**DBMS MINI PROJECT**

**TOPIC : Vaccination management system**

**AIM:**

Vaccination management system : An easy and user-friendly way to manage vaccination data all over the country.

**INTRODUCTION**

* Databases **can store very large numbers of records efficiently** (they take up little space).
* It is very quick and easy to find information . It is easy to add new data and to edit or delete old data.
* Database management systems **help users share data quickly, effectively, and securely across an organization**.
* By providing quick solutions to database queries, a data management system enables faster access to more accurate data.

Our vaccination management system project enables users to book their vaccination slot according to their convenience in the nearest vaccination centers available.

**RELEVANCE**

This project is based on implementation of the real life system of vaccination booking that was used by the government of not only India, but multiple countries.

**SOFTWARE REQUIREMENT SPECIFICATION (SRS)**

Database : MySQL

Localhost Server : Apache Tomcat

Backend : JSP

GUI : HTML

**Normalization**

**Normalization is the process of organizing data in a database. This includes creating tables and establishing relationships between those tables according to rules designed both to protect the data and to make the database more flexible by eliminating redundancy and inconsistent dependency.**

* **1NF**

1.No repeating values

2.No repeating columns

|  | **Personal\_Det** |
| --- | --- |
| PK | Aadhar\_No |
|  | Name |
|  | DOB |
|  | Gender |
|  | City |
|  | State |
|  | Pincode |
|  | MobNo |
|  | emailId |
|  | Pregnancy |
|  | Diabetes |
|  | Other\_Ill |
| FK | Bene\_No\_of\_Vacc |
|  | pwd |

|  | **Centres\_Detail** |
| --- | --- |
| PK | C\_code |
|  | C\_Name |
|  | C\_city |
|  | C\_state |
|  | C\_pincode |
|  | TS1 |
|  | TS2 |
|  | Capacity |
|  | cv\_amt |
|  | cs\_amt |
|  | Covaxin\_consmp |
|  | Covishield\_consmp |
| PK | vaccId |
|  | Vacc\_Name |

|  | **Emp\_det** |
| --- | --- |
| PK | empId |
| FK | C\_code |
|  | e\_name |
|  | DOB |
|  | qualif |
|  | eGender |

|  | **det\_of\_vacc** |
| --- | --- |
| PK | Bene\_no |
|  | vacc\_Name |
|  | status |
|  | time |
|  | Vacc\_by |
|  | ts |
|  | v\_date |
| FK | adhno |

* **2NF**

Here except centers table all table are in 3NF form

1.It should be in 1NF form

2.No partial dependency

Thus,

|  | **Centres\_Detail** |
| --- | --- |
| PK | C\_code |
|  | C\_Name |
|  | C\_city |
|  | C\_state |
|  | C\_pincode |
|  | TS1 |
|  | TS2 |
|  | Capacity |
|  | cv\_amt |
|  | cs\_amt |
|  | Covaxin\_consmp |
|  | Covishield\_consmp |

|  | **vacc\_ids** |
| --- | --- |
| PK | vaccId |
|  | Vacc\_Name |

* **3NF**

|  | **Personal\_Det** |
| --- | --- |
| PK | Aadhar\_No |
|  | Name |
|  | DOB |
|  | Gender |
|  | City |
|  | State |
|  | Pincode |
|  | MobNo |
|  | emailId |
|  | Pregnancy |
|  | Diabetes |
|  | Other\_Ill |
| FK | Bene\_No\_of\_Vacc |
|  | pwd |

|  | **det\_of\_vacc** |
| --- | --- |
| PK | Bene\_no |
|  | vacc\_Name |
|  | status |
|  | time |
|  | Vacc\_by |
|  | ts |
|  | v\_date |
| FK | adhno |

|  | **Centres\_Detail** |
| --- | --- |
| PK | C\_code |
|  | C\_Name |
|  | C\_city |
|  | C\_state |
|  | C\_pincode |
|  | TS1 |
|  | TS2 |
|  | Capacity |
|  | cv\_amt |
|  | cs\_amt |
|  | Covaxin\_consmp |
|  | Covishield\_consmp |

**DESCRIPTION**

We have two main pages on frontend:

1.Login page

2.Registration page

* Login page :

Login page consist Employee login. One has to enter employee id, password and the aadhar number of person who has done his/her vaccination.

