If the Doses are not Available on the given Vaccine slot then API asks to book another slot with the response “Please select the different slot for FirstDose.”

## Use Case2: When User Tries to book First Slot Second Time:

If the Dose in the request is equal to first dose then API will verify Dose in MongoDB Members Collection data based on the Aadhar number given in the request.

If the Members is already registered and Booking the dose for the second time then API will check vaccine slot as per the request body.

If the user is registering for the first dose for second time then API will check the availability of the dose on the given slot and through the response first dose already registered on the given slot.

**UseCase3: When User Tries to Book for Second Slot without booking for First Slot**

* If the Dose in the Request is equal to second dose then API will verify the Vaccine Dose in the MongoDB Members collection data based on the Aadhar number given in the request.
* If the user registering for the second dose, without registering for the first dose then API will check the availability of the Dose on the Given Slot for the given dose.’
* Then API asks to book please register for the first dose.

**UseCase4: When User books for Second Slot after First Dose**

* If the Dose in the Request is equal to second dose then API will verify the Vaccine Dose in the MongoDB Members collection data based on the Aadhar number given in the request.
* If the user registering for the second dose, for the first time then API will check the availability of the Dose on the Given Slot for the given dose(second).’
* If the Dose are Available for the given slot then the respective slot will be booked, Updating the Slot details with the user. If slot is successfully booked user receives the response as “Successfully registered for the 2nd dose on 1st June 11AM”
* If the Doses are not Available on the given Vaccine slot then API asks to book another slot with the response “Please select the different slot for SecondDose.”

**UseCase5: When the user doesn’t provide the valid dose in Request**

* If the user is not selecting any of the dose then it will give the response as please enter valid dose for registering.

**Updating the booking Slot:**

* User can update/change his registered slot within 24 hours prior to his registered slot time. and API used here is **@app.route(“/user/changeBookedSlot”,methods=[‘PUT’])**
* The method used here is updateBookedSlot() and data I have used currentdatetime, date, vaccination slot, aadhar why I used these data is because the curentdatetime on which date and time he has registered and date on which date he want to update and vaccineslot on which slot he want to register and aadhar number how many time he has registered for the same dose.

**Use Case6: user can update/change his registered slot, within 24 hours.**

* the API will find the Vaccine Dose in the MongoDB Members collection data based on the Aadhar number given in the request.
* Then it will find the API difference between the recorded time and current time difference if the total deference total second is greater then 24\*3600.
* Then slot booked timings is equal to the recorded timings then user receive the response as please select the new slot for updating.
* If the vaccinationStatus is equal to first dose it will be find the data and vaccine slot.
* For I in records is firstdosevaccination is not equal then API will verify the Vaccine Dose in the MongoDB vaccinationslot collections data based on the Aadhar number given in the request. As per the availability of the slot it will update the first dose.
* If slot is successfully booked user receives the response as “Successfully updated your first dose vaccine slot to 1st June on 11AM”sssss
* If the Doses are not Available on the given Vaccine slot then API asks to book another slot with the response “Please select the different slot for FirstDose.”
* If the vaccinationStatus is equal to second dose it will be find the data and vaccine slot.
* For I in records is seconddosevaccination is not equal then API will verify the Vaccine Dose in the MongoDB vaccinationslot collections data based on the Aadhar number given in the request. As per the availability of the slot it will update the first dose.
* If slot is successfully booked user receives the response as “Successfully updated your second dose vaccine slot to 1st June on 11AM”
* If the Doses are not Available on the given Vaccine slot then API asks to book another slot with the response “Please select the different slot for secondDose.”
* If the user is registering after 24 hours then user receive the response as sorry your not allowed to change the slot within 24 hours.

**Getting registered slot:**

* Next API used is **@app.route(“/getRegisteredSlot/<date>”,method=[‘GET’])** here I am using GET HTTP request for request the data from the specific resourse.
* The method I have used here is getRegisteredSlots(date)

**UseCase7:getting registered date**

* the use case is the user need to register only from 1=06-2021 to 30-06-2021 so I have written one condition if getdate is not equal to 06 or getdate is not equal to the 2021 then my code will show please select the date in June 2021 in DD-MM-YYYY.
* If the user is given within the given date the it will go the collection and find the given date and getdate then it will enter the loop then it will book the vaccine and return the total member registered with date and sum