VIT®
Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

Department of computer science and Engineering

Course code – CSE 2004

I B.Tech – 2nd semester

Project Based

ON

RAILWAY RESERVATION SYSTEM

Submitted by

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OBJECTIVE OF PROJECT ON RAILWAY RESERVATION SYSTEM

The main objective of the Project on Railway Reservation System is to managethe details of Train, Route, City, Customer, Booking. It manages all the informationabout Train, Payment, Booking, Train. The project is totally built at administrative endand thus only the administrator is guaranteed the access. The purpose of the project isto build an application program to reduce the manual work for managing the Train,Route, Payment, City. It tracks all the details about the City, Customer, Booking.

Functionalities provided by Railway Reservation System are as follows:

- Provides the searching facilities based on various factors. Such as Train, City,Customer, Booking
- Railway Reservation System also manage the Payment details online for Customerdetails, Booking details, Train.
- It tracks all the information of Route, Payment, Customer etc
- Manage the information of Route
- Shows the information and description of the Train, City
- To increase efficiency of managing the Train, Route
- It deals with monitoring the information and transactions of Customer.
- Manage the information of Train
- Editing, adding and updating of Records is improved which results in proper
- resource management of Train data.
- Manage the information of Customer
- Integration of all records of Booking.

MODULES OF RAILWAY RESERVATION SYSTEM

Train Management Module: *Used for managing the Train details.*

Booking Module : *Used for managing the details of Booking*

Payment Module : *Used for managing the details of Payment*

Route Management Module: *Used for managing the information and details ofthe Route.*

City Module : *Used for managing the City details*

Customer Module : *Used for managing the Customer information*

Login Module: *Used for managing the login details*

Users Module : *Used for managing the users of the system*

ABSTRACT

The purpose of Railway Reservation System is to automate the existing manualsystem by the help of computerized equipments and full-fledged computer software,fulfilling their requirements, so that their valuable data/information can be stored for alonger period with easy accessing and manipulation of the same. The required softwareand hardware are easily available and easy to work with.

The Railway Reservation System facilitates the passengers to enquire about the trains available on the basis of source and destination, Booking and Cancellation of tickets, enquire about the status of the booked ticket, etc. The aim of case study is to design and develop a database maintaining the records of different trains, train status, and passengers.

This project contains Introduction to the Railways reservation system .It is the computerized system of reserving the seats of train seats in advanced. It is mainly used for long route. On-line reservation has made the process for the reservation of seats very much easier than ever before.

The aim is to automate its existing manual system by the help of computerizedequipments and full-fledged computer software, fulfilling their requirements, so that theirvaluable data/information can be stored for a longer period with easy accessing and manipulation of the same. Basically the project describes how to manage for good performance and better services for the clients.

INTRODUCTION

Database is an organized collection of data. The data is typically organized to model aspects of reality in a way that supports processes requiring information. A DBMS makes it possible for end users to create, read, update and delete data in a database. The DBMS essentially serves as an interface between the database and end users or application programs, ensuring that data is consistently organized and remains easily accessible. The DBMS manages three important things: the data, the database engine that allows data to be accessed, locked and modified and the database schema, which defines the database's logical structure. These three foundational elements help provide concurrency, security, data integrity and uniform administration procedures. The DBMS can offer both logical and physical data independence. That means it can protect users and applications from needing to know where data is stored or having to be concerned about changes to the physical structure of data.

The main purpose of maintaining database for Railway Reservation System is to reduce the manual errors involved in the booking and cancelling of tickets and make it convenient for the customers and providers to maintain the data about their customers and also about the seats available at them.Due to automation many loopholes that exist in the manual maintenance of the records can be removed. The speed of obtaining and processing the data will be fast. For future expansion the proposed system can be web enabled so that clients can make various enquiries about trains between stations. Due to this, sometimes a lot of problems occur and they are facing many disputes with customers. To solve the above problem, we design a data base which includes customer details, availability of seats in trains, no of trains and their details.

PROJECT DESCRIPTION

This project is about creating the database about Railway Reservation System.

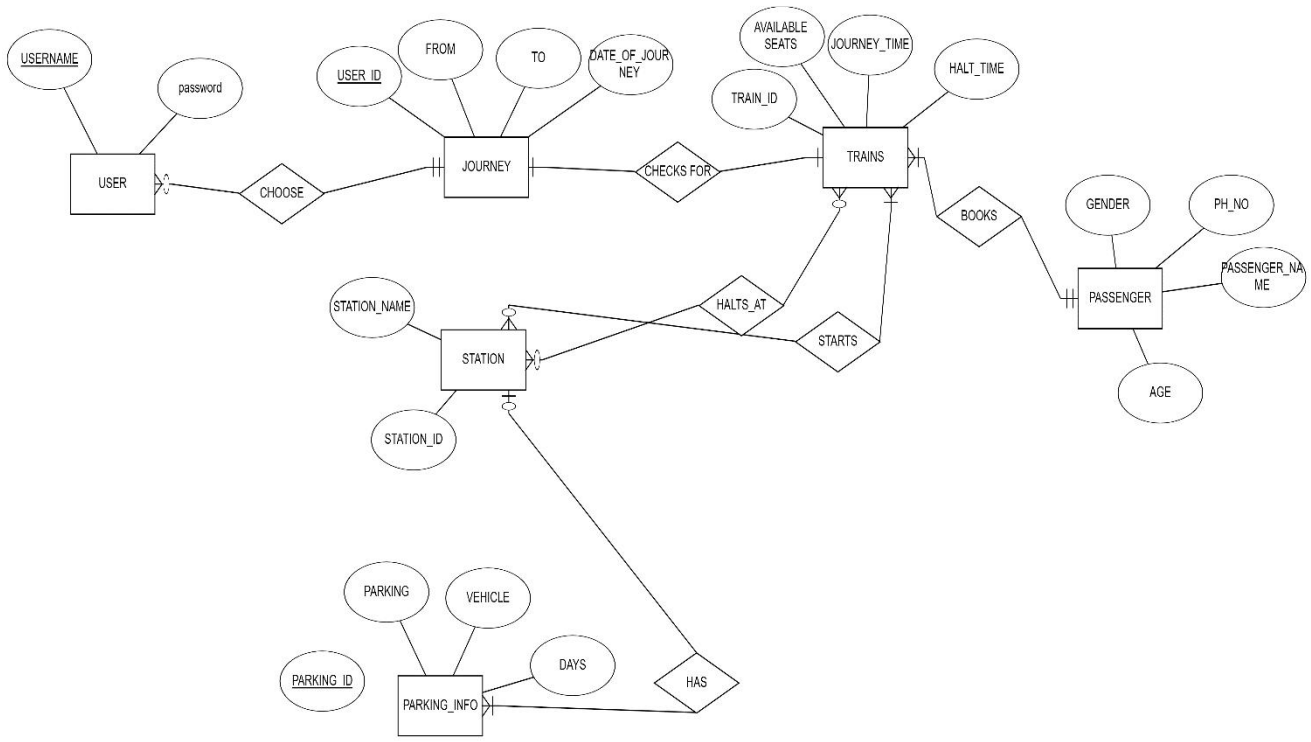
The railway reservation system facilitates the passengers to enquire about the trains available on the basis of source and destination, booking and cancellation of tickets, enquire about the status of the booked ticket, etc. The aim of case study is to design and develop a database maintaining the records of different trains, train status, and passengers. The record of train includes its number, name, source, destination, and days on which it is available, whereas record of train status includes dates for which tickets can be booked, total number of seats available, and number of seats already booked.

