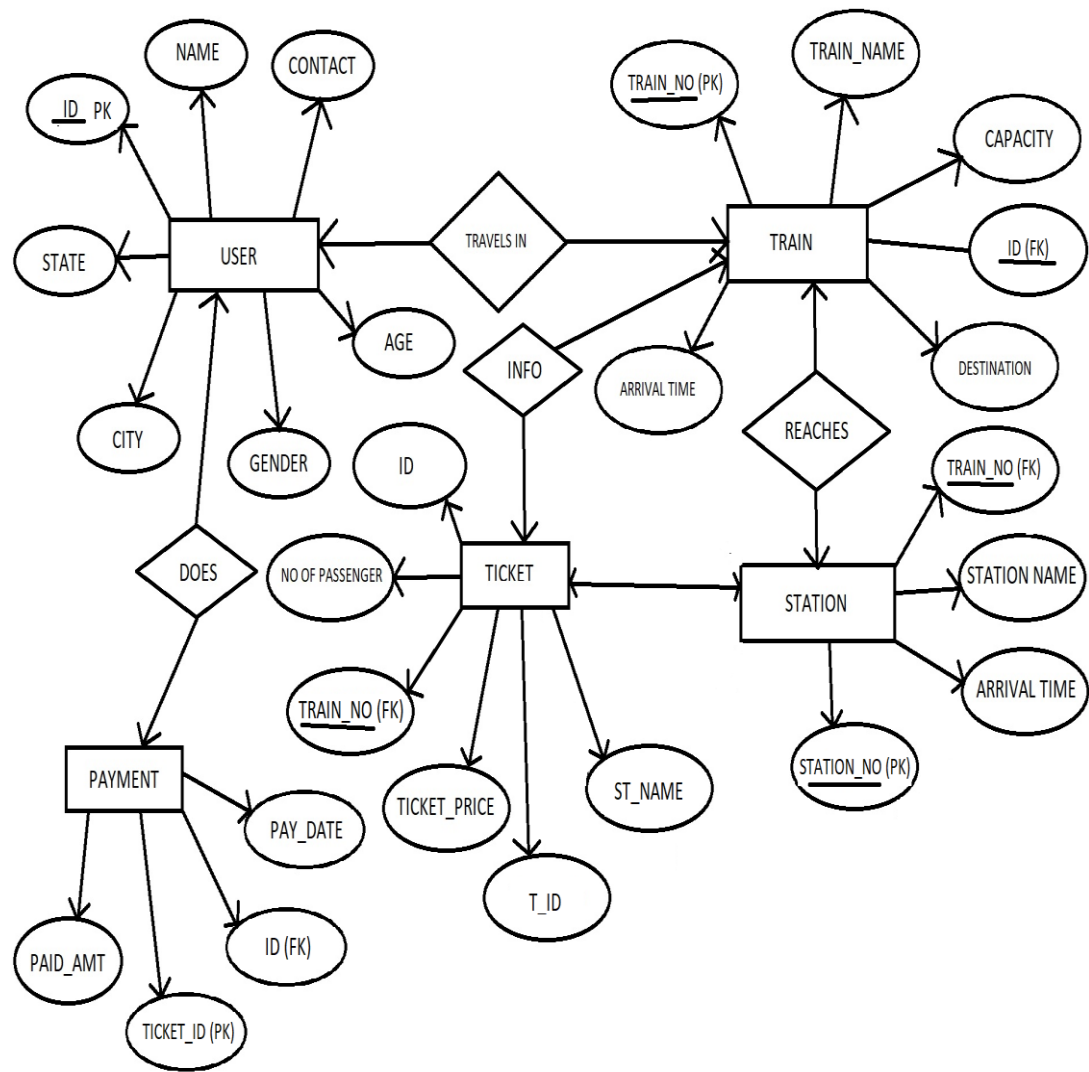


## **VANDE BHARAT EXPRESS**

### **INTRODUCTION:-**

The main purpose of maintaining database for Railway Reservation System is to reduce the manual errors involved in the booking and canceling 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 inquiries 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