* Registration page :

If the applicant is new, he/she has to register first for the vaccine. In this he/she has to enter her/his personal details, vaccination details such as vaccine name, date of vaccination, etc.

**Database description**

We have created a database called Vaccination\_Drive consisting following tables:

**1.personal\_det:**

Table to store user information

Primary key : Aadhar\_No

Foreign key : Bene\_No\_of\_Vacc

Not null : pwd

| 1.Aadhar\_No | Varchar(15) |
| --- | --- |
| 2.Name | Varchar(50) |
| 3.DOB | Date |
| 4.Gender | Varchar(20) |
| 5.City | Varchar(30) |
| 6.State | Varchar(30) |
| 7.Pincode | Int |
| 8.MobNo | Varchar(10) |
| 9.emailId | Varchar(50) |
| 10.Pregnancy | Varchar(5) |
| 11.Diabetes | Varchar(5) |
| 12.Other\_Ill | Varchar(50) |
| 13.Bene\_No\_of\_Vacc | Varchar(15) |
| 14.pwd | Varchar(50) |

**2.centres**

Table to store center information

Primary key : C\_code (auto\_increment)

| 1.C\_code | int |
| --- | --- |
| 2.C\_Name | Varchar(50) |
| 3.C\_city | Varchar(30) |
| 4.C\_state | Varchar(30) |
| 5.C\_pincode | int |
| 6.TS1 | Varchar(15) |
| 7.TS2 | Varchar(15) |
| 8.Capacity | int |
| 9.cv\_amt | int |
| 10.cs\_amt | int |
| 11.covaxin\_consumption | int |
| 12.covishield\_consumption | int |

**3.emp\_det**

Table to store employee information

Primary key : empId

Foreign key : C\_code

| 1.empId | Varchar(15) |
| --- | --- |
| 2.C\_code | int |
| 3.e\_name | Varchar(50) |
| 4.DOB | Date |
| 5.qualif | Varchar(30) |
| 6.eGender | Varchar(20) |
| 7.pwd | varchar(20) |

