

```
# Experiment No. 3
# Creating a sample database (Railway Management System) using any client
server RDBMS package using SQL DDL queries.
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```

```
show databases;
create database RMS_2;
use RMS_2;
```

```
create table Passenger(P_ID int, P_name varchar(20), Age int, Gender
char(10),Ticket_ID int, PNR int);
desc Passenger;
```

```
alter table Passenger add constraint primary key(P_ID);
desc Passenger;
```

```
create table Ticket(PNR int, Ticket_ID int, Arrtime time, Deptime time,
Trainno int, Tktamt int, Seat_no int, Reserve_status char(10));
show tables;
desc Ticket;
```

```
alter table Ticket add constraint primary key(PNR);
desc Ticket;
alter table Passenger add constraint foreign key(PNR) references
Ticket(PNR);
desc Passenger;
desc Ticket;
create table Train (Trainno int Primary key, Tname varchar(20), Type
char(15), Class char(10), Status_ID int, Coach_ID varchar(10));
desc Train;
```

```
create table Trainstatus (Status_ID int, Trainno int, PNR int, Arrtime
time, Deptime time, Stncode char(10));
```

```
alter table Trainstatus add constraint primary key(Status_ID);
desc Trainstatus;
```

```
create table Route(Route_ID int, Arrtime time, Deptime time, Trainno int,
Srcstn char(10), Deststn char(10));
alter table Route add constraint primary key(Route_ID);
desc Route;
```

```
create table Seatavailability (Coach_ID varchar(10),Trainno int, Type
varchar(10), wait char(10), avail char(10));
```

```

alter table Seatavailability add constraint primary key(Coach_ID);
desc Seatavailability;

create table Station (Stncode char(10), Stn_Name varchar(15), Pltfno int);
alter table Station add constraint primary key(Stncode);
desc Station;

alter table Trainstatus change column Trainno Trainno int not null;
alter table Trainstatus change column Stncode Stncode char(10) not null;
desc Trainstatus;

alter table Seatavailability add constraint unique key(Type);
desc Seatavailability;

alter table Ticket add constraint chkamt check(Tktamt>0);
desc Ticket;
describe Station;

```

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```

#Output:

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

```
mysql> show databases;
```

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+-----+
| Database          |
+-----+
| information_schema |
| db1                |
| mysql              |
| performance_schema |
| sys                |
+-----+

```

```
mysql> create database RMS_2;
```

```
mysql> use RMS_2;
Database changed
```

```
mysql> create table Passenger(P_ID int, P_name varchar(20), Age int, Gender
char (10),Ticket_ID int, PNR int);
```

```
mysql> desc Passenger;
```

Field	Type	Null	Key	Default	Extra
P_ID	int	NO	PRI	NULL	
P_name	varchar(20)	YES		NULL	
Age	int	YES		NULL	
Gender	char(10)	YES		NULL	
Ticket_ID	int	YES		NULL	
PNR	int	YES	MUL	NULL	

```
6 rows in set (0.07 sec)
```

```
mysql> alter table Passenger add constraint primary key(P_ID); Query OK, 0
rows affected (0.51 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> desc Passenger;
```

Field	Type	Null	Key	Default	Extra
P_ID	int	NO	PRI	NULL	
P_name	varchar(20)	YES		NULL	
Age	int	YES		NULL	
Gender	char(10)	YES		NULL	
Ticket_ID	int	YES		NULL	
PNR	int	YES	MUL	NULL	

```
6 rows in set (0.00 sec)
```

```
mysql> create table Ticket(PNRint, Ticket_ID int, Arrtime time, Deptime
time, T rainno int, Tktamt int, Seat_no int, Reserve_status char(10));
```

```
Query OK, 0 rows affected (0.37 sec)
```

```
mysql> show tables;
```

Tables_in_rms_2
passenger
route
seatavailability
station
ticket
train
trainstatus

7 rows in set (0.0080 sec)

```
mysql> desc Ticket;
```

Field	Type	Null	Key	Default	Extra
PNR	int	NO	PRI	NULL	
Ticket_ID	int	YES		NULL	
Arrtime	time	YES		NULL	
Deptime	time	YES		NULL	
Trainno	int	YES		NULL	
Tktamt	int	YES		NULL	
Seat_no	int	YES		NULL	
Reserve_status	char(10)	YES		NULL	

8 rows in set (0.0139 sec)

a

```
mysql> alter table Passenger add constraint foreign key(PNR) references  
Ticket(P NR);
```

```
ERROR 1215 (HY000): Cannot add foreign key constraint mysql> alter table  
Ticket add constraint primary key(PNR);
```

```
Query OK, 0 rows affected (0.41 sec) Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> desc Ticket;
```

Field	Type	Null	Key	Default	Extra
PNR	int	NO	PRI	NULL	
Ticket_ID	int	YES		NULL	

Arctime	time	YES		NULL	
Deptime	time	YES		NULL	
Trainno	int	YES		NULL	
Tktamt	int	YES		NULL	
Seat_no	int	YES		NULL	
Reserve_status	char(10)	YES		NULL	

8 rows in set (0.00 sec)

```
mysql> alter table Passenger add constraint foreign key(PNR) references
Ticket(P NR);
Query OK, 0 rows affected (0.48 sec) Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> desc Passenger;
```

Field	Type	Null	Key	Default	Extra
P_ID	int	NO	PRI	NULL	
P_name	varchar(20)	YES		NULL	
Age	int	YES		NULL	
Gender	char(10)	YES		NULL	
Ticket_ID	int	YES		NULL	
PNR	int	YES	MUL	NULL	