ER DIAGRAM:-



## STRUCTURE OF TABLES

### USER:-

```
XAMPP for Windows - mysql -u root
MariaDB [railway]> desc user;
+-----+-----+-----+-----+-----+-----+
| Field | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| ID    | int(11)       | NO   | PRI | NULL    |       |
| Name  | varchar(40)   | NO   |     | NULL    |       |
| contact | bigint(20)    | YES  | UNI | NULL    |       |
| age   | int(11)       | YES  |     | NULL    |       |
| Gender | varchar(20)   | YES  |     | NULL    |       |
| city  | char(40)      | YES  |     | NULL    |       |
| state | char(40)      | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
7 rows in set (0.131 sec)

MariaDB [railway]> _
```

### TRAIN:-

```
XAMPP for Windows - mysql -u root
MariaDB [railway]> desc train;
+-----+-----+-----+-----+-----+-----+
| Field          | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| train_no       | int(11)       | NO   | PRI | NULL    |       |
| train_name     | varchar(50)   | YES  |     | NULL    |       |
| capacity       | int(11)       | YES  |     | NULL    |       |
| destination    | varchar(50)   | YES  |     | NULL    |       |
| arrival_time   | varchar(50)   | YES  |     | NULL    |       |
| ID             | int(11)       | YES  | MUL | NULL    |       |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.022 sec)

MariaDB [railway]> _
```

## STATION:-

```
XAMPP for Windows - mysql -u root
6 rows in set (0.022 sec)

MariaDB [railway]> desc station;
+-----+-----+-----+-----+-----+-----+
| Field          | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| staion_no      | int(11)       | NO   | PRI | NULL    |       |
| station_name   | varchar(50)   | YES  |     | NULL    |       |
| train_no       | int(11)       | YES  | MUL | NULL    |       |
| arrival_time   | varchar(50)   | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
4 rows in set (0.004 sec)

MariaDB [railway]>
```

## TICKET:-

```
XAMPP for Windows - mysql -u root
4 rows in set (0.004 sec)

MariaDB [railway]> desc ticket;
+-----+-----+-----+-----+-----+-----+
| Field          | Type          | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| t_id           | int(11)       | NO   | PRI | NULL    |       |
| st_name        | varchar(50)   | YES  |     | NULL    |       |
| ticket_price   | varchar(50)   | YES  |     | NULL    |       |
| train_no       | int(11)       | YES  | MUL | NULL    |       |
| ID             | int(11)       | YES  |     | NULL    |       |
| no_of_passenger | varchar(30)   | YES  |     | NULL    |       |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.023 sec)

MariaDB [railway]>
```

## PAYMENT:-

XAMPP for Windows - mysql -u root

6 rows in set (0.023 sec)

MariaDB [railway]> desc payment;

Field	Type	Null	Key	Default	Extra
ticket_id	int(11)	NO	PRI	NULL	
pay_date	varchar(50)	YES		NULL	
paid_amt	int(11)	YES		NULL	
ID	int(11)	YES	MUL	NULL	

4 rows in set (0.005 sec)

