**Create Table query’s:**

CREATE TABLE "REKENINGADMIN"."INVOICE"

( "INVOICEID" NUMBER(10,0) NOT NULL ENABLE,

"INVOICEDATE" TIMESTAMP (6),

"PAYMENTMONTH" NUMBER(10,0),

"PAYMENTSTATUS" VARCHAR2(255 BYTE),

"TOTALAMOUNT" NUMBER(19,4),

"OWNER\_SOFINUMMER" VARCHAR2(255 BYTE),

"VEHICLE\_CARTRACKERID" VARCHAR2(255 BYTE),

PRIMARY KEY ("INVOICEID")

CONSTRAINT "INVOICE\_VEHICLE\_CARTRACKERID" FOREIGN KEY ("VEHICLE\_CARTRACKERID")

REFERENCES "REKENINGADMIN"."VEHICLE" ("CARTRACKERID") ENABLE,

CONSTRAINT "FK\_INVOICE\_OWNER\_SOFINUMMER" FOREIGN KEY ("OWNER\_SOFINUMMER")

REFERENCES "REKENINGADMIN"."OWNER" ("SOFINUMMER") ENABLE

)

CREATE TABLE "REKENINGADMIN"."OWNER"

( "SOFINUMMER" VARCHAR2(255 BYTE) NOT NULL ENABLE,

"ADDRESS" VARCHAR2(255 BYTE),

"CITY" VARCHAR2(255 BYTE),

"NAME" VARCHAR2(255 BYTE),

"POSTALCODE" VARCHAR2(255 BYTE),

"ACCOUNT\_ACOUNTID" NUMBER(10,0),

PRIMARY KEY ("SOFINUMMER")

)

CREATE TABLE "REKENINGADMIN"."VEHICLE"

( "CARTRACKERID" VARCHAR2(255 BYTE) NOT NULL ENABLE,

"ACCOUNTDRIVERWEBSITE" NUMBER(1,0) DEFAULT 0,

"ENVIRONMENTCLASS" VARCHAR2(255 BYTE),

"LICENSE" VARCHAR2(255 BYTE) NOT NULL ENABLE,

"OWNER\_SOFINUMMER" VARCHAR2(255 BYTE),

"RATECLASS\_RATECLASSID" NUMBER(10,0),

PRIMARY KEY ("CARTRACKERID")

CONSTRAINT "FK\_VEHICLE\_OWNER\_SOFINUMMER" FOREIGN KEY ("OWNER\_SOFINUMMER")

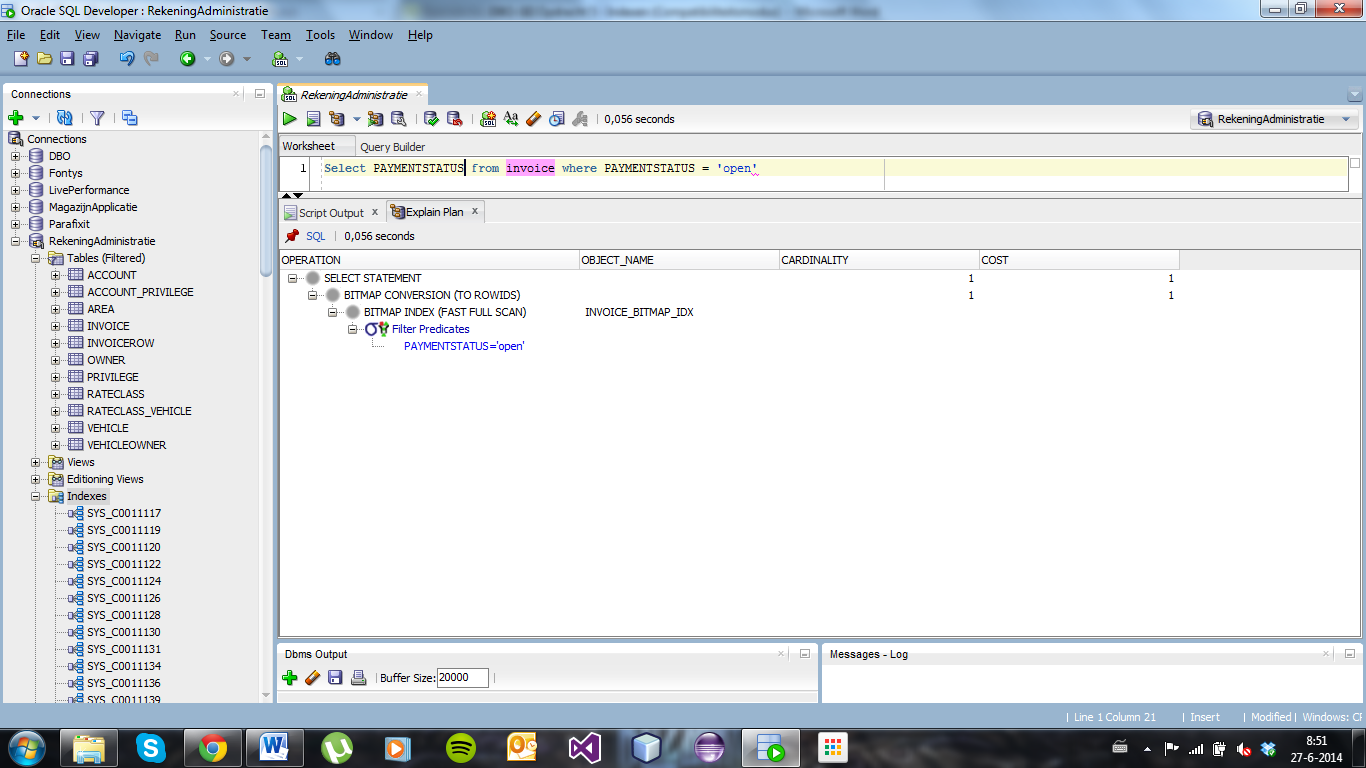
REFERENCES "REKENINGADMIN"."OWNER" ("SOFINUMMER")

