**REPORT**

ON THE

U2M1.LW.Core SQL

Alina Sadovskaya

# 2. Data Warehouse Architecture – Storage Layers

## 2.1. Task 01: CREATE Storage Objects

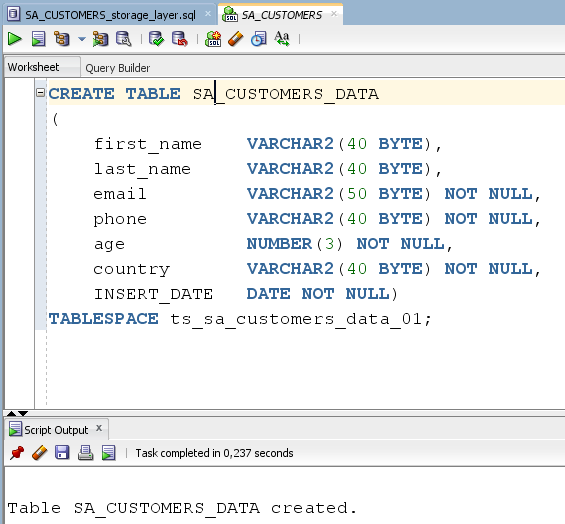
In lab\_8 last unit we created the appropriate tablespace and users for the storage layers we need:

|  |  |  |  |
| --- | --- | --- | --- |
| Level Type | Object Name | Tablespace | Desctiption |
| Storage level  SA\_\* | SA\_CUSTOMERS | ts\_sa\_customers\_data\_01  (AUTOALLOCATE,  SEGMENT SPACE MANAGEMENT AUTO,  LOGGING,  Size 150M,  Autoextend clause ON next 50M) | Loading from structed files(exp. Xml\*). Contains customers, products, promotions. |
| DW - Cleansing Level | DW\_CL | ts\_DW\_CL  (AUTOALLOCATE,  SEGMENT SPACE MANAGEMENT AUTO,  NOLOGGING,  Size 100M,  Autoextend clause ON next 50M) | LOADING from stage level system. Contains all information and prepare it for further usage (cleaning it). |
| DW – Level | DW\_DATA | ts\_DW\_DATA\_01  (AUTOALLOCATE,  SEGMENT SPACE MANAGEMENT AUTO,  LOGGING,  Size 150M,  Autoextend clause ON next 50M) | LOADING data from cleansing system. Contains clean information tending to the 3rd normal form ready for preparing star schema. |
| DW– Prepare Star Cleansing Level | SAL\_DW\_CL | ts\_ DW \_STR\_CLS  (AUTOALLOCATE,  SEGMENT SPACE MANAGEMENT AUTO,  NOLOGGING,  Size 150M,  Autoextend clause ON next 50M) | LOADING data from DW system. Contains views merging objects from DW level. |
| STAR - Cleansing | SAL\_CL | ts\_SAL\_CL  (AUTOALLOCATE,  SEGMENT SPACE MANAGEMENT AUTO,  NOLOGGING,  Size 150M,  Autoextend clause ON next 50M) | LOADING data from DW\_CL system. Contains views from previous level but clean any redundancy. |
| STAR – Level | DM\_PRODUCT\_BALANCES | ts\_SA\_FCT \_BALANCES\_01  (AUTOALLOCATE,  SEGMENT SPACE MANAGEMENT AUTO,  NOLOGGING,  Size 150M,  Autoextend clause ON next 50M) | Store information about facts(PRODUCT BALANCES) |
| DM\_RETAIL\_SALES | ts\_SA\_FCT \_SALES\_01  (AUTOALLOCATE,  SEGMENT SPACE MANAGEMENT AUTO,  NOLOGGING,  Size 150M,  Autoextend clause ON next 50M) | Store information about facts(RETAIL SALES) |
| DM\_CUSTOMERS | ts\_SA\_DIM\_CUST\_01  (AUTOALLOCATE,  SEGMENT SPACE MANAGEMENT AUTO,  NOLOGGING,  Size 150M,  Autoextend clause ON next 50M) | Store information about dim customers. |
| DM\_PRODUCTS | ts\_SA\_DIM\_PROD\_01  (AUTOALLOCATE,  SEGMENT SPACE MANAGEMENT AUTO,  NOLOGGING,  Size 150M,  Autoextend clause ON next 50M) | Store information about dim products. |
| DM\_PROMOTION | ts\_SA\_DIM\_PROM\_01  (AUTOALLOCATE,  SEGMENT SPACE MANAGEMENT AUTO,  NOLOGGING,  Size 150M,  Autoextend clause ON next 50M) | Store information about dim promotions. |