Passengers can book their tickets for the train in which seats are available. For this, passenger has to provide the desired train number and the date for which ticket is to be booked. Before booking a ticket for a passenger, the validity of train number and booking date is checked. Once the train number and booking date are validated, it is checked whether the seat is available. If yes, the ticket is booked with confirm status and corresponding ticket ID is generated which is stored along with other details of the passenger. The ticket once booked can be cancelled at any time. For this, the passenger has to provide the ticket ID (the unique key). The ticket ID is searched and the corresponding record is deleted. With this, the first ticket with waiting status also gets confirmed.

LIST OF ENTITIES AND ATTRIBUTES

ENTITIES	ATTRIBUTES
USER	***USERNAME*** *PASSWORD*
JOURNEY	**USER ID** FROM TO DATE 0F JOURNEY
TRAINS	**TRAIN ID** AVAILABLE SEATS JOURNEY TIME HALT TIME
PASSENGER	**PHONE NO** GENDER PASSENGER NAME AGE
STATION	**STATION ID** STATION NAME
PARKING INFO	**PARKING ID** VEHICLE DAYS

ER DIAGRAM (CONCEPTUAL MODEL)



SCHEMA DIAGRAM

USER

USERNAME	PASSWORD

JOURNEY

USER_ID	DATE_OF_JOURNEY	FROM	TO	USERNAME

TRAIN AVAILABILITY

TRAIN_ID	AVAILABLE_SEATS	JOURNEY_TIME	HALT_TIME	ARRIVAL_TIME	TRAIN_NAME	PASSENGER_ID	STATION_ID	USER_ID

PASSENGER

PASSENGER_ID	NAME	AGE	GENDER	PH_NO	SEAT_NO	TRAIN_ID

PARKING_INFO

PARKING_ID	PARKING	VEHICLE	DAYS	STATION_ID

STATION

CREATE AND INSERT QUERIES

STATION_ID	NAME

CREATE COMMANDS :

```
CREATE TABLE PASSENGER(
PASSENGER_ID NUMBER(15) NOT NULL,
NAME VARCHAR2(20) NOT NULL,
AGE NUMBER(3) NOT NULL,
GENDER VARCHAR2(10) NOT NULL,
PH_NO NUMBER(10) NOT NULL,
SEAT_NO VARCHAR2(10) NOT NULL,
TRAIN_ID VARCHAR2(10) NOT NULL,
PRIMARY KEY(PASSENGER_ID)
);

CREATE TABLE STATION
(
 STATION_ID VARCHAR2(15) NOT NULL,
 NAME VARCHAR2(15) NOT NULL,
 PRIMARY KEY (STATION_ID)
);

CREATE TABLE USERS
(
 USERNAME VARCHAR2(15) NOT NULL,
 PASSWORD VARCHAR2(15) NOT NULL,
 PRIMARY KEY (USERNAME)
);
```

```
CREATE TABLE PARKING_INFO
(
  PARKING VARCHAR2(15) NOT NULL,
  VEHICLE VARCHAR2(17) NOT NULL,
  DAYS NUMBER(5) NOT NULL,
  PARKING_ID NUMBER(10) NOT NULL,
  STATION_ID VARCHAR2(15) NOT NULL,
  PRIMARY KEY (PARKING_ID),
  FOREIGN KEY (STATION_ID) REFERENCES STATION(STATION_ID)
);


CREATE TABLE JOURNEY
(
  DATE_OF_JOURNEY DATE NOT NULL,
  FROM_ST VARCHAR2(15) NOT NULL,
  TO_ST VARCHAR2(20) NOT NULL,
  USER_ID VARCHAR2(15) NOT NULL,
  USERNAME VARCHAR2(15) NOT NULL,
  PRIMARY KEY (USER_ID),
  FOREIGN KEY (USERNAME) REFERENCES USERS(USERNAME)
);
```