**4.det\_of\_vacc**

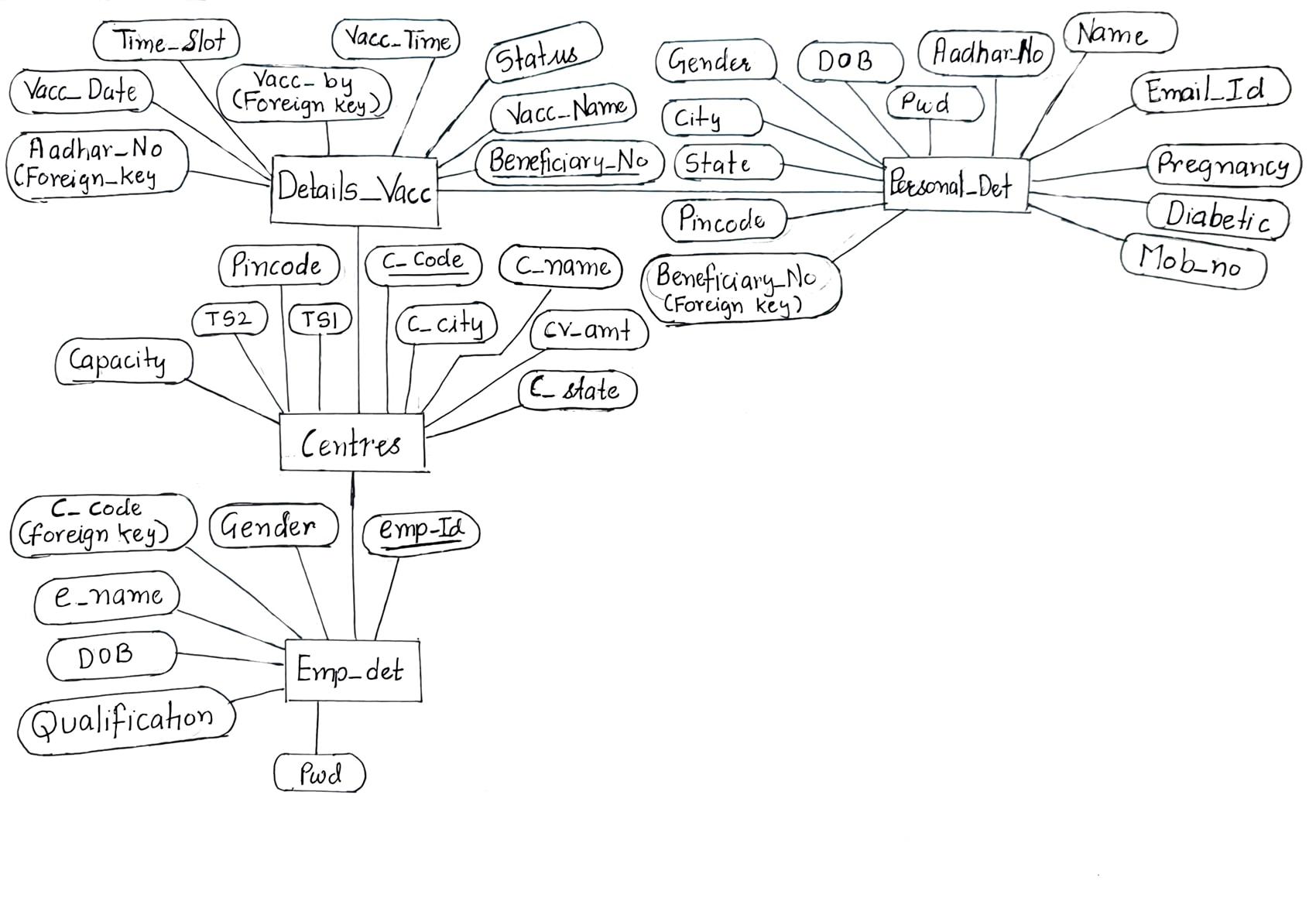
Table to store vaccination information

Primary key : Bene\_no

Foreign key : adhno, Vacc\_by

| 1.Bene\_no | Varchar(15) |
| --- | --- |
| 2.vacc\_Name | Varchar(20) |
| 3.status | Varchar(20) |
| 4.v\_time | time |
| 5.ts | Varchar(15) |
| 6.v\_date | Date |
| 7.Vacc\_by | Varchar(15) |
| 8.adhno | Varchar(15) |

**ERD**

****

**QUERIES**

* **BETWEEN()**

mysql> select count(empId) from Emp\_det where (DOB between "1997-03-01" and "1997-04-01");

+--------------+

| count(empId) |

+--------------+

| 2 |

+--------------+

1 row in set (0.12 sec)

* **LIKE()**

**To display employee id using year and month irrespective of date**

mysql> select distinct empId,DOB from Emp\_det where DOB like "1997-03%" order by DOB;

+--------+------------+

| empId | DOB |

+--------+------------+

| 100153 | 1997-03-07 |

| 100044 | 1997-03-10 |

+--------+------------+

2 rows in set (0.01 sec)

* **Subquery**

**To display centres having maximum capacity**

mysql> select C\_code, C\_Name from Centres where Capacity = (select max(Capacity) from Centres);

+--------+-----------------------------------+

| C\_code | C\_Name |

+--------+-----------------------------------+

| 10003 | Delhi Cantonment General Hospital |

| 10009 | Sky Garden Booth-1 |

| 10013 | SPS SDH Hospital Rishikesh |

+--------+-----------------------------------+

3 rows in set (0.01 sec)