)

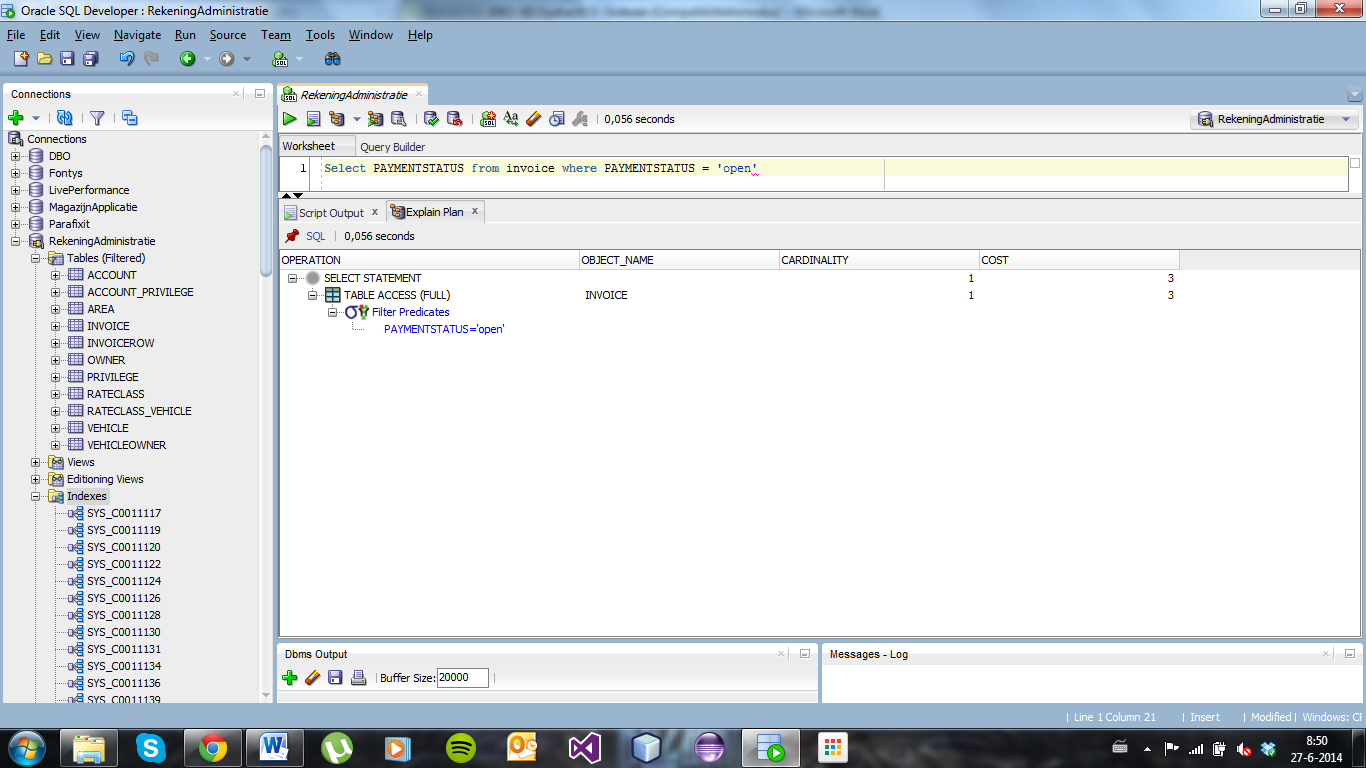
**Indexen:**

1. Create bitmap index invoice\_bitmap\_idx on invoice(paymentstatus);

Resultaten met index:

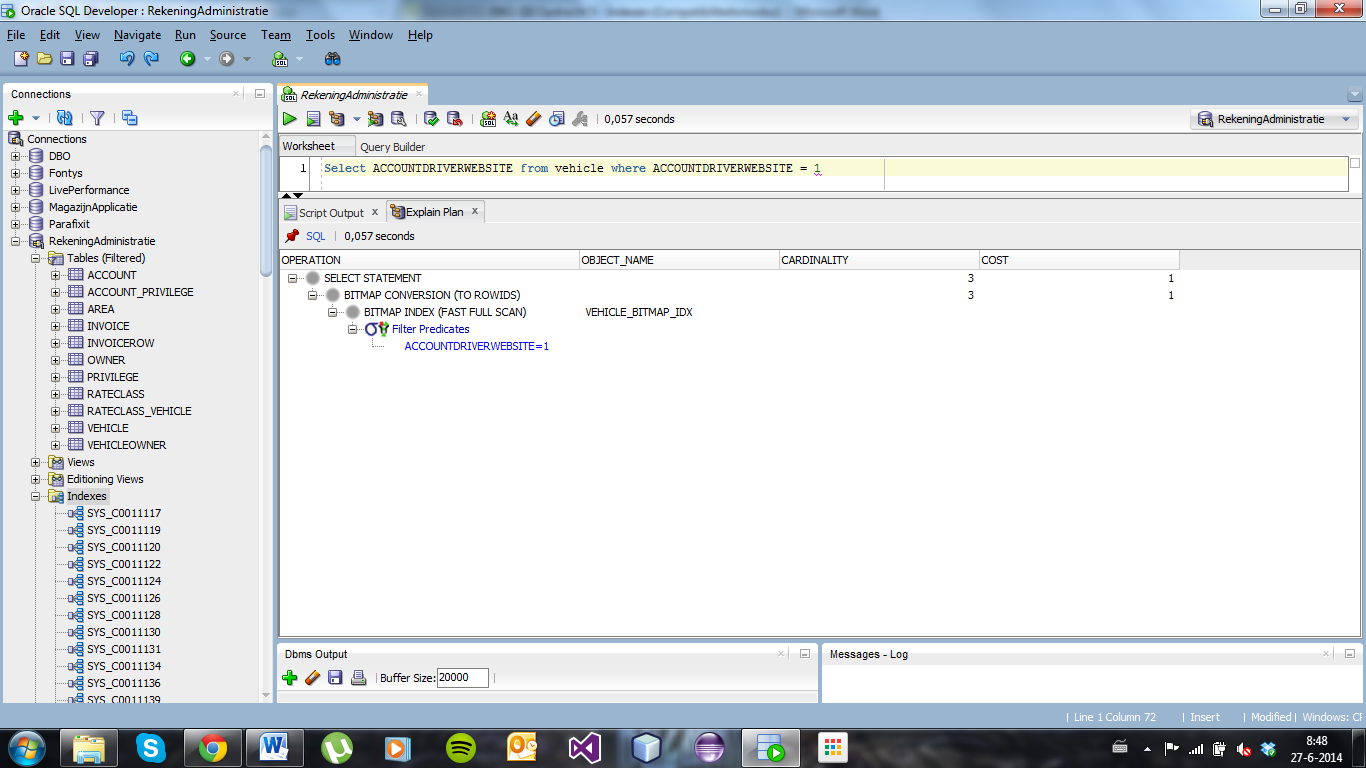


Resultaten zonder index:

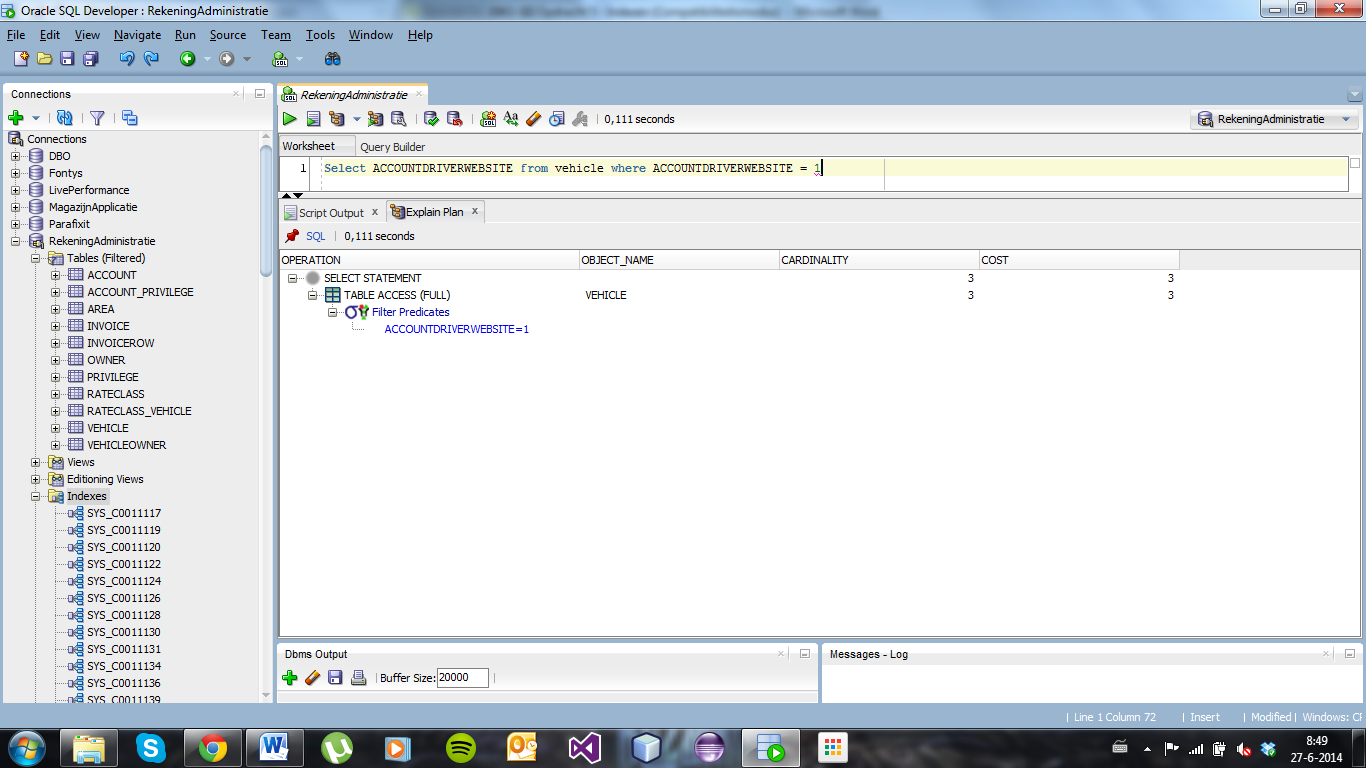


1. Create bitmap index vehicle\_bitmap\_idx on vehicle(accountdriverwebsite);

Resultaten met index:



Resultaten zonder index:



1. create index owner\_ind on owner(city)