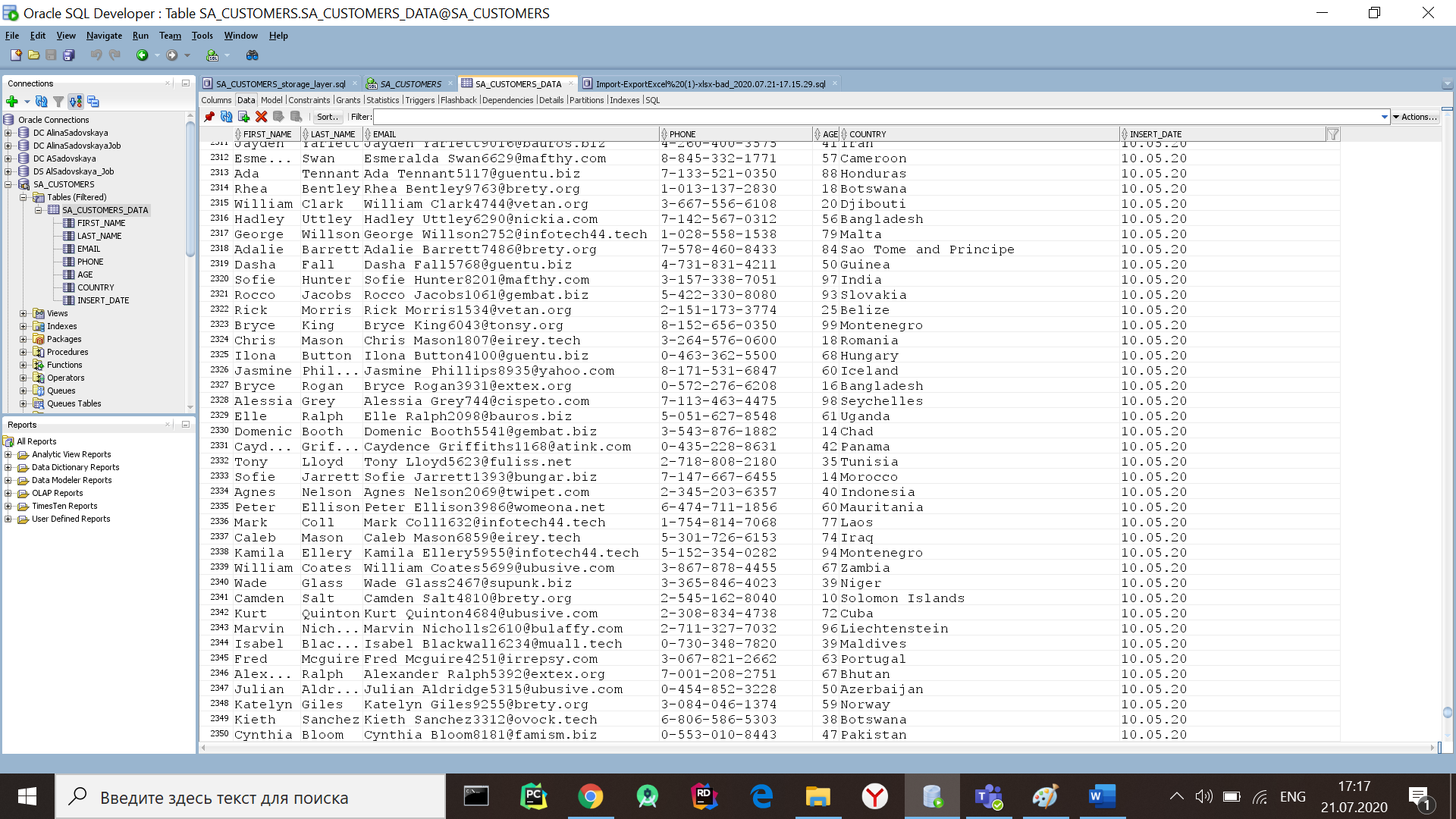
|  |  |
| --- | --- |
| USERS | PRIVILEGES |
| SA\_CUSTOMERS | * create tables * create views * push data upstairs (update upper user(DW\_CL) |
| DW\_CL | * create/drop tables/views * Select/ Merge from/with SA views * push it upstairs (update objects ts\_DW\_DATA\_01) |
| DW\_DATA | * create/drop tables/views * push it upstairs (update objects ts\_DW\_STR\_CLS) * Select / Merge from/with DW-CL views |
| SAL\_DW\_CL | * create/drop tables/views * push it upstairs (update objects ts\_SAL\_CL) * Select from SA-CL views |
| SAL\_CL | * create/drop tables/views * push it upstairs (update objects ts\_ STR\_DATA) * Select/ Merge from /with Contr\_DW views |
| DM\_PRODUCT\_BALANCES | * create/drop tables/views |
| DM\_RETAIL\_SALES |
| DM\_CUSTOMERS |
| DM\_PRODUCTS |
| DM\_PROMOTION |