MariaDB [railway]>

## CONTENTS OF TABLES

### USER:-

```
XAMPP for Windows - mysql -u root

MariaDB [railway]> select *from user;
```

ID	Name	contact	age	Gender	city	state
101	Aditi Utekar	8956234556	23	Female	Pune	Maharashtra
102	Tushar Nakashe	7856453289	22	Male	Nashik	Maharashtra
103	Avinash Bhoir	9856234565	26	Male	Kolhapur	Maharashtra
104	Teju More	6598451268	25	Female	Satara	Maharashtra
105	Abhishek Gupta	9456782169	24	Male	Mumbai	Maharashtra
106	Darshan Jadhav	9656452563	25	Male	Nagpur	Maharashtra
107	Ramesh Mhatre	9435784562	29	Male	Thane	Maharashtra
108	Shruti Singh	8545653578	21	Female	Jalna	Maharashtra
109	Om Salvi	8923568456	28	Male	Thane	Maharashtra
110	Harsh Malik	8656485326	21	Male	Nanded	Maharashtra
111	Himanshu Mhatre	9845326578	21	Male	Solapur	Maharashtra
112	Savita Wagh	5623987884	34	Female	Thane	Maharashtra
113	Karan Vishwakarma	9645867815	21	Male	Jalna	Maharashtra
114	Anjali Mehta	8756429523	28	Female	Satara	Maharashtra
115	Mansi Lad	9456258978	30	Female	Nanded	Maharashtra
116	Rutuja Naik	5845895678	25	Female	Nagpur	Maharashtra
117	Divya Shastri	7456915389	29	Female	Mumbai	Maharashtra
118	Isha More	8756218945	23	Female	Pune	Maharashtra
119	Harshda Lashkare	8954237619	28	Female	Nashik	Maharashtra
120	Sonal Pawar	5678128923	21	Female	Nanded	Maharashtra

```
20 rows in set (0.027 sec)

MariaDB [railway]>
```

## TRAIN:-

```
XAMPP for Windows - mysql -u root

MariaDB [railway]> select *from train;
```

train_no	train_name	capacity	destination	arrival_time	ID
1001	TUTARI RAJYA RANI EXP	900	SAWANTWADI	21:00	101
1002	TUTARI RAJYA RANI EXP	1200	SAWANTWADI	11:00	102
1003	NGP MAO SPL	900	RATNAGIRI	19:00	103
1004	J TPTY SPL	800	TIRUPATI	15:00	104
1005	PUNE NANDED EXP	1000	PUNE	12:00	105
1006	KOP STR DMU	700	SATARA	13:00	106
1007	PUNE NANDED EXP	641	PUNE	01:00	107
1008	NGP MAO SPL	700	RATNAGIRI	13:00	108
1009	NGP MAO SPL	1000	RATNAGIRI	22:00	109
1010	SUR WADI MEMU	1100	SHAHABAD	19:00	110
1011	PUNE MRJ SPL	500	SANGLI	15:00	111
1012	CSMT DNR SPL	1000	SATNA	20:00	112
1013	PUNE MRJ SPL	703	SANGLI	16:00	113
1014	CSMT DNR SPL	705	SATNA	08:00	114
1015	PUNE NANDED EXP	530	PUNE	03:00	115
1016	PUNE MRJ SPL	910	SATARA	06:00	116
1017	NGP MAO SPL	421	RATNAGIRI	09:00	117
1018	TUTARI RAJYA RANI EXP	600	SAWANTWADI	09:00	118
1019	J TPTY SPL	960	BHALKI	19:00	119
1020	PUNE DNR SPL	800	DANAPUR	17:00	120

```
20 rows in set (0.004 sec)

MariaDB [railway]>
```

## STATION:-

```
C:\xampp> XAMPP for Windows - mysql -u root
MariaDB [railway]> select *from station;
```

staion_no	station_name	train_no	arrival_time
401	PUNE	1001	03:00
402	SAWANTWADI	1002	11:00
403	BHALKI	1003	19:00
404	SANGLI	1004	15:00
405	PUNE	1005	12:00
406	RATNAGIRI	1006	13:00
407	SATNA	1007	01:00
408	SATARA	1008	13:00
409	RATNAGIRI	1009	22:00
410	PUNE	1010	19:00
411	RATNAGIRI	1011	15:00
412	SATARA	1012	20:00
413	SANGLI	1013	17:00
414	SATNA	1014	16:00
415	RATNAGIRI	1015	08:00
416	SAWANTWADI	1016	03:00
417	TIRUPATI	1017	06:00
418	SAWANTWADI	1018	09:00
419	PUNE	1019	09:00
420	SHAHABAD	1020	19:00

```
20 rows in set (0.005 sec)

MariaDB [railway]>
```