global partition by range (city)(

partition i\_0a values less than ('a%'),

partition i\_0b values less than ('b%'),

partition i\_0c values less than ('c%'),

partition i\_0d values less than ('d%'),

partition i\_0e values less than ('e%'),

partition i\_0f values less than ('f%'),

partition i\_0g values less than ('g%'),

partition i\_0h values less than ('h%'),

partition i\_0i values less than ('i%'),

partition i\_0j values less than ('j%'),

partition i\_0k values less than ('k%'),

partition i\_0l values less than ('l%'),

partition i\_0m values less than ('m%'),

partition i\_0n values less than ('n%'),

partition i\_0o values less than ('o%'),

partition i\_0p values less than ('p%'),

partition i\_0q values less than ('q%'),

partition i\_0r values less than ('r%'),

partition i\_0s values less than ('s%'),

partition i\_0t values less than ('t%'),

partition i\_0u values less than ('u%'),

partition i\_0v values less than ('v%'),

partition i\_0w values less than ('w%'),

partition i\_0x values less than ('x%'),

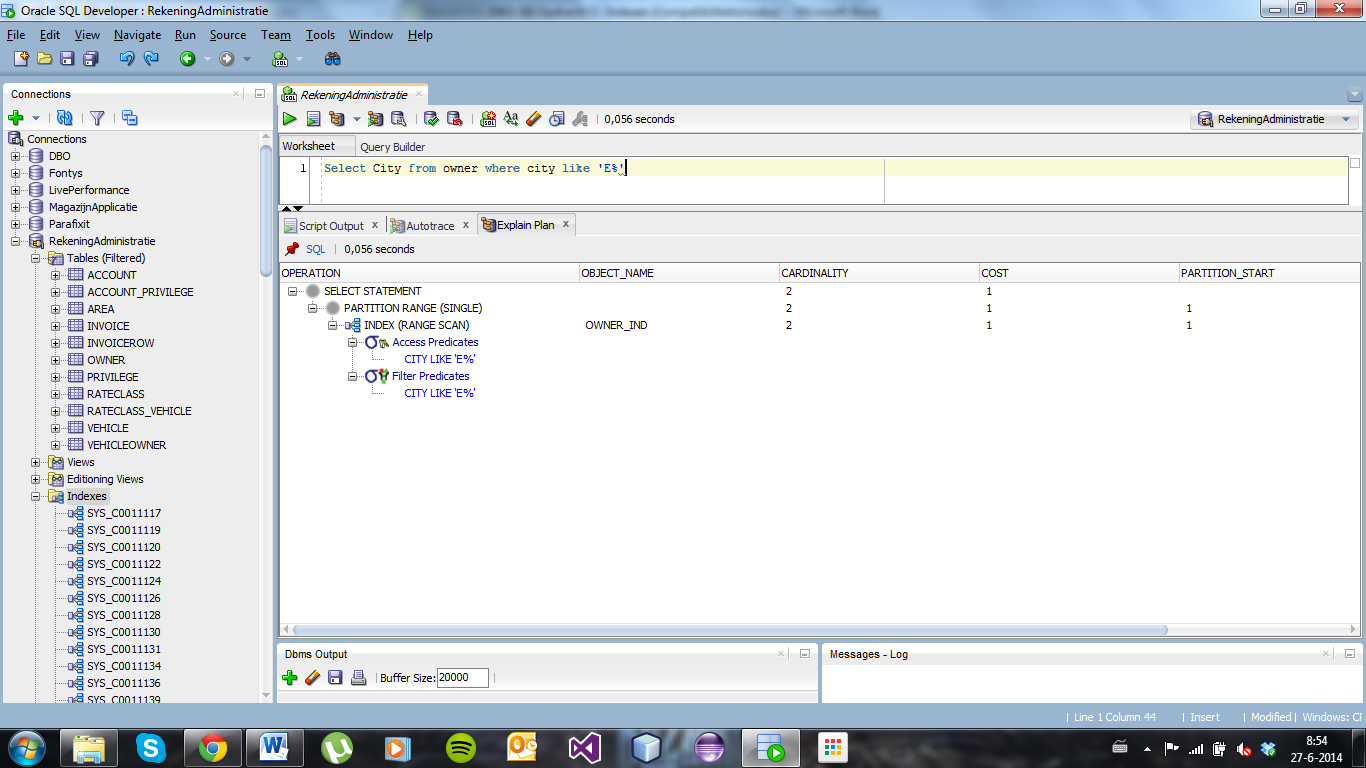
partition i\_0y values less than ('y%'),

partition i\_0z values less than ('z%'),

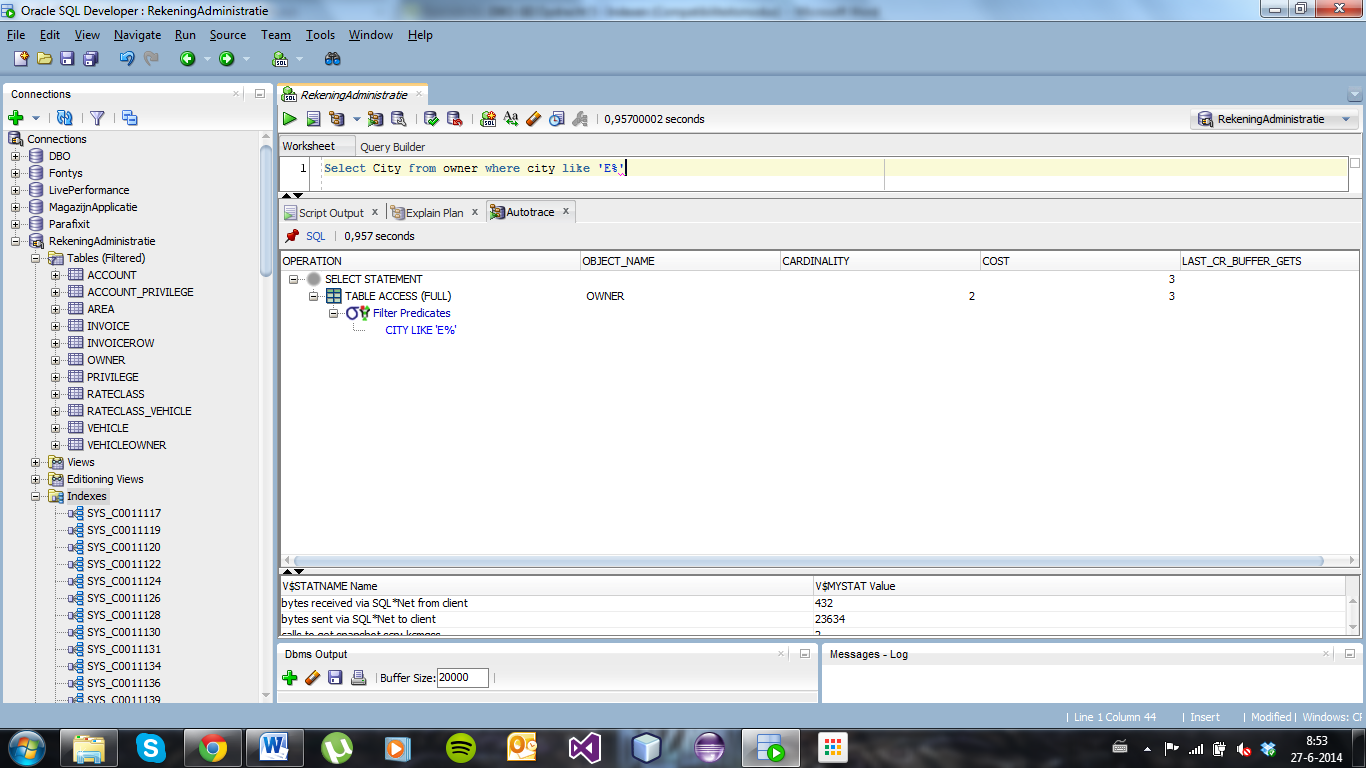
partition i\_max values less than (MAXVALUE)