* **ORDER BY**

**To display centre table order by state**

mysql> select \* from Centres order by C\_state;

+--------+----------------------------------------------------+-----------+-------------+-----------+--------------------+--------------------+----------+--------+--------+------------+------------+

| C\_code | C\_Name | C\_city | C\_state | C\_pincode | TS1 | TS2 | Capacity | cv\_amt | cs\_amt | cv\_consump | cs\_consump |

+--------+----------------------------------------------------+-----------+-------------+-----------+--------------------+--------------------+----------+--------+--------+------------+------------+

| 10000 | Aruna Asaf Ali Govt. Hospital | Central | Delhi | 110054 | 8:00 AM - 10:00 AM | 11:00 AM - 1:00 PM | 400 | 300 | 100 | 0 | 0 |

| 10001 | Balak Ram Hospital | Central | Delhi | 110054 | 8:00 AM - 10:00 AM | 11:00 AM - 1:00 PM | 300 | 200 | 100 | 0 | 0 |

| 10002 | Burari Hospital | Central | Delhi | 110084 | 8:00 AM - 10:00 AM | 11:00 AM - 1:00 PM | 400 | 300 | 100 | 0 | 0 |

| 10003 | Delhi Cantonment General Hospital | New Delhi | Delhi | 110010 | 8:00 AM - 10:00 AM | 11:00 AM - 1:00 PM | 600 | 400 | 200 | 0 | 0 |

| 10004 | Northern Railways Hospital | New Delhi | Delhi | 110001 | 8:00 AM - 10:00 AM | 11:00 AM - 1:00 PM | 400 | 300 | 100 | 0 | 0 |

| 10005 | Doctor Hedgewar Arogya Sansthan DH | Shahdara | Delhi | 110032 | 9:00 AM - 11:00 AM | 1:00 AM - 3:00 PM | 300 | 200 | 100 | 0 | 0 |

| 10006 | Rajiv Gandhi Super Speciality Hospital Tahirpur DH | Shahdara | Delhi | 110095 | 9:00 AM - 11:00 AM | 1:00 AM - 3:00 PM | 400 | 300 | 100 | 0 | 0 |

| 10007 | All India Institute of Medical Sciences | South | Delhi | 110029 | 9:00 AM - 11:00 AM | 1:00 AM - 3:00 PM | 400 | 200 | 200 | 0 | 0 |

| 10008 | Acharya Shree Bhikshuk Govt Hospital | East | Delhi | 110029 | 9:00 AM - 11:00 AM | 1:00 AM - 3:00 PM | 500 | 400 | 100 | 0 | 0 |

| 10042 | PHC TRENT | Ahmedabad | Gujarat | 382130 | 8:00 AM - 10:00 AM | 11:00 AM - 1:00 PM | 400 | 300 | 100 | 0 | 0 |

| 10043 | ANGANWADI KARELI | Surat | Gujarat | 394110 | 8:00 AM - 10:00 AM | 11:00 AM - 1:00 PM | 300 | 200 | 100 | 0 | 0 |

| 10044 | BORASARA PALOD ANGANWADI 2 | Surat | Gujarat | 394110 | 8:00 AM - 10:00 AM | 11:00 AM - 1:00 PM | 300 | 300 | 0 | 0 | 0 |

| 10045 | CHC OLPAD | Surat | Gujarat | 394540 | 8:00 AM - 10:00 AM | 11:00 AM - 1:00 PM | 300 | 200 | 100 | 0 | 0 |

| 10046 | HOJIWALA HC UDHYOG NAGAR VANZ | Surat | Gujarat | 394235 | 8:00 AM - 10:00 AM | 11:00 AM - 1:00 PM | 400 | 300 | 100 | 0 | 0 |

