

## **CREATION OF ALL THE TABLES**

### **CREATING KEYSPACE**

```
create keyspace bda_assignment with replication =  
{'class':'SimpleStrategy','replication_factor':1};
```

### **USINGKEYSPACE**

```
use bda_assignment;
```

### **CREATE DRIVER TABLE**

```
create table driver(  
driver_name text primary key,  
password ascii,  
mobile bigint,  
current_position text,  
skill set<text>);
```

### **INSERT INTO DRIVER TABLE**

```
begin batch  
insert into driver(driver_name,password,mobile,current_position,skill)  
values('harry','1234578',9292929292,'FA4567',{'express train','passenger train'})  
insert into driver(driver_name,password,mobile,current_position,skill)  
values('pooja','12121212',9876543210,'PB9865',{'passenger train'})  
insert into driver(driver_name,password,mobile,current_position,skill)  
values('nimit','324561huyt',7012345678,'SQ7854',{'express train'})  
apply batch;
```

### **CREATE VEHICLE TABLE**

```
create table vehicle(  
vehicle_id string PRIMARY KEY,  
status text,  
type text);
```

### **INSERT INTO VEHICLE TABLE**

```
begin batch
```

```
insert into vehicle(vehicle_id,status,type)
values('PB21256','out_of_order','Gulliver')
insert into vehicle(vehicle_id,status,type)
values('JH23786','UpperHutt','Ganz Mavag')
insert into vehicle(vehicle_id,status,type)
values('WB35786','Maintenance','Kiwi Rail')
apply batch;
```

### **CREATE TABLE TIME\_TABLE**

```
create table time_table(
line_name ascii primary key,
service_no bigint,
station_name text,
latitude double,
longitude double,
time int,
distance double);
```

### **INSERT INTO TIME\_TABLE TABLE**

```
begin batch
insert into time_table (line_name, service_no, station_name, latitude,longitude, time, distance)
values('LINE1',1245,'bull temple road',57.10,60.40,1530,335)
insert into time_table (line_name, service_no, station_name, latitude,longitude, time, distance)
values('LINE2',9023,'whitefield',25.30,32.40,1430,400)
insert into time_table (line_name, service_no, station_name, latitude,longitude, time, distance)
values('LINE3',2881,'mgroad',42.21,90.40,1604,300)
apply batch;
```

### **CREATE TABLE VEHICLE\_USAGE**

```
create table vehicle_usage(
vehicle_id text,
total_distance counter,
primary key(vehicle_id));
```

### **INSERT INTO VEHICLE\_USAGE**

```
update vehicle_usage set total_distance=total_distance+100 where vehicle_id='PB21256';
update vehicle_usage set total_distance=total_distance+100 where vehicle_id='WB35786';
```

update vehicle\_usage set total\_distance=total\_distance+890 where vehicle\_id='JH23786';

Select \* from vehicle\_usage;

```
cqlsh:bda_assignment> update vehicle_usage set total_distance=total_distance+100 where vehicle_id='PB21256';
cqlsh:bda_assignment> select * from vehicle_usage;
```

vehicle_id	total_distance
PB21256	100

(1 rows)

```
cqlsh:bda_assignment> update vehicle_usage set total_distance=total_distance+100 where vehicle_id='WB35786';
cqlsh:bda_assignment> update vehicle_usage set total_distance=total_distance+890 where vehicle_id='JH23786';
cqlsh:bda_assignment> select * from vehicle_usage;
```

vehicle_id	total_distance
PB21256	100
WB35786	100
JH23786	890

(3 rows)

```
cqlsh:bda_assignment>
```

## CREATE TABLE DATA\_POINT

```
create table data_point(
day int,
sequence timestamp primary key,
latitude double,
longitude double,
speed double);
```

## INSERT INTO DATA\_POINT

```
begin batch
insert into data_point(day,sequence,latitude,longitude,speed)
values(24,'2021-03-10',59.50,61.50,76)
insert into data_point(day,sequence,latitude,longitude,speed)
values(2,'2020-11-01',65.60,68.50,56)
insert into data_point(day,sequence,latitude,longitude,speed)
values(19,'2019-06-15',66.60,78.50,98)
apply batch;
```

## OPERATIONS ON THE TABLES

**1. Write a new driver details for registration, ensuring that the driver name does not exist.**

```
create table driver(  
driver_name text primary key,  
password ascii,  
mobile bigint,  
current_position text,  
skill set<text>;  
  
begin batch  
insert into driver(driver_name,password,mobile,current_position,skill)  
values('harry','1234578',9292929292,'FA4567',{'express train,passenger train'})  
insert into driver(driver_name,password,mobile,current_position,skill)  
values('pooja','12121212',9876543210,'PB9865',{'passenger train'})  
insert into driver(driver_name,password,mobile,current_position,skill)  
values('nimit','324561huyt',7012345678,'SQ7854',{'express train'})  
apply batch;  
  
select * from driver;
```

```
cqlsh:bda_assignment> select * from driver;
```

driver_name	current_position	mobile	password	skill
harry	FA4567	9292929292	1234578	{'express train,passenger\ntrain'}
pooja	PB9865	9876543210	12121212	{'passenger train'}
nimit	SQ7854	7012345678	324561huyt	{'express train'}