## TICKET:-

```
XAMPP for Windows - mysql -u root

MariaDB [railway]> select *from ticket;
+-----+-----+-----+-----+-----+-----+
| t_id | st_name | ticket_price | train_no | ID | no_of_passenger |
+-----+-----+-----+-----+-----+-----+
| 201 | pune | 150 | 1001 | 101 | 10 |
| 202 | sawantwadi | 200 | 1002 | 102 | 15 |
| 203 | bhalki | 225 | 1003 | 103 | 6 |
| 204 | sangli | 170 | 1004 | 104 | 17 |
| 205 | pune | 160 | 1005 | 105 | 9 |
| 206 | ratnagiri | 100 | 1006 | 106 | 12 |
| 207 | satna | 230 | 1007 | 107 | 11 |
| 208 | satara | 320 | 1008 | 108 | 13 |
| 209 | ratnagiri | 165 | 1009 | 109 | 8 |
| 210 | pune | 280 | 1010 | 110 | 7 |
| 211 | ratnagiri | 360 | 1011 | 111 | 5 |
| 212 | satara | 230 | 1012 | 112 | 19 |
| 213 | sangli | 450 | 1013 | 113 | 11 |
| 214 | satna | 155 | 1014 | 114 | 8 |
| 215 | ratnagiri | 190 | 1015 | 115 | 10 |
| 216 | sawantwadi | 310 | 1016 | 116 | 18 |
| 217 | tirupati | 280 | 1017 | 117 | 4 |
| 218 | sawantwadi | 200 | 1018 | 118 | 12 |
| 219 | pune | 170 | 1019 | 119 | 3 |
| 220 | shahabad | 410 | 1020 | 120 | 15 |
+-----+-----+-----+-----+-----+-----+
20 rows in set (0.020 sec)

MariaDB [railway]> _
```

## PAYMENT:-

```
XAMPP for Windows - mysql -u root
20 rows in set (0.020 sec)

MariaDB [railway]> select *from payment;
+-----+-----+-----+-----+
| ticket_id | pay_date | paid_amt | ID |
+-----+-----+-----+-----+
| 301 | 20-5-23 | 1500 | 101 |
| 302 | 14-5-23 | 2400 | 102 |
| 303 | 14-8-23 | 1350 | 103 |
| 304 | 11-2-23 | 3400 | 104 |
| 305 | 9-10-23 | 1280 | 105 |
| 306 | 5-9-23 | 1500 | 106 |
| 307 | 22-5-23 | 2233 | 107 |
| 308 | 3-12-23 | 5440 | 108 |
| 309 | 26-2-23 | 1485 | 109 |
| 310 | 8-12-23 | 4480 | 110 |
| 311 | 16-3-23 | 6840 | 111 |
| 312 | 23-10-23 | 5290 | 112 |
| 313 | 11-4-23 | 4500 | 113 |
| 314 | 18-11-23 | 2170 | 114 |
| 315 | 16-5-23 | 4180 | 115 |
| 316 | 22-5-23 | 2170 | 116 |
| 317 | 30-7-23 | 3640 | 117 |
| 318 | 6-9-23 | 2800 | 118 |
| 319 | 5-8-23 | 4250 | 119 |
| 320 | 13-5-23 | 2050 | 120 |
+-----+-----+-----+-----+
20 rows in set (0.013 sec)

MariaDB [railway]>
```

## SUBQUERIES

. FIND THE STATION NUMBER OF THE STATION WHOSE DESTINATION IS 'RATNAGIRI'

```
XAMPP for Windows - mysql -u root
9 rows in set (0.014 sec)

MariaDB [railway]> select *from station where train_no in (select train_no from ticket where train_no in(select train_no from train where destination='ratnagiri'));
+-----+-----+-----+-----+
| staion_no | station_name | train_no | arrival_time |
+-----+-----+-----+-----+
| 403 | BHALKI | 1003 | 19:00 |
| 408 | SATARA | 1008 | 13:00 |
| 409 | RATNAGIRI | 1009 | 22:00 |
| 417 | TIRUPATI | 1017 | 06:00 |
+-----+-----+-----+-----+
4 rows in set (0.017 sec)

MariaDB [railway]> .
```