| 10047 | PHC BODHAN | Surat | Gujarat | 394140 | 8:00 AM - 10:00 AM | 11:00 AM - 1:00 PM | 500 | 300 | 200 | 0 | 0 |

| 10041 | PHC DHOLERA | Ahmedabad | Gujarat | 382455 | 8:00 AM - 10:00 AM | 11:00 AM - 1:00 PM | 400 | 300 | 100 | 0 | 0 |

| 10038 | CHC DHANDHUKA 1 | Ahmedabad | Gujarat | 382460 | 8:00 AM - 10:00 AM | 11:00 AM - 1:00 PM | 400 | 300 | 100 | 0 | 0 |

| 10039 | NANI JOK ANGANWADI-DHK | Ahmedabad | Gujarat | 382460 | 8:00 AM - 10:00 AM | 11:00 AM - 1:00 PM | 200 | 200 | 0 | 0 | 0 |

| 10040 | PARA ANGANWADI-2 BHUVALADI | Ahmedabad | Gujarat | 382430 | 8:00 AM - 10:00 AM | 11:00 AM - 1:00 PM | 300 | 200 | 100 | 0 | 0 |

| 10024 | PCMC KHBP M.KUTE M HOSP AKURDI | Pune | Maharashtra | 411035 | 9:00 AM - 11:00 AM | 1:00 AM - 3:00 PM | 400 | 300 | 100 | 0 | 0 |

| 10020 | DISTRICT HOSPITAL AUNDH | Pune | Maharashtra | 411027 | 9:00 AM - 11:00 AM | 1:00 AM - 3:00 PM | 400 | 300 | 100 | 0 | 0 |

| 10021 | PCMC ANKUSHRAO LANDGE NATYAGRU | Pune | Maharashtra | 411039 | 9:00 AM - 11:00 AM | 1:00 AM - 3:00 PM | 300 | 200 | 100 | 0 | 0 |

| 10022 | PCMC APOLO CLINIC | Pune | Maharashtra | 411044 | 9:00 AM - 11:00 AM | 1:00 AM - 3:00 PM | 400 | 300 | 100 | 0 | 0 |

| 10023 | PCMC JADHAVWADI PCMC SCHOOL | Pune | Maharashtra | 412105 | 9:00 AM - 11:00 AM | 1:00 AM - 3:00 PM | 200 | 200 | 0 | 0 | 0 |

| 10025 | ADMIRE EYE CARE | Mumbai | Maharashtra | 400104 | 8:00 AM - 10:00 AM | 11:00 AM - 1:00 PM | 500 | 400 | 100 | 0 | 0 |

| 10026 | ADVANCED MULTI SPECIALTY HOSP | Mumbai | Maharashtra | 400056 | 8:00 AM - 10:00 AM | 11:00 AM - 1:00 PM | 300 | 200 | 100 | 0 | 0 |

| 10027 | AMEYA SURGICAL AND GENERAL NH | Mumbai | Maharashtra | 400059 | 8:00 AM - 10:00 AM | 11:00 AM - 1:00 PM | 200 | 200 | 0 | 0 | 0 |

| 10028 | APEX HOSPITALS MULUND | Mumbai | Maharashtra | 400080 | 8:00 AM - 10:00 AM | 11:00 AM - 1:00 PM | 300 | 300 | 0 | 0 | 0 |

| 10030 | APOLLO CLINIC COLABA | Mumbai | Maharashtra | 400005 | 8:00 AM - 10:00 AM | 11:00 AM - 1:00 PM | 400 | 300 | 100 | 0 | 0 |

| 10029 | APOLLO CLINIC ANDHERI (E) | Mumbai | Maharashtra | 400093 | 8:00 AM - 10:00 AM | 11:00 AM - 1:00 PM | 300 | 200 | 100 | 0 | 0 |

| 10031 | ARYAN HOSPITAL MEDICAL CENTRE | Mumbai | Maharashtra | 400024 | 8:00 AM - 10:00 AM | 11:00 AM - 1:00 PM | 300 | 200 | 100 | 0 | 0 |