**2. Change the password of a driver, ensuring that the current password matches what is in the database.**

```
update driver set password = '45678923' where driver_name='nimit' if password = '324561huyt';  
  
select * from driver;
```

```
(3 rows)
cqlsh:bda_assignment> update driver set password = '45678923' where driver_name='nimit' if password = '324561huyt'
... ;

[applied]
-----
True

cqlsh:bda_assignment> select * from driver;
```

driver_name	current_position	mobile	password	skill
harry	FA4567	9292929292	1234578	{'express train,passenger\ntrain'}
pooja	PB9865	9876543210	12121212	{'passenger train'}
nimit	SQ7854	7012345678	45678923	{'express train'}

```
(3 rows)
cqlsh:bda_assignment>
```

### 3. Update the current position of a driver.

update driver set current\_position = 'BANGALORE' where driver\_name = 'harry';

select \* from driver;

```
cqlsh:bda_assignment> update driver set current_position = 'BANGALORE' where driver_name = 'harry';
cqlsh:bda_assignment> select * from driver;
```

driver_name	current_position	mobile	password	skill
harry	BANGALORE	9292929292	1234578	{'express train,passenger\ntrain'}
pooja	PB9865	9876543210	12121212	{'passenger train'}
nimit	SQ7854	7012345678	45678923	{'express train'}

```
(3 rows)
cqlsh:bda_assignment>
```

### 4. Update the set of skills of a driver.

update driver set skill = {'express train', 'passanger train'} where driver\_name = 'pooja';

select \* from driver;

```
cqlsh:bda_assignment> update driver set skill = {'express train', 'passanger train'} where driver_name = 'pooja';
cqlsh:bda_assignment> select * from driver;
```

driver_name	current_position	mobile	password	skill
harry	BANGALORE	9292929292	1234578	{'express train'}
pooja	PB9865	9876543210	12121212	{'express train', 'passanger train'}
nimit	SQ7854	7012345678	45678923	{'express train'}

```
(3 rows)
cqlsh:bda_assignment>
```

### 5. Update the number of days at work per month for a driver.

update data\_point set day=5 where sequence='2021-03-10';

```
select * from data_point;
```

```
cqlsh:bda_assignment> update data_point set day=5 where sequence='2021-03-10';  
cqlsh:bda_assignment> select * from data_point;
```

sequence	day	latitude	longitude	speed
2019-06-14 18:30:00.000000+0000	19	66.6	78.5	98
2021-03-09 18:30:00.000000+0000	5	59.5	61.5	76
2020-10-31 18:30:00.000000+0000	2	65.6	68.5	56

(3 rows)

```
cqlsh:bda_assignment> █
```

## 6. Write a new vehicle details.

```
create table vehicle(  
vehicle_id string PRIMARY KEY,  
status text,  
type text);
```

```
begin batch  
insert into vehicle(vehicle_id,status,type)  
values('PB21256','out_of_order','Gulliver')  
insert into vehicle(vehicle_id,status,type)  
values('JH23786','UpperHutt','Ganz Mavag')  
insert into vehicle(vehicle_id,status,type)  
values('WB35786','Maintenance','Kiwi Rail')  
apply batch;
```

```
select * from vehicle;
```

```

cqlsh:bda_assignment> begin batch
... insert into vehicle(vehicle_id,status,type)
... values('PB21256','out_of_order','Gulliver')
... insert into vehicle(vehicle_id,status,type)
... values('JH23786','UpperHutt','Ganz Mavag')
... insert into vehicle(vehicle_id,status,type)
... values('WB35786','Maintenance','Kiwi Rail')
... apply batch;
cqlsh:bda_assignment> select * from vehicle;

```

vehicle_id	status	type
PB21256	out_of_order	Gulliver
WB35786	Maintenance	Kiwi Rail
JH23786	UpperHutt	Ganz Mavag

```

(3 rows)
cqlsh:bda_assignment>

```

## 7. Update the status of a vehicle.

update vehicle set status = 'Maintenance' where vehicle\_id ='JH23786';

select \* from vehicle;

```

cqlsh:bda_assignment> update vehicle set status = 'Maintenance' where vehicle_id ='JH23786';
cqlsh:bda_assignment> select * from vehicle;

```

vehicle_id	status	type
PB21256	out_of_order	Gulliver
WB35786	Maintenance	Kiwi Rail
JH23786	Maintenance	Ganz Mavag

```

(3 rows)
cqlsh:bda_assignment>

```

## 8. Increment the daily distance for a vehicle.

“Daily distance” column is not present.