.FIND THE STATION NAME OF THE STATION WHOSE TRAIN CAPACITY IS GREATER THAN 700.

```
XAMPP for Windows - mysql -u root

MariaDB [railway]> select *from station where train_no in (select train_no from ticket where train_no in(select train_no from train where capacity>700));
+-----+-----+-----+-----+
| staion_no | station_name | train_no | arrival_time |
+-----+-----+-----+-----+
| 401 | PUNE | 1001 | 03:00 |
| 402 | SAWANTWADI | 1002 | 11:00 |
| 403 | BHALKI | 1003 | 19:00 |
| 404 | SANGLI | 1004 | 15:00 |
| 405 | PUNE | 1005 | 12:00 |
| 409 | RATNAGIRI | 1009 | 22:00 |
| 410 | PUNE | 1010 | 19:00 |
| 412 | SATARA | 1012 | 20:00 |
| 413 | SANGLI | 1013 | 17:00 |
| 414 | SATNA | 1014 | 16:00 |
| 416 | SAWANTWADI | 1016 | 03:00 |
| 419 | PUNE | 1019 | 09:00 |
| 420 | SHAHABAD | 1020 | 19:00 |
+-----+-----+-----+-----+
13 rows in set (0.013 sec)
```

## .FIND THE PAYMENT DETAILS OF USER WHOSE GENDER IS FEMALE

```
ERROR 1064 (1200): You have an error in your SQL syntax; check the manual that corresponds to your MariaDB [railway]> select *from payment where ID in (select ID from user where gender='female');
+-----+-----+-----+-----+
| ticket_id | pay_date | paid_amt | ID |
+-----+-----+-----+-----+
| 301 | 20-5-23 | 1500 | 101 |
| 304 | 11-2-23 | 3400 | 104 |
| 308 | 3-12-23 | 5440 | 108 |
| 312 | 23-10-23 | 5290 | 112 |
| 314 | 18-11-23 | 2170 | 114 |
| 315 | 16-5-23 | 4180 | 115 |
| 316 | 22-5-23 | 2170 | 116 |
| 317 | 30-7-23 | 3640 | 117 |
| 318 | 6-9-23 | 2800 | 118 |
| 319 | 5-8-23 | 4250 | 119 |
| 320 | 13-5-23 | 2050 | 120 |
+-----+-----+-----+-----+
11 rows in set (0.016 sec)
```

## .FIND THE STATION NAME OF THE TRAIN WHOSE TRAIN CAPACITY IN BETWEEN 900 TO 1200

```
XAMPP for Windows - mysql -u root
MariaDB [railway]> select *from station where train_no in (select train_no from ticket where train_no in(select train_no from train where capacity between 900 and 1200));
+-----+-----+-----+-----+
| staion_no | station_name | train_no | arrival_time |
+-----+-----+-----+-----+
| 401 | PUNE | 1001 | 03:00 |
| 402 | SANANTWADI | 1002 | 11:00 |
| 403 | BHALKI | 1003 | 19:00 |
| 405 | PUNE | 1005 | 12:00 |
| 409 | RATNAGIRI | 1009 | 22:00 |
| 410 | PUNE | 1010 | 19:00 |
| 412 | SATARA | 1012 | 20:00 |
| 416 | SANANTWADI | 1016 | 03:00 |
| 419 | PUNE | 1019 | 09:00 |
+-----+-----+-----+-----+
9 rows in set (0.014 sec)
```

## JOINS

. Find all the user name and their train name along with their id,age,gender and destination.

```
XAMPP for Windows - mysql -u root
MariaDB [railway]> select user.ID,user.name,user.age,user.gender,train.train_name,train.destination from user inner join train on user.ID =train.ID;
```