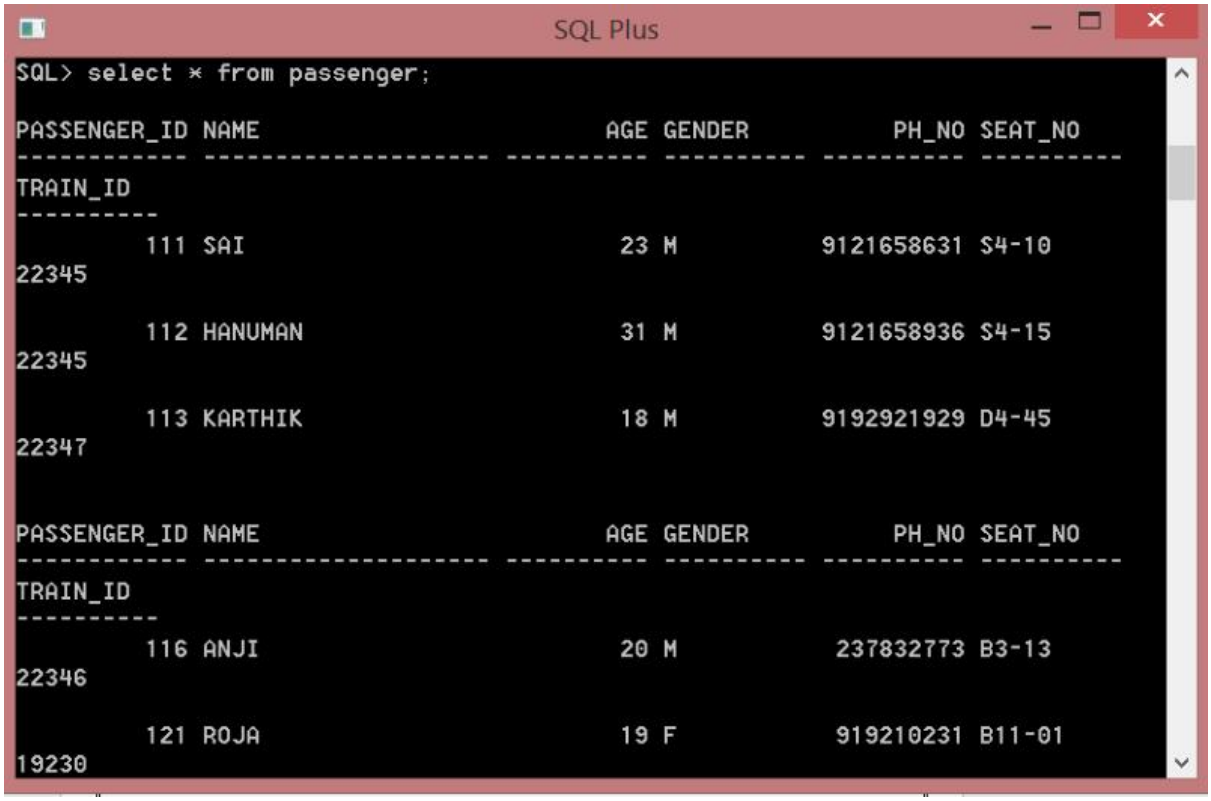
```
CREATE TABLE TRAIN_AVAILABILITY
(
  AVAILABLE_SEATS NUMBER(38) NOT NULL,
  JOURNEY_TIME VARCHAR2(10) NOT NULL,
  HALT_TIME VARCHAR2(15) NOT NULL,
  TRAIN_ID VARCHAR2(15) NOT NULL,
  ARRIVAL_TIME VARCHAR2(10) NOT NULL,
  TRAIN_NAME VARCHAR2(15)NOT NULL,
  PASSENGER_ID NUMBER(15) NOT NULL,
  STATION_ID VARCHAR2(15) NOT NULL,
  USER_ID VARCHAR2(15) NOT NULL,
  PRIMARY KEY (TRAIN_ID),
  FOREIGN KEY (PASSENGER_ID) REFERENCES PASSENGER(PASSENGER_ID),
  FOREIGN KEY (STATION_ID) REFERENCES STATION(STATION_ID),
  FOREIGN KEY (USER_ID) REFERENCES JOURNEY(USER_ID)
);
```

INSERT QUERIES :

- INSERT ALL

```
INTO PASSENGER VALUES(111,'SAI',23,'M',9121658631,'S4-10',22345)
INTO PASSENGER VALUES(112,'HANUMAN',31,'M',9121658936,'S4-15',22345)
INTO PASSENGER VALUES(113,'KARTHIK',18,'M',9192921929,'D4-45',22347)
INTO PASSENGER VALUES(116,'ANJI',20,'M',237832773,'B3-13',22346)
INTO PASSENGER VALUES(121,'ROJA',19,'F',919210231,'B11-01',19230)
INTO PASSENGER VALUES(151,'RUTHVIKA',15,'F',921929233,'S12-23',19231)
SELECT 1 FROM DUAL;
```

SELECT *FROM PASSENGER;



- INSERT ALL

INTO STATION VALUES(2133,'VIJAYAWADA')

INTO STATION VALUES(2334,'CHENNAI')

INTO STATION VALUES(2211,'DELHI')

INTO STATION VALUES(2214,'MUMBAI')

INTO STATION VALUES(2671,'AHMEDABAD')

INTO STATION VALUES(2910,'HYDERABAD')

INTO STATION VALUES(2890,'GUNTUR')

SELECT 1 FROM DUAL;

SELECT *FROM STATION;

```
SQL>
SQL> select *from station;

STATION_ID      NAME
--------------- ---------------
2133            VIJAYAWADA
2334            CHENNAI
2211            DELHI
2214            MUMBAI
2671            AHMEDABAD
2910            HYDERABAD
2890            GUNTUR

7 rows selected.

SQL> _
```

- INSERT ALL

INTO USERS VALUES('SAI1009','SAI1234')

INTO USERS VALUES('ANJI.J','ANJI225')

INTO USERS VALUES('kARTIK','car1234')

INTO USERS VALUES('LOWKYA','loVE123')

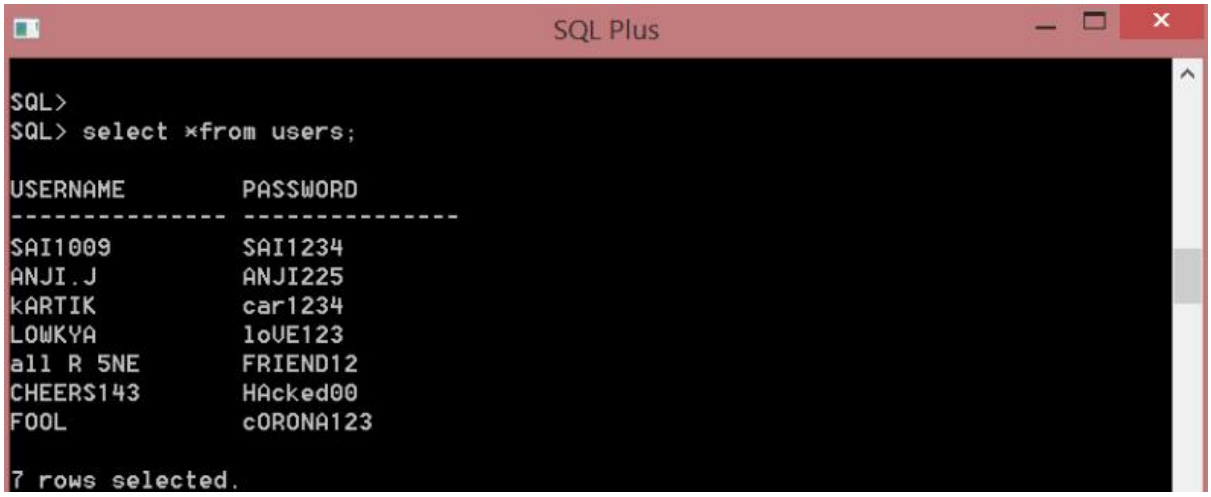
INTO USERS VALUES('all R 5NE','FRIEND12')

INTO USERS VALUES('CHEERS143','HAcked00')