);

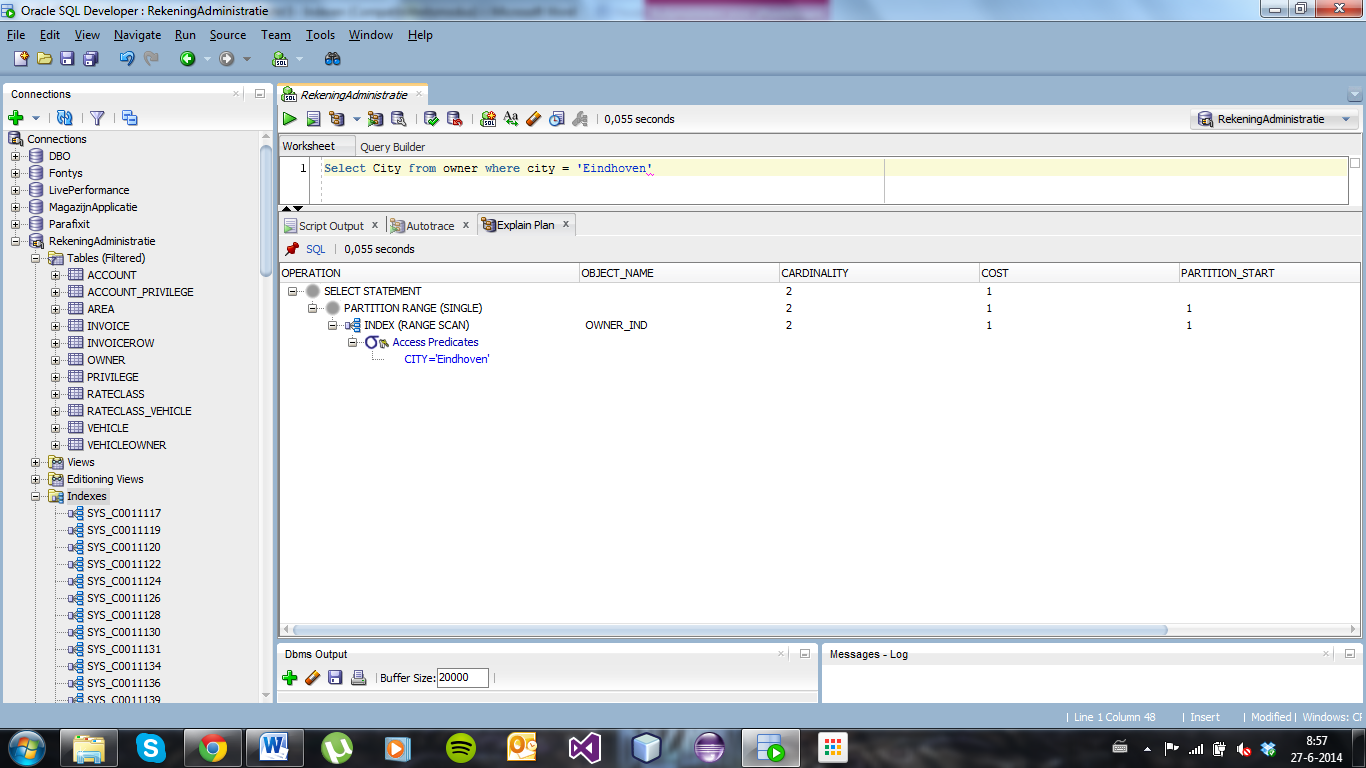
Resultaten met index:



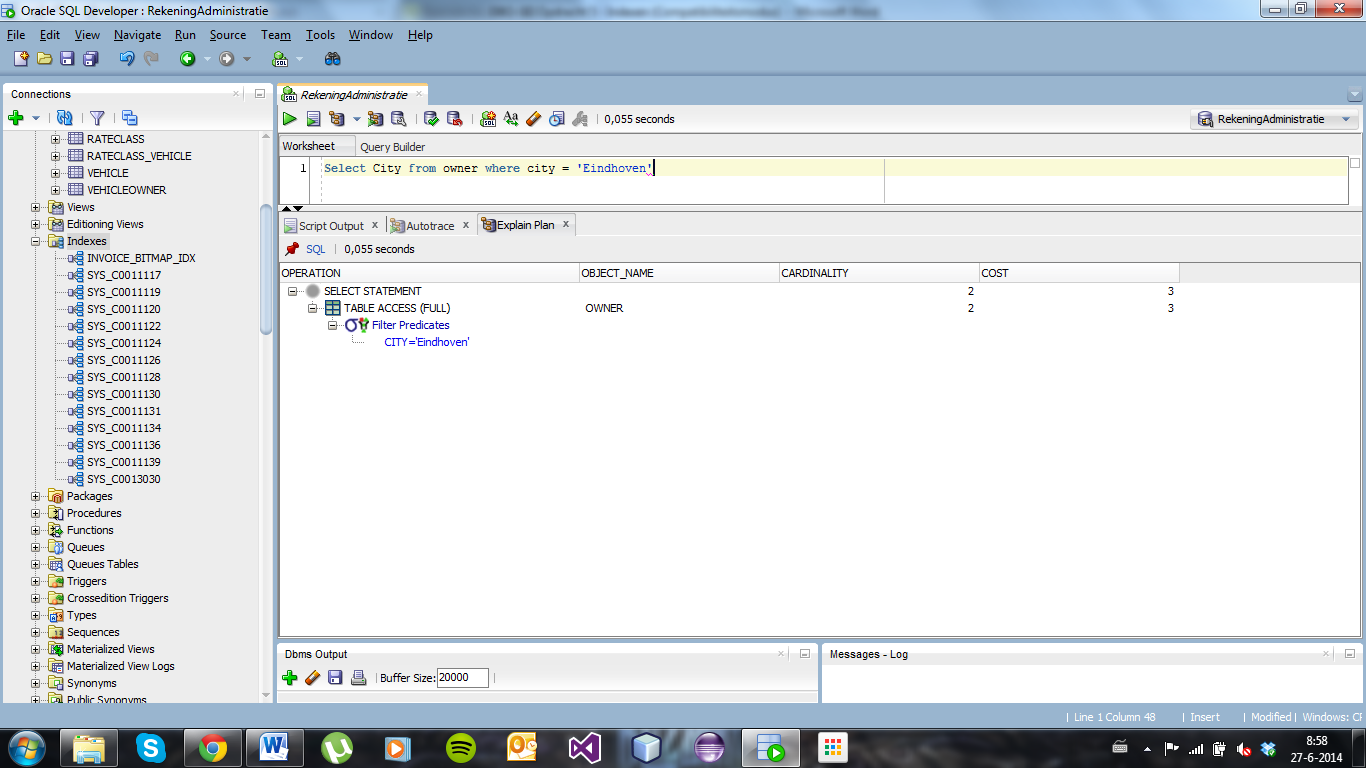
Resultaten zonder index:



Resultaten met index:



Resultaten zonder index:



1. create index invoice\_ind on invoice(paymentmonth)