ID	name	age	gender	train_name	destination
101	Aditi Utekar	23	Female	TUTARI RAJYA RAVI EXP	SAWANTWADI
102	Tushar Nakashe	22	Male	TUTARI RAJYA RAVI EXP	SAWANTWADI
103	Avinash Bhoir	26	Male	NGP MAO SPL	RATNAGIRI
104	Teju More	25	Female	J TPTY SPL	TIRUPATI
105	Abhishek Gupta	24	Male	PUNE NANDED EXP	PUNE
106	Darshan Jadhav	25	Male	KOP STR DMU	SATARA
107	Ramesh Mhatre	29	Male	PUNE NANDED EXP	PUNE
108	Shruti Singh	21	Female	NGP MAO SPL	RATNAGIRI
109	Om Salvi	28	Male	NGP MAO SPL	RATNAGIRI
110	Harsh Malik	21	Male	SUR WADI MEMU	SHAHABAD
111	Himanshu Mhatre	21	Male	PUNE MRJ SPL	SANGLI
112	Savita Wagh	34	Female	CSMT DNR SPL	SATNA
113	Karan Vishwakarma	21	Male	PUNE MRJ SPL	SANGLI
114	Anjali Mehta	28	Female	CSMT DNR SPL	SATNA
115	Mansi Lad	30	Female	PUNE NANDED EXP	PUNE
116	Rutuja Naik	25	Female	PUNE MRJ SPL	SATARA
117	Divya Shastri	29	Female	NGP MAO SPL	RATNAGIRI
118	Isha More	23	Female	TUTARI RAJYA RAVI EXP	SAWANTWADI
119	Harshda Lashkare	28	Female	J TPTY SPL	BHALKI
120	Sonal Pawar	21	Female	PUNE DNR SPL	DANAPUR

```
20 rows in set (0.096 sec)

MariaDB [railway]>
```

.find each train number along with their capacity,station number and arrival time.

```
XAMPP for Windows - mysql -u root
MariaDB [railway]> select train.train_no,train.capacity,train.arrival_time,station.staion_no from train left join station on train.train_no=station.train_no;
```

train_no	capacity	arrival_time	staion_no
1001	900	21:00	401
1002	1200	11:00	402
1003	900	19:00	403
1004	800	15:00	404
1005	1000	12:00	405
1006	700	13:00	406
1007	641	01:00	407
1008	700	13:00	408
1009	1000	22:00	409
1010	1100	19:00	410
1011	500	15:00	411
1012	1000	20:00	412
1013	703	16:00	413
1014	705	08:00	414
1015	530	03:00	415
1016	910	06:00	416
1017	421	09:00	417
1018	600	09:00	418
1019	960	19:00	419
1020	800	17:00	420

```
20 rows in set (0.050 sec)

MariaDB [railway]>
```

.find the price of the ticket of each train with their train number destination and station name.

```
mysql -u root
MariaDB [railway]> select train.train_no,train.train_name,train.destination,ticket.ticket_price,ticket.st_name from train right join ticket on train.train_no=ticket.train_no;
```

train_no	train_name	destination	ticket_price	st_name
1001	TUTARI RAJYA RANI EXP	SAWANTWADI	150	pune
1002	TUTARI RAJYA RANI EXP	SAWANTWADI	200	sawantwadi
1003	NGP MAO SPL	RATNAGIRI	225	bhalki
1004	J TPTY SPL	TIRUPATI	170	sangli
1005	PUNE NANDED EXP	PUNE	160	pune
1006	KOP STR DMU	SATARA	100	ratnagiri
1007	PUNE NANDED EXP	PUNE	230	satna
1008	NGP MAO SPL	RATNAGIRI	320	satara
1009	NGP MAO SPL	RATNAGIRI	165	ratnagiri
1010	SUR WADI MEMU	SHAHABAD	280	pune
1011	PUNE MRJ SPL	SANGLI	360	ratnagiri
1012	CSMT DNR SPL	SATNA	230	satara
1013	PUNE MRJ SPL	SANGLI	450	sangli
1014	CSMT DNR SPL	SATNA	155	satna
1015	PUNE NANDED EXP	PUNE	190	ratnagiri
1016	PUNE MRJ SPL	SATARA	310	sawantwadi
1017	NGP MAO SPL	RATNAGIRI	280	tirupati
1018	TUTARI RAJYA RANI EXP	SAWANTWADI	200	sawantwadi
1019	J TPTY SPL	BHALKI	170	pune
1020	PUNE DNR SPL	DANAPUR	410	shahabad

```
20 rows in set (0.014 sec)

MariaDB [railway]>
```