INTO USERS VALUES('FOOL','cORONA123')

SELECT 1 FROM DUAL;

SELECT *FROM USERS;



- INSERT ALL

INTO PARKING_INFO VALUES('YES','BIKE',1,213231,2133)

INTO PARKING_INFO VALUES('YES','CAR',3,244254,2334)

INTO PARKING_INFO VALUES('YES','BIKE',5,63267,2211)

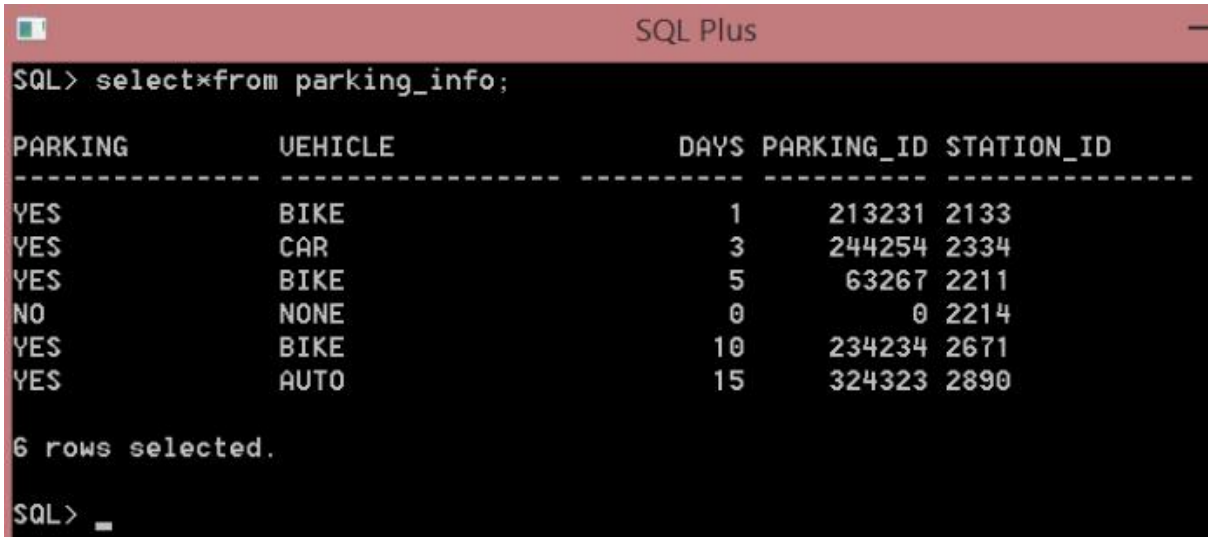
INTO PARKING_INFO VALUES('NO','NONE',0,0,2214)

INTO PARKING_INFO VALUES('YES','BIKE',10,234234,2671)

INTO PARKING_INFO VALUES('YES','AUTO',15,324323,2890)

SELECT 1 FROM DUAL;

SELECT *FROM PARKING_INFO;



- INSERT ALL

INTO JOURNEY VALUES('01-AUG-2020','CHENNAI','ONGOLE',1020,'SAI1009')

INTO JOURNEY VALUES('15-SEP-2020','DELHI','MUMBAI',1022,'ANJI.J')

INTO JOURNEY VALUES('29-JUNE-2019','AHMEDABAD','HYDERABAD',1024,'kARTIK')

INTO JOURNEY VALUES('15-AUG-2020','GUNTUR','ONGOLE',1026,'LOWKYA')

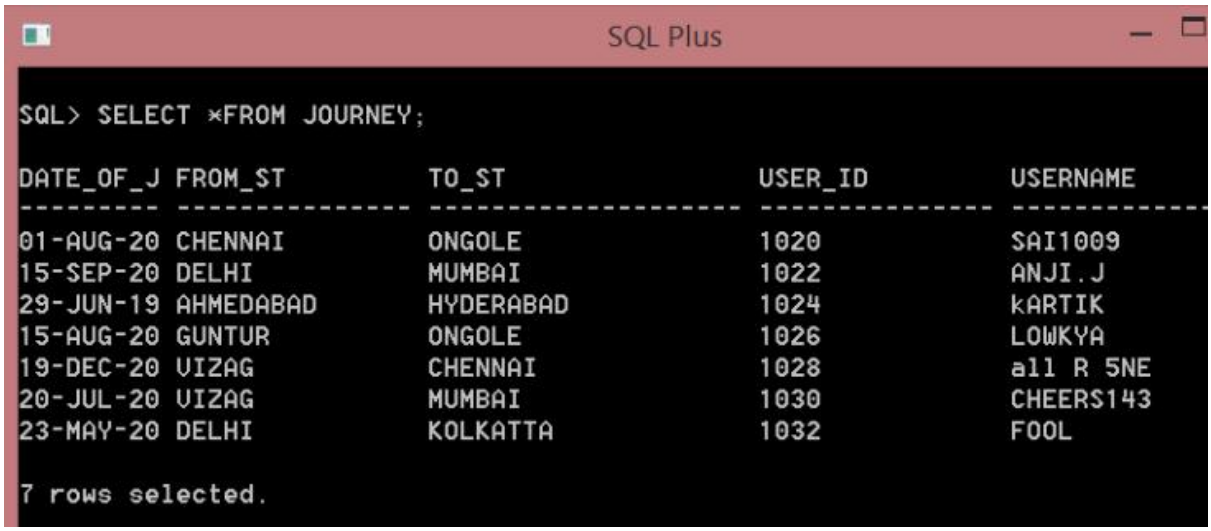
INTO JOURNEY VALUES('19-DEC-2020','VIZAG','CHENNAI',1028,'all R 5NE')

INTO JOURNEY VALUES('20-JULY-2020','VIZAG','MUMBAI',1030,'CHEERS143')

INTO JOURNEY VALUES('23-MAY-2020','DELHI','KOLKATTA',1032,'FOOL')

SELECT 1 FROM DUAL;

SELECT *FROM JOURNEY;



- INSERT INTO TRAIN_AVAILABILITY VALUES(323,'14:12:00','00:05:00',23456,'22:13:00','PINAKINI',111,2133,1020);