global partition by range (paymentmonth)(

partition i\_0a values less than (3),

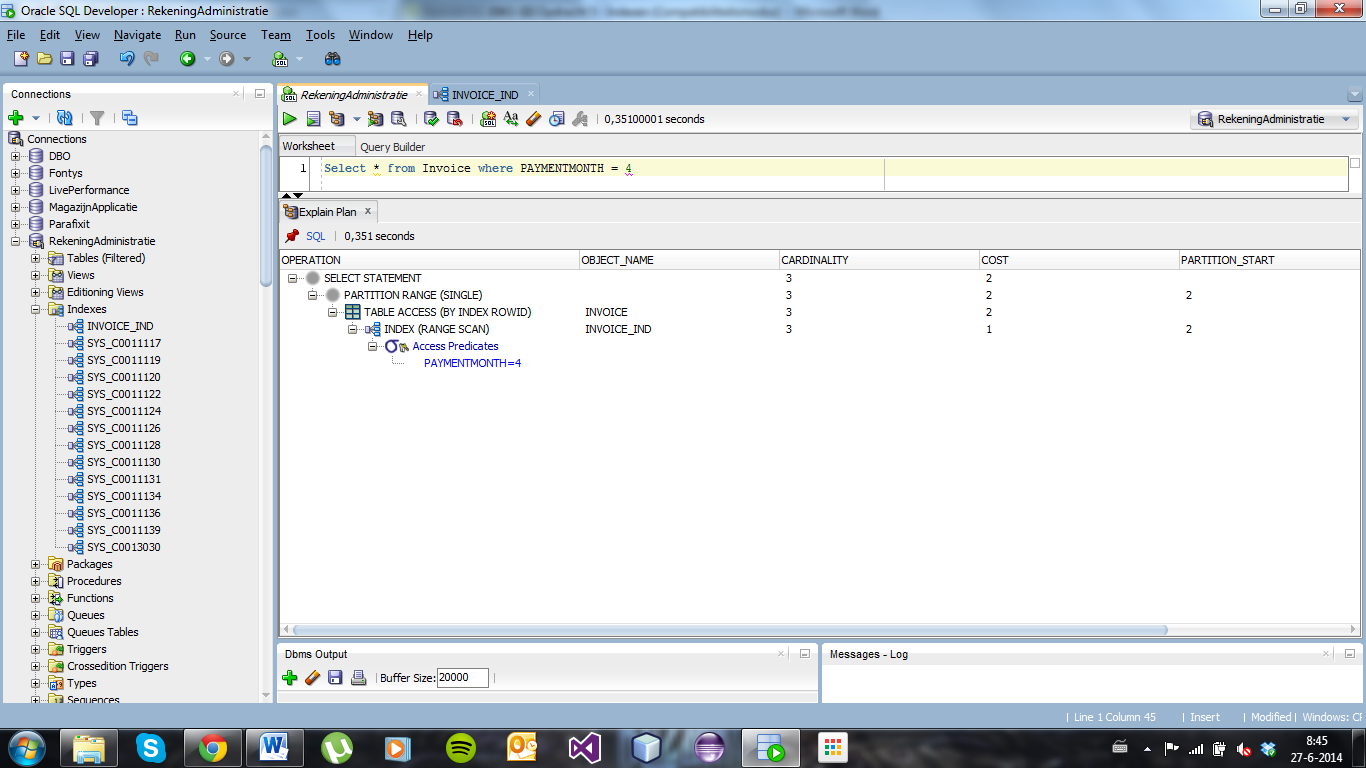
partition i\_0b values less than (6),

partition i\_0c values less than (9),

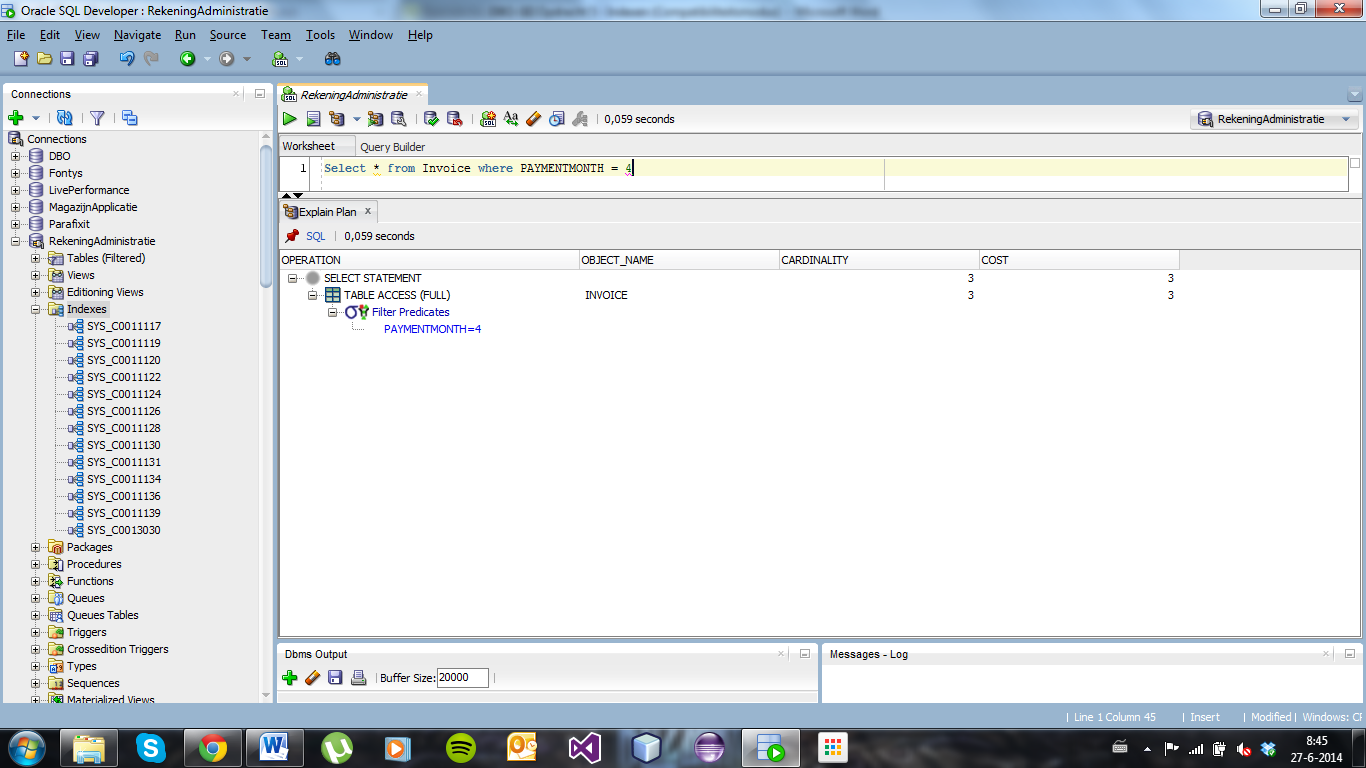
partition i\_max values less than (MAXVALUE)

);

Resultaten met index:



Resultaten zonder index:

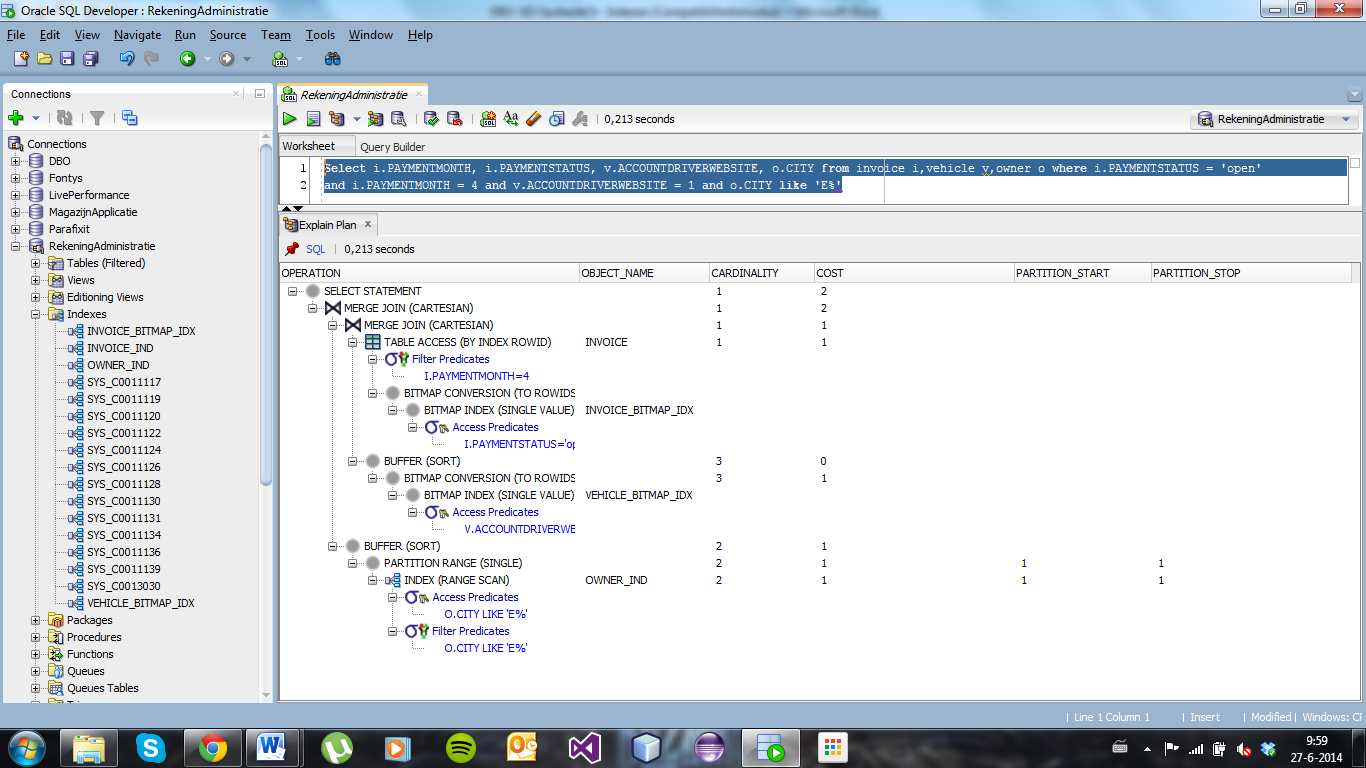


**EXTRA**

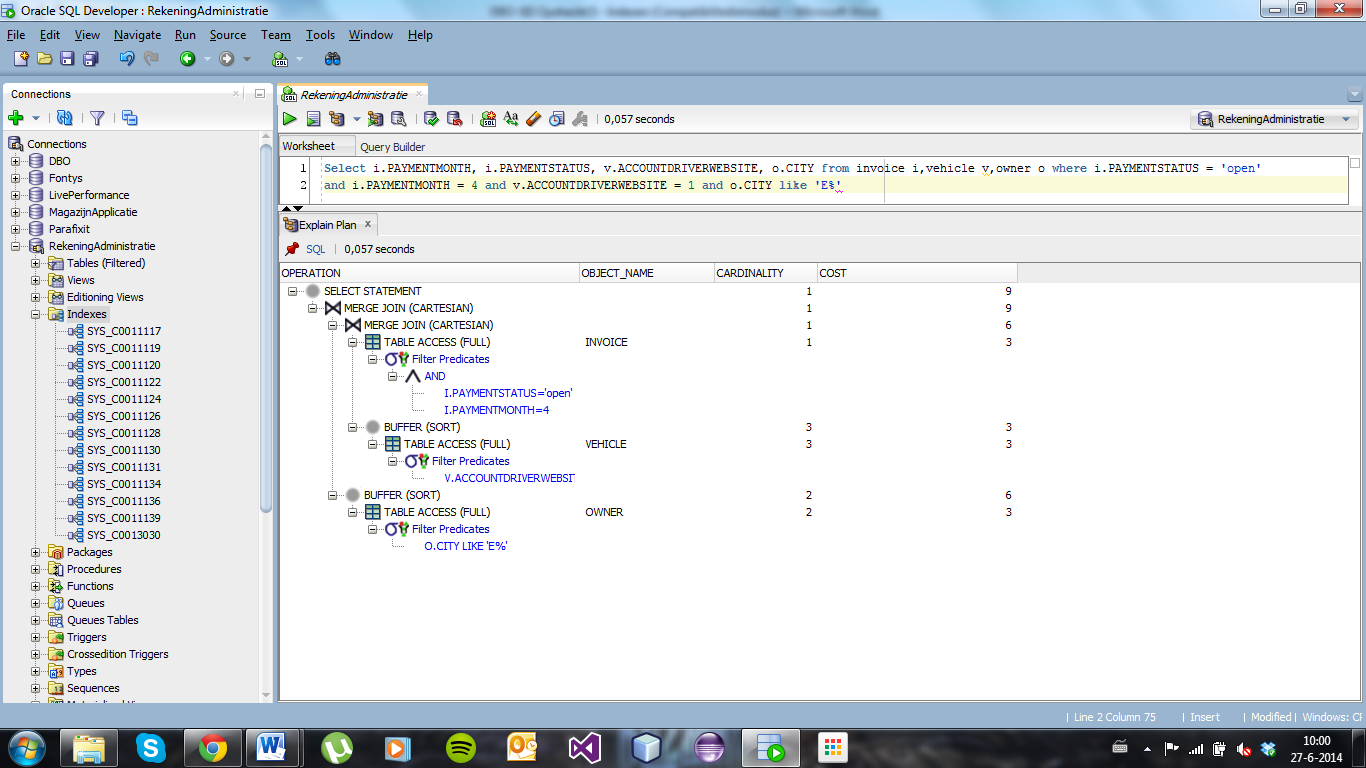
Select i.PAYMENTMONTH, i.PAYMENTSTATUS, v.ACCOUNTDRIVERWEBSITE, o.CITY from invoice i,vehicle v,owner o where i.PAYMENTSTATUS = 'open'

and i.PAYMENTMONTH = 4 and v.ACCOUNTDRIVERWEBSITE = 1 and o.CITY like 'E%'

Resultaten met index:



Resultaten zonder index:



Select \* from invoice i,vehicle v,owner o where i.PAYMENTSTATUS = 'open'

and i.PAYMENTMONTH = 4 and v.ACCOUNTDRIVERWEBSITE = 1 and o.CITY like 'E%'

**Conclusie:**

Door het gebruiken van de indexen is de cost van een query een stuk lager. Vooral bij een grote tabel zal dit veel tijd schelen. Hoe complexer de query hoe meer je er op kunt besparen. Wel moet je vaak specifiek aangeven welke kolommen je moet hebben voor de index, wanneer je een SELECT \* gebruikt wordt vaak de index niet gebruikt en wanneer je de kolom aangeeft wel.