6 rows in set (0.0082 sec)

```
mysql> desc Ticket;
```

Field	Type	Null	Key	Default	Extra
PNR	int	NO	PRI	NULL	
Ticket_ID	int	YES		NULL	
Arctime	time	YES		NULL	
Deptime	time	YES		NULL	
Trainno	int	YES		NULL	
Tktamt	int	YES		NULL	
Seat_no	int	YES		NULL	
Reserve_status	char(10)	YES		NULL	

8 rows in set (0.00 sec)

de

```
mysql> create table Train (Trainno int Primary key, Tname varchar(20), Type
char (15), Class char(10), Status_ID int, Coach_ID varchar(10));
```

Query OK, 0 rows affected (0.30 sec)

```
mysql> desc Train;
```

Field	Type	Null	Key	Default	Extra
Trainno	int	NO	PRI	NULL	
Tname	varchar(20)	YES		NULL	
Type	char(15)	YES		NULL	
Class	char(10)	YES		NULL	
Status_ID	int	YES		NULL	
Coach_ID	varchar(10)	YES		NULL	

6 rows in set (0.0082 sec)

```
mysql> create table Trainstatus (Status_ID int, Trainno int, PNR int,
Arrtime time, Deptime time, Stncode char(10));
```

Query OK, 0 rows affected (0.20 sec)

```
mysql> alter table Trainstatus add constraint primary key(Status_ID); Query
OK, 0 rows affected (0.42 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> desc Trainstatus;
```

Field	Type	Null	Key	Default	Extra
Status_ID	int	NO	PRI	NULL	
Trainno	int	NO		NULL	
PNR	int	YES		NULL	
Arrtime	time	YES		NULL	
Deptime	time	YES		NULL	
Stncode	char(10)	NO		NULL	

6 rows in set (0.0082 sec)

```
mysql> create table Route(Route_ID int, Arrtime time, Deptime time, Trainno
int, Srcstn char(10), Deststn char(10));
Query OK, 0 rows affected (0.20 sec)
```

```
mysql> alter table Route add constraint primary key(Route_ID); Query OK, 0
rows affected (0.31 sec)
```

Records: 0 Duplicates: 0 Warnings: 0

```
mysql> desc Route;
```

Field	Type	Null	Key	Default	Extra
Route_ID	int	NO	PRI	NULL	
Arftime	time	YES		NULL	
Deptime	time	YES		NULL	
Trainno	int	YES		NULL	
Srcstn	char(10)	YES		NULL	
Deststn	char(10)	YES		NULL	

6 rows in set (0.0097 sec)

```
mysql> create table Seatavailability (Coach_ID varchar(10),Trainno int,
Type var char(10), wait char(10), avail char(10));
Query OK, 0 rows affected (0.19 sec)
```

```
mysql> alter table Seatavailability add constraint primary key(Coach_ID);
Query OK, 0 rows affected (0.33 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> desc Seatavailability;
```

Field	Type	Null	Key	Default	Extra
Coach_ID	varchar(10)	NO	PRI	NULL	
Trainno	int	YES		NULL	
Type	varchar(10)	YES	UNI	NULL	
wait	char(10)	YES		NULL	
avail	char(10)	YES		NULL	

```
mysql> create table Station (Stncode char(10), Stn_Name varchar(15), Pltfno
int)
;
Query OK, 0 rows affected (0.18 sec)
```

```
mysql> alter table Station add constraint primary key(Stncode); Query OK, 0
rows affected (0.34 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> desc Station;
```

Field	Type	Null	Key	Default	Extra
Stncode	char(10)	NO	PRI	NULL	
Stn_Name	varchar(15)	YES		NULL	
Pltfno	int	YES		NULL	

3 rows in set (0.0081 sec)

```
mysql> alter table Trainstatus change column Trainno Trainno int not null;
Query OK, 0 rows affected (0.40 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> alter table Trainstatus change column Stncode Stncode char(10) not
null; Query OK, 0 rows affected (0.45 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> desc Trainstatus;
```

Field	Type	Null	Key	Default	Extra
Status_ID	int	NO	PRI	NULL	
Trainno	int	NO		NULL	
PNR	int	YES		NULL	
Arrtime	time	YES		NULL	
Deptime	time	YES		NULL	
Stncode	char(10)	NO		NULL	

6 rows in set (0.0095 sec)

```
mysql> alter table Seatavailability add constraint unique key(Type); Query
OK, 0 rows affected (0.45 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> desc Seatavailability;
```

Field	Type	Null	Key	Default	Extra
Coach_ID	varchar(10)	NO	PRI	NULL	

Trainno	int	YES		NULL	
Type	varchar(10)	YES	UNI	NULL	
wait	char(10)	YES		NULL	
avail	char(10)	YES		NULL	

5 rows in set (0.0079 sec)

mysql> alter table Ticket add constraint chkamt check(Tktamt>0); Query OK,
0 rows affected (0.11 sec)
Records: 0 Duplicates: 0 Warnings: 0

mysql> desc Ticket;

Field	Type	Null	Key	Default	Extra
PNR	int	NO	PRI	NULL	
Ticket_ID	int	YES		NULL	
Arftime	time	YES		NULL	
Deptime	time	YES		NULL	
Trainno	int	YES		NULL	
Tktamt	int	YES		NULL	
Seat_no	int	YES		NULL	
Reserve_status	char(10)	YES		NULL	

8 rows in set (0.0076 sec)

mysql> describe Station;

Field	Type	Null	Key	Default	Extra
Stncode	char(10)	NO	PRI	NULL	
Stn_Name	varchar(15)	YES		NULL	
Pltfno	int	YES		NULL	

3 rows in set (0.0078 sec)