## 9. Increment the total distance for a vehicle.

update vehicle\_usage set total\_distance=total\_distance+250 where vehicle\_id='WB35786';

select \* from vehicle\_usage;



```
cqlsh:bda_assignment> update vehicle_usage set total_distance=total_distance+250 where vehicle_id='WB35786';
cqlsh:bda_assignment> select * from vehicle_usage;
```

vehicle_id	total_distance
PB21256	100
WB35786	350
JH23786	890

```
(3 rows)
cqlsh:bda_assignment>
```

## 10. Write the train time table.

```
create table time_table(
line_name ascii primary key,
service_no bigint,
station_name text,
latitude double,
longitude double,
time int,
distance double);
```

begin batch

```
insert into time_table (line_name, service_no, station_name, latitude,longitude, time, distance)
values('LINE1',1245,'bull temple road',57.10,60.40,1530,335)
```

```
insert into time_table (line_name, service_no, station_name, latitude,longitude, time, distance)
values('LINE2',9023,'whitefield',25.30,32.40,1430,400)
```

```
insert into time_table (line_name, service_no, station_name, latitude,longitude, time, distance)
values('LINE3',2881,'mgroad',42.21,90.40,1604,300)
```

apply batch;

```
select * from time_table;
```

```
cqlsh:bda_assignment> create table time_table(line_name ascii primary key,service_no bigint,station_name text, latitude double,longitude double,time int,
distance double);
cqlsh:bda_assignment> begin batch
... insert into time_table (line_name, service_no, station_name, latitude,longitude, time, distance)
... values('LINE1',1245,'bull temple road',57.10,60.40,1530,335)
... insert into time_table (line_name, service_no, station_name, latitude,longitude, time, distance)
... values('LINE2',9023,'whitefield',25.30,32.40,1430,400)
... insert into time_table (line_name, service_no, station_name, latitude,
... longitude, time, distance)
... values('LINE3',2881,'mgroad',42.21,90.40,1604,300)
... apply batch;
cqlsh:bda_assignment> select * from time_table;
```

line_name	distance	latitude	longitude	service_no	station_name	time
LINE2	400	25.3	32.4	9023	whitefield	1430
LINE3	300	42.21	90.4	2881	mgroad	1604
LINE1	335	57.1	60.4	1245	bull temple road	1530

```
(3 rows)
cqlsh:bda_assignment>
```

## 11. Write a departure station with time and service identification (line\_name, service\_no).



```
insert into time_table (line_name, service_no, station_name, latitude, longitude, time, distance)
values('LINE4',1231,'departure station',42.20,90.40,1604,300);
```

```
select * from time_table;
```

```
cqlsh:bda_assignment> insert into time_table (line_name, service_no, station_name, latitude,
... longitude, time, distance) values('LINE4',1231,'departure
... station',42.20,90.40,1604,300);
cqlsh:bda_assignment> select * from time_table;
```

line_name	distance	latitude	longitude	service_no	station_name	time
LINE2	400	25.3	32.4	9023	whitefield	1430
LINE3	300	42.21	90.4	2881	mgroad	1604
LINE4	300	42.2	90.4	1231	departure station	1604
LINE1	335	57.1	60.4	1245	bull temple road	1530

(4 rows)

```
cqlsh:bda_assignment>
```

## 12. Write a data point for a service.

```
create table data_point(
day int,
sequence timestamp primary key,
latitude double,
longitude double,
speed double);
```

```
begin batch
```

```
insert into data_point(day,sequence,latitude,longitude,speed)
values(24,'2021-03-10',59.50,61.50,76)
```

```
insert into data_point(day,sequence,latitude,longitude,speed)
values(2,'2020-11-01',65.60,68.50,56)
```

```
insert into data_point(day,sequence,latitude,longitude,speed)
values(19,'2019-06-15',66.60,78.50,98)
```

```
apply batch;
```

```
select * from data_point;
```

```

cqlsh:bda_assignment> create table data_point(day int,sequence timestamp primary key,latitude double,longitude double,speed double);
cqlsh:bda_assignment> begin batch
... insert into data_point(day,sequence,latitude,longitude,speed)
... values(24,'2021-03-10',59.50,61.50,76)
... insert into data_point(day,sequence,latitude,longitude,speed)
... values(2,'2020-11-01',65.60,68.50,56)
... insert into data_point(day,sequence,latitude,longitude,speed)
... values(19,'2019-06-15',66.60,78.50,98)
... apply batch;
cqlsh:bda_assignment> select * from data_point;

sequence | day | latitude | longitude | speed
-----+-----+-----+-----+-----
2019-06-14 18:30:00.000000+0000 | 19 | 66.6 | 78.5 | 98
2021-03-09 18:30:00.000000+0000 | 24 | 59.5 | 61.5 | 76
2020-10-31 18:30:00.000000+0000 | 2 | 65.6 | 68.5 | 56

(3 rows)
cqlsh:bda_assignment>

```