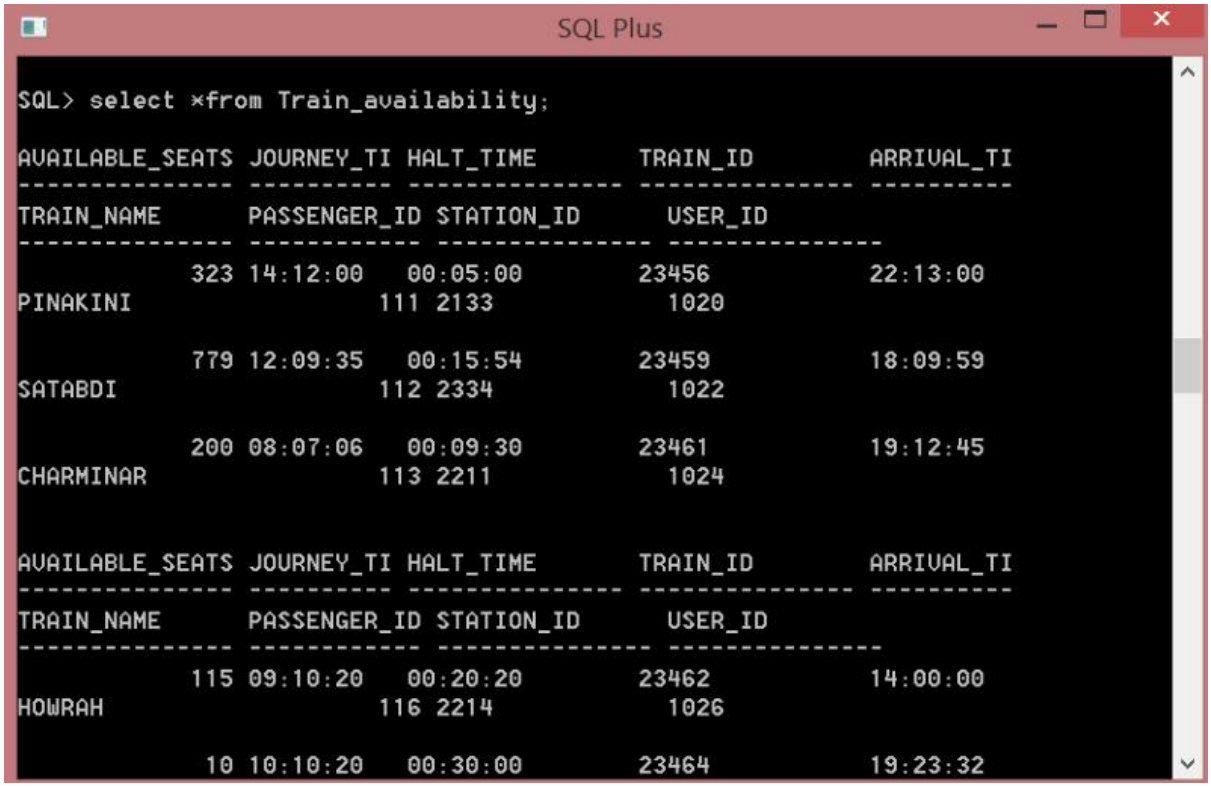
INSERT INTO TRAIN_AVAILABILITY VALUES(779,'12:09:35','00:15:54',23459,'18:09:59','SATABDI',112,2334,1022);

INSERT INTO TRAIN_AVAILABILITY
VALUES(200,'08:07:06','00:09:30',23461,'19:12:45','CHARMINAR',113,2211,1024);

INSERT INTO TRAIN_AVAILABILITY
VALUES(115,'09:10:20','00:20:20',23462,'14:00:00','HOWRAH',116,2214,1026);

INSERT INTO TRAIN_AVAILABILITY
VALUES(10,'10:10:20','00:30:00',23464,'19:23:32','CIRCAR EXP',121,2671,1028);

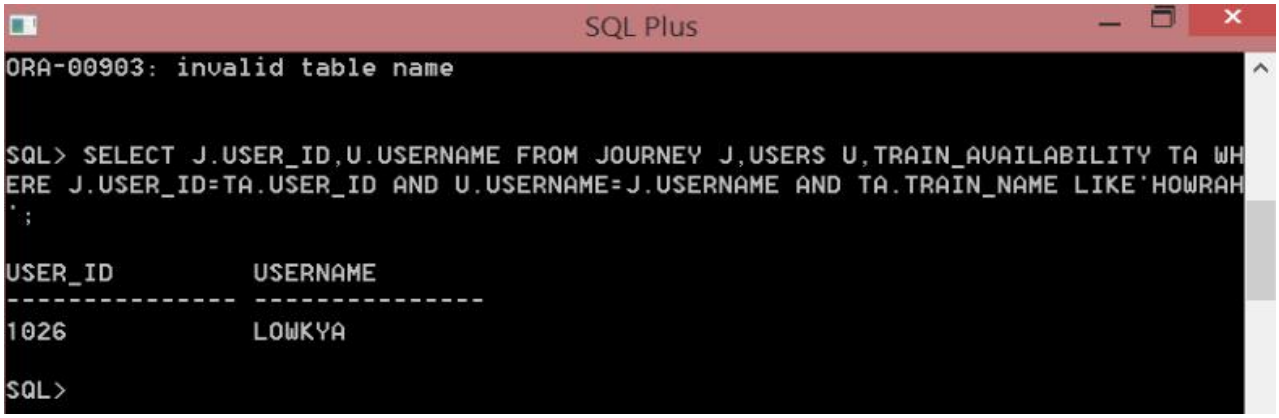
INSERT INTO TRAIN_AVAILABILITY
VALUES(110,'05:30:00','00:10:10',23556,'10:00:00','G.T EXP',151,2910,1030);