| 10034 | PARAS JK HOSPITAL | Udaipur | Rajasthan | 313001 | 8:00 AM - 10:00 AM | 11:00 AM - 1:00 PM | 200 | 200 | 0 | 0 | 0 |

| 10036 | MARBLE CITY SITE 1 | Ajmer | Rajasthan | 305801 | 9:00 AM - 11:00 AM | 1:00 AM - 3:00 PM | 300 | 200 | 100 | 0 | 0 |

| 10037 | PHC DANTRA SITE 1 | Ajmer | Rajasthan | 305207 | 9:00 AM - 11:00 AM | 1:00 AM - 3:00 PM | 200 | 200 | 0 | 0 | 0 |

| 10032 | DISTRICT HOSPITAL CHANDPOL | Udaipur | Rajasthan | 313001 | 8:00 AM - 10:00 AM | 11:00 AM - 1:00 PM | 300 | 300 | 0 | 0 | 0 |

| 10033 | GMCH EKLINGPURA | Udaipur | Rajasthan | 313003 | 8:00 AM - 10:00 AM | 11:00 AM - 1:00 PM | 300 | 200 | 100 | 0 | 0 |

| 10035 | UPHC BHOPALPURA | Udaipur | Rajasthan | 313001 | 9:00 AM - 11:00 AM | 1:00 AM - 3:00 PM | 300 | 300 | 0 | 0 | 0 |

| 10009 | Sky Garden Booth-1 | Dehradun | Uttarakhand | 248001 | 8:00 AM - 10:00 AM | 11:00 AM - 1:00 PM | 600 | 300 | 300 | 0 | 0 |

| 10010 | ST. Paul Health Centre | Dehradun | Uttarakhand | 248002 | 8:00 AM - 10:00 AM | 11:00 AM - 1:00 PM | 400 | 200 | 200 | 0 | 0 |

| 10011 | Cantt. General Hospital C Town | Dehradun | Uttarakhand | 248002 | 8:00 AM - 10:00 AM | 11:00 AM - 1:00 PM | 400 | 300 | 100 | 0 | 0 |

| 10012 | PHC Bhaniyawala | Dehradun | Uttarakhand | 248145 | 8:00 AM - 10:00 AM | 11:00 AM - 1:00 PM | 400 | 400 | 0 | 0 | 0 |

| 10013 | SPS SDH Hospital Rishikesh | Dehradun | Uttarakhand | 249201 | 8:00 AM - 10:00 AM | 11:00 AM - 1:00 PM | 600 | 400 | 200 | 0 | 0 |

| 10014 | PHC Dudhli | Dehradun | Uttarakhand | 248140 | 8:00 AM - 10:00 AM | 11:00 AM - 1:00 PM | 400 | 200 | 200 | 0 | 0 |

| 10015 | PHC Nayagaon Pelio | Dehradun | Uttarakhand | 248001 | 8:00 AM - 10:00 AM | 11:00 AM - 1:00 PM | 400 | 200 | 200 | 0 | 0 |

| 10016 | Ayushman Medplus Hospital | Dehradun | Uttarakhand | 248197 | 8:00 AM - 10:00 AM | 11:00 AM - 1:00 PM | 400 | 400 | 0 | 0 | 0 |

| 10017 | Beehive Ayurved Hospital | Dehradun | Uttarakhand | 248007 | 9:00 AM - 11:00 AM | 1:00 AM - 3:00 PM | 400 | 300 | 100 | 0 | 0 |

| 10019 | Nirankari Bhawan Jeewangarh (SDH) | Dehradun | Uttarakhand | 248198 | 9:00 AM - 11:00 AM | 1:00 AM - 3:00 PM | 300 | 200 | 100 | 0 | 0 |

| 10018 | K.K.B.M Subharti Hospital | Dehradun | Uttarakhand | 248008 | 9:00 AM - 11:00 AM | 1:00 AM - 3:00 PM | 500 | 300 | 200 | 0 | 0 |