SQL QUERIES RELATED TO REPORT GENERATION

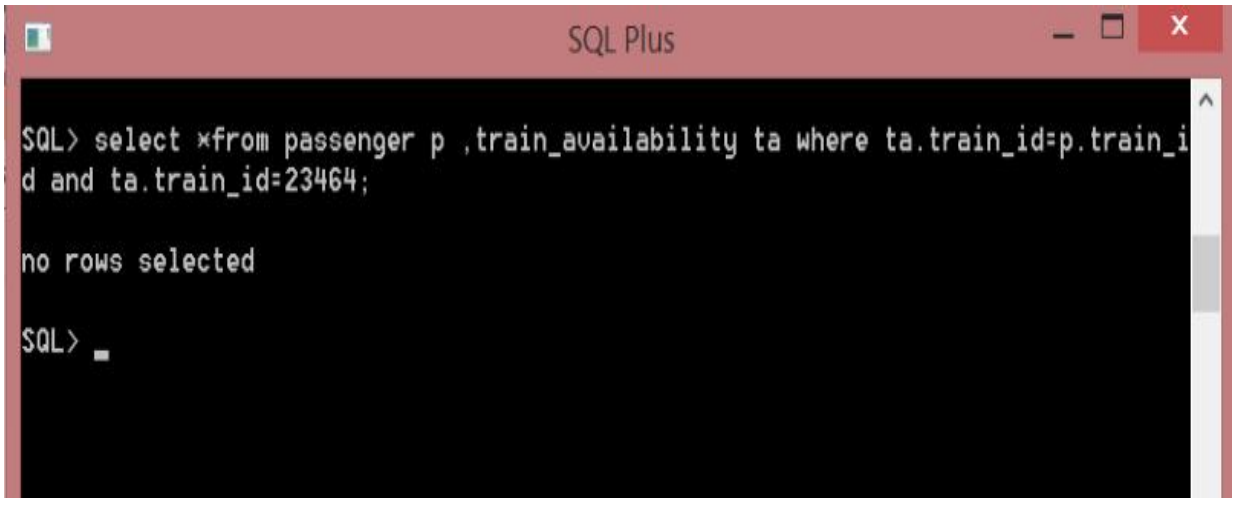
1. ***print user id and name of all those user who booked ticket for pinakini express***

```
SELECT J.USER_ID,U.USERNAME FROM JOURNEY J,USERS
U,TRAIN_AVAILABILITY TA WHERE J.USER_ID=TA.USER_ID AND
U.USERNAME=J.USERNAME AND TA.TRAIN_NAME LIKE'HOWRAH';
```



2. ***Print details of passenger travelling under Train_id = 23464;***

```
select *from passenger p ,train_availability ta where
ta.train_id=p.train_id and ta.train_id=23464;
```



3. ***Print the details of passenger by using passenger id***

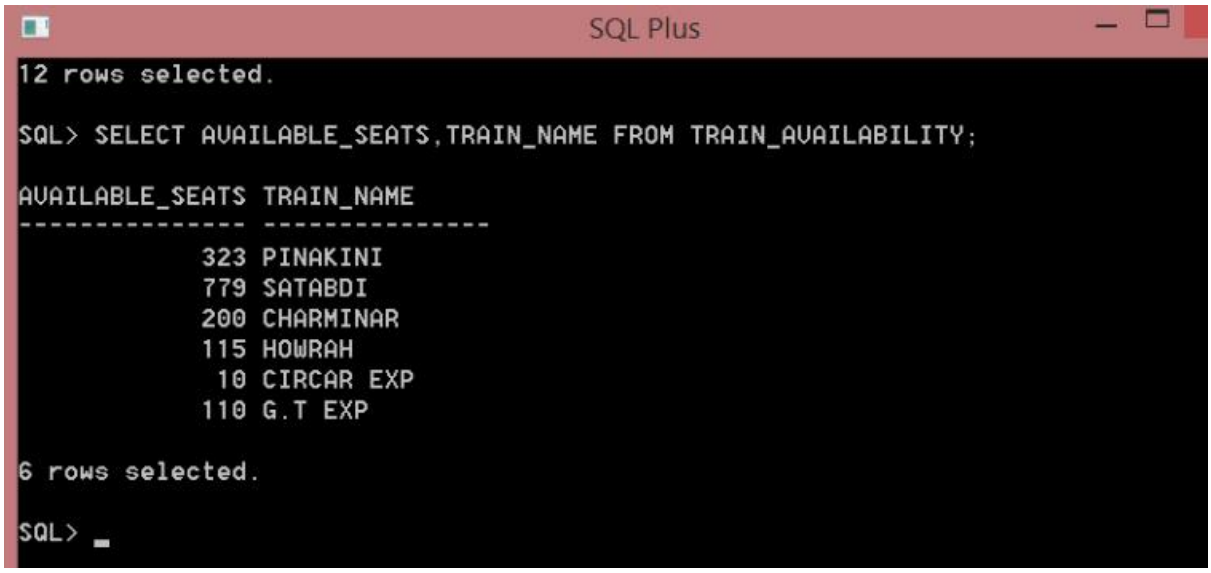
select *from passenger where passenger_id=112;

```
SQL> select *from passenger where passenger_id=112;

PASSENGER_ID NAME                      AGE GENDER          PH_NO SEAT_NO
------------ -------------------- --------- ---------- ---------- ----------
TRAIN_ID
----------
         112 HANUMAN                     31 M          9121658936 S4-15
22345
```

4. ***Print the No. of seats available ……***

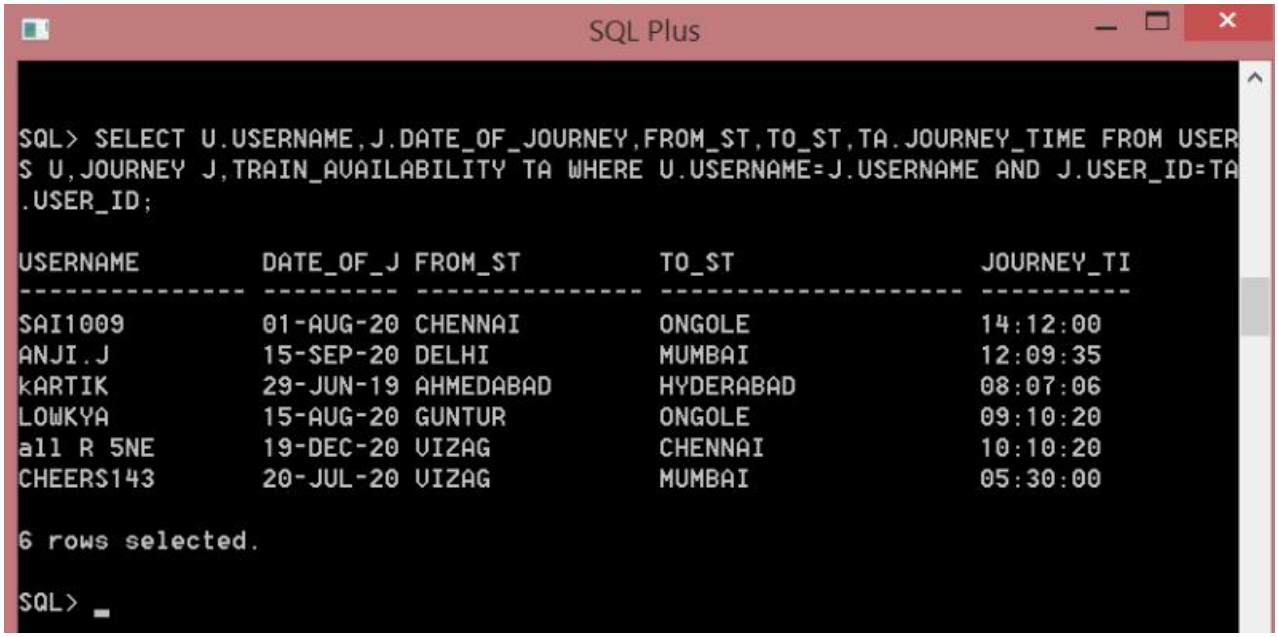
SELECT AVAILABLE_SEATS,TRAIN_NAME FROM TRAIN_AVAILABILITY;



5. *Print details related to ticket*

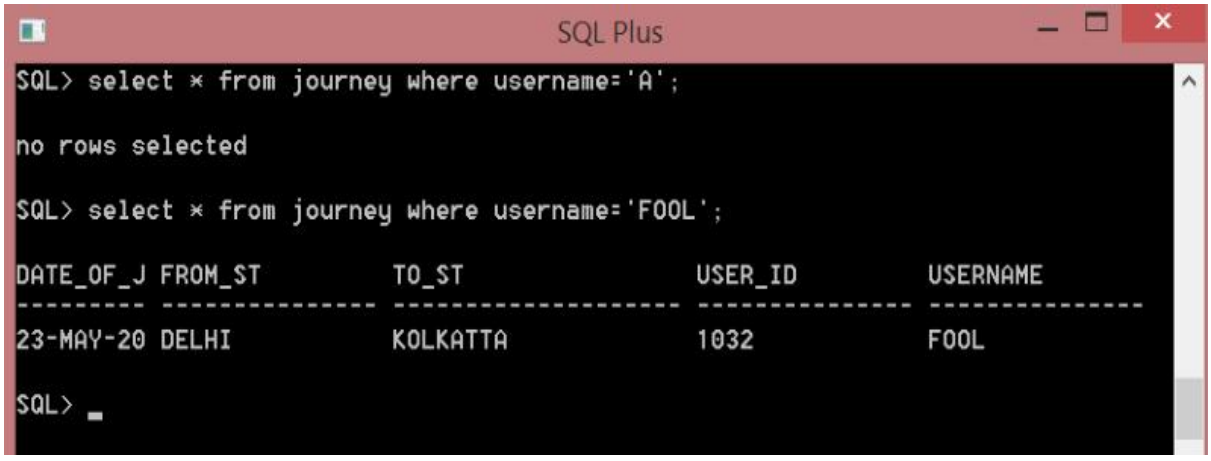
SELECT U.USERNAME,J.DATE_OF_JOURNEY,FROM_ST,TO_ST,TA.JOURN

EY_TIME FROM USERS U,JOURNEY J,TRAIN_AVAILABILITY TA WHERE U.USERNAME=J.USERNAME AND J.USER_ID=TA.USER_ID;



6. ***Print details with respect to username***

select * from journey where username='FOOL';



WEBPAGE DEVELOPED FOR RAILWAY RESERVATION SYSTEM

WEBPAGE desgined for this project Railway Reservation system has been developed on PHP , Html and Xampp.

The main aim for developing this mini Railway Reservation project is to provide all the information related trains.

Customer can view the reservation after booking the ticket.

Customer will be able to view the details related to his bookings and booking history.

There is single user customer in this project .

Only customer can login.

The system will provide notice related to boarding of the train.

FUNCTIONALITY PERFORMED BY CUSTOMER

→ **Customer Registration :** Any customer can register on website using the registration module/ just by clicking the signup.

→**Customer Login :** This is the login form, from where customer can login into the system.

→**Booking Train:** This is the booking train form where customers can easily book train.

→**Payment :** This is the payment form where customer can easily pay.

→**Change password :** This is the change password module from where customer can change his/her account password.

TECHNOLOGY USED IN THIS RAILWAY RESERVATION PROJECT

→ **HTML :** page layout has been designed using HTML.

→ **PHP :**

→ **Java Script :** All the validation tasks and animations has been developed by Java script.