+--------+----------------------------------------------------+-----------+-------------+-----------+--------------------+--------------------+----------+--------+--------+------------+------------+

48 rows in set (0.00 sec)

* **IINDEX**

**To display index of centre table**

mysql> create index Cname on Centres(C\_Name);

Query OK, 0 rows affected (0.12 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> show indexes from Centres;

+---------+------------+----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+---------------+---------+------------+

| Table | Non\_unique | Key\_name | Seq\_in\_index | Column\_name | Collation | Cardinality | Sub\_part | Packed | Null | Index\_type | Comment | Index\_comment | Visible | Expression |

+---------+------------+----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+---------------+---------+------------+

| centres | 0 | PRIMARY | 1 | C\_code | A | 48 | NULL | NULL | | BTREE | | | YES | NULL |

| centres | 1 | Cname | 1 | C\_Name | A | 48 | NULL | NULL | YES | BTREE | | | YES | NULL |

+---------+------------+----------+--------------+-------------+-----------+-------------+----------+--------+------+------------+---------+---------------+---------+------------+

2 rows in set (0.04 sec)

* **LIMIT**

**To display first 3 centres information**

mysql> select \* from Centres limit 3;

+--------+-------------------------------+---------+---------+-----------+--------------------+--------------------+----------+--------+--------+------------+------------+

| C\_code | C\_Name | C\_city | C\_state | C\_pincode | TS1 | TS2 | Capacity | cv\_amt | cs\_amt | cv\_consump | cs\_consump |

+--------+-------------------------------+---------+---------+-----------+--------------------+--------------------+----------+--------+--------+------------+------------+

| 10000 | Aruna Asaf Ali Govt. Hospital | Central | Delhi | 110054 | 8:00 AM - 10:00 AM | 11:00 AM - 1:00 PM | 400 | 300 | 100 | 0 | 0 |

| 10001 | Balak Ram Hospital | Central | Delhi | 110054 | 8:00 AM - 10:00 AM | 11:00 AM - 1:00 PM | 300 | 200 | 100 | 0 | 0 |

| 10002 | Burari Hospital | Central | Delhi | 110084 | 8:00 AM - 10:00 AM | 11:00 AM - 1:00 PM | 400 | 300 | 100 | 0 | 0 |

+--------+-------------------------------+---------+---------+-----------+--------------------+--------------------+----------+--------+--------+------------+------------+

3 rows in set (0.00 sec)

* **INNER JOIN**

**Here we are joining Emp\_det and Centres column using inner join**

mysql> select Centres.C\_Name, Emp\_det.e\_name from Centres inner join Emp\_det on Centres.C\_code = Emp\_det.C\_code limit 5;

+--------------------------------------+----------------+

| C\_Name | e\_name |

+--------------------------------------+----------------+

| Acharya Shree Bhikshuk Govt Hospital | Kavya Patil |

| Acharya Shree Bhikshuk Govt Hospital | Vaibhav Bhatt |

| Acharya Shree Bhikshuk Govt Hospital | Arpit Kulkarni |

| Acharya Shree Bhikshuk Govt Hospital | Sparsh Madan |

| ADMIRE EYE CARE | Hriday Sinha |

+--------------------------------------+----------------+

5 rows in set (0.00 sec)

* **FUNCTION**

**Function which determines whether applicant has booked vaccine or not**

mysql> create function isBooked(adhno varchar(15))

-> returns int

-> begin

-> declare is\_b int default 0;

-> declare bno int default -1;

-> set bno=(select bno from personal\_det where Aadhar\_No=adhno);

-> if bno!=-1 then

-> set is\_b=1;

-> end if;

-> return is\_b;

-> end//

Query OK, 0 rows affected (0.01 sec)