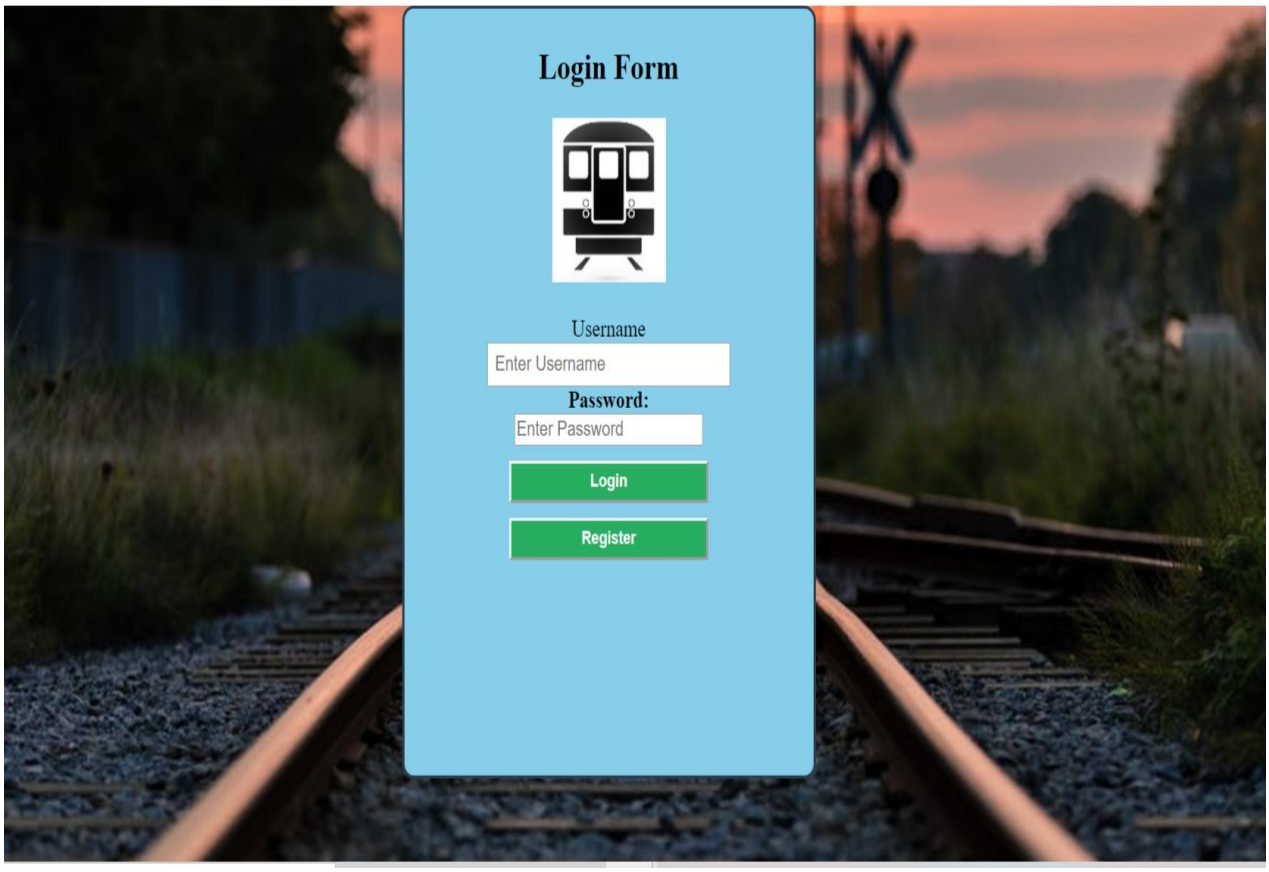
→ **XAMPP :**

Supported Operating system :

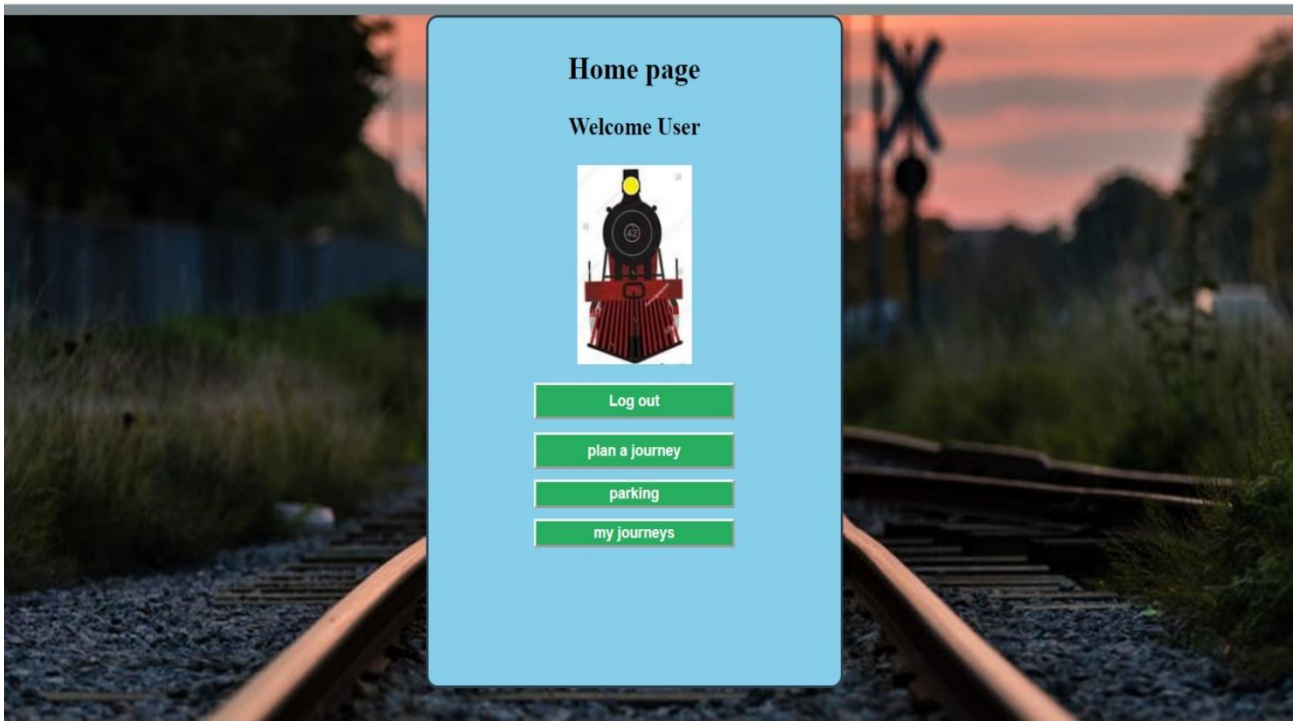
We can configure this project on following operating systems.

- ➔ **Windows :** This project can easily be configured on windows operating system. For running this project on windows operating system, you will have to install XAMP on your system.
- ➔ **Linux :** we can run this project also on all versions of Linux operating system.
- ➔ **Mac :** We can also easily configured this project on Mac operating system.

LOGIN FORM OF RAILWAY RESERVATION APPLICATION



HOME PAGE OF RAILWAY RESERVATION APPLICATION



ACCESING DATA OF TICKETS BOOKED BY USERS

back

USER_ID	DATE_OF_JOURNEY	FROM1	TO1	USERNAME
a1	2020-05-05	vij	chn	a

CONCLUSION

In our country online ticketing system is most reliable and most effectively working as it makes work easier. Now a days nobody is using old form of ticketing as it brings lots of problems like maintaining database as it is vast country containing huge population so lots of errors comes while handling with that database .But this modern online ticketing changed the colours of railway system it made works easy for them in maintaining data base and also booking tickets for mass amount of people in country. From starting to this time the efforts of ticketing system and online database is highly appreciable .It made us to reduce maximum amount of errors while creating data base .As this data base of tickets is recorded by people itself it make the work of the employees in railway system become easier.it can be handled on its own without human interference.so now- a-days all the people in the country are choosing to go with online ticketing system as internet are also increased in our country. As it is vast data base than any other transportation in our country its database should be handled with atmost care.so this online ticketing system is highly useful. This is modern life handling and maintaining of data base it can accessed easily for the required information we need at that time. We can be abled to know about the information of the trains moving from and to different parts of the country. we can search the train as per our requirements it also shows us the information about different trains where it started and where it ends and the time required to reach the destination. This will help the passengers to choose their reliable time for

journey as accesing of data is easy.it will also helps in prioritising the seats we want to book like berths also. We can also get the information about the halt stations of the of the train and halt time at that station. this will help passengers to know where the train stops and main stations and where it is going through.as the ticket is in online form it can be sent it via email or message so no problem if we lost the ticket as mailed is approachable anyway.

In our project Railway reservation system we have stored all the information about the Trains scheduled and the users booking tickets and even status of trains, seats etc. This data base is helpful for the applications which facilitate passengers to book the train tickets and check the details of trains and their status from their place itself it avoids inconveniences of going to railway station for each and every query they get.