* **VIEW**

**View to display information about vaccines available**

mysql> create view vacc\_info (Centre\_Id, Pin\_Code, City, State, Covaxin, Covishield)

-> as select C\_code, C\_pincode, C\_city, C\_state, cv\_amt, cs\_amt from centres;

Query OK, 0 rows affected (0.05 sec)

* **PROCEDURES**
* **Procedure to find covid centers nearby**

mysql> DELIMITER //

mysql> create procedure find\_centre(IN st varchar(30), IN ct varchar(30), IN pin int)

-> BEGIN

-> select \* from centres where (C\_state = st AND C\_city = ct) OR (C\_pincode = pin);

-> END

-> //

* **Procedure to book vaccine**

mysql> create procedure Book(in ad varchar(12), in bene varchar(15), in v\_name varchar(20), in ts varchar(15), in vd date)

begin

insert into det\_of\_vacc(Bene\_no, vacc\_Name, status, ts, v\_date, adhno) values(bene, v\_name, "Not Vaccinated", ts, vd, ad);

end//

* **Procedure to update vaccine status of person**

mysql> create procedure getVaccine(in ad varchar(12), in id varchar(15))

begin

update det\_of\_vacc set status="Vaccinated", v\_time=now(), Vacc\_by=id, v\_date=curdate() where adhno=ad;

end//

* **Procedure to reduce covaxine count and increment its consumption after each vaccination**

mysql> create procedure up\_cv(in ad varchar(12))

-> begin

-> declare amt int default 0;

-> declare cmp\_amt int default 0;

-> declare cde int default 0;

-> select C\_code into cde from emp\_det where empId=(select Vacc\_by from det\_of\_vacc where det\_of\_vacc.adhno=ad);

-> select cv\_amt into amt from centres where C\_code=cde;

-> select cv\_consump into cmp\_amt from centres where C\_code=cde;

-> update centres set centres.cv\_amt=amt-1, centres.cv\_consump=cmp\_amt+1 where C\_code=cde;

-> end//

Query OK, 0 rows affected (0.01 sec)

* **Procedure to reduce covishield count and increment its consumption after each vaccination**

mysql> create procedure up\_cs(in ad varchar(12))

-> begin

-> declare amt int default 0;

-> declare cmp\_amt int default 0;

-> declare cde int default 0;

-> select C\_code into cde from emp\_det where empId=(select Vacc\_by from det\_of\_vacc where det\_of\_vacc.adhno=ad);

-> select cs\_amt into amt from centres where C\_code=cde;

-> select cs\_consump into cmp\_amt from centres where C\_code=cde;

-> update centres set centres.cs\_amt=amt-1, centres.cs\_consump=cmp\_amt+1 where C\_code=cde;

-> end//

Query OK, 0 rows affected (0.01 sec)

* **TRIGGER**
* **Trigger to update vaccination availability and consumption**

mysql> create trigger after\_det\_of\_vacc\_update

-> after update

-> on det\_of\_vacc

-> for each row

-> begin

-> declare vN varchar(20);

-> set vN=new.vacc\_Name;

-> if vN="Covaxine" then

-> call up\_cv(new.adhno);

-> elseif vN="Covshield" then

-> call up\_cs(new.adhno);

-> end if;

-> end//

Query OK, 0 rows affected (0.02 sec)

**CONCLUSION**

Through this project we have implemented a working model for booking vaccines and storing the data on whether a person is vaccinated or not.

Similar systems can also be implemented for booking for various other purposes, for e.g., systems for enrolling in government programs can be based on this system model, and many other ideas can be implemented through this system.

This project has helped us improve our understanding on using and connecting different technologies.

**REFERENCES**

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[**https://docs.oracle.com/javaee/5/tutorial/doc/bnajo.html**](https://docs.oracle.com/javaee/5/tutorial/doc/bnajo.html)

[**https://developer.mozilla.org/en-US/docs/Web/HTML**](https://developer.mozilla.org/en-US/docs/Web/HTML)