Let's create the appropriate tables for the Storage level:

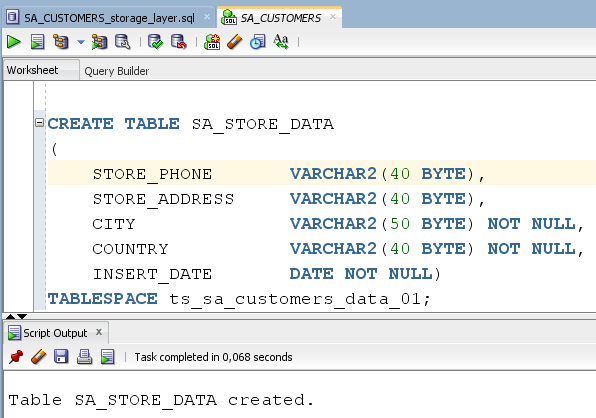
1)CUSTOMER



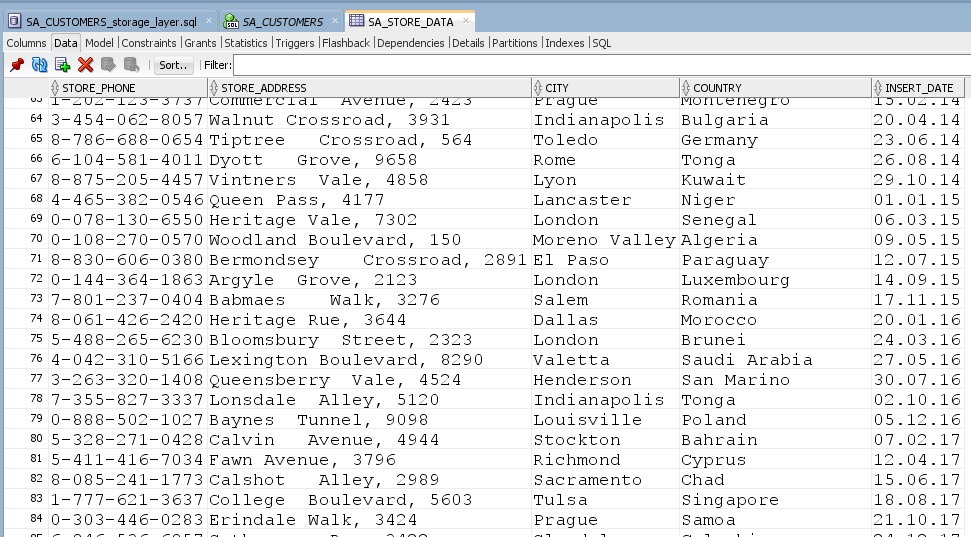
Now I have uploaded data to this table from the generated file “customer.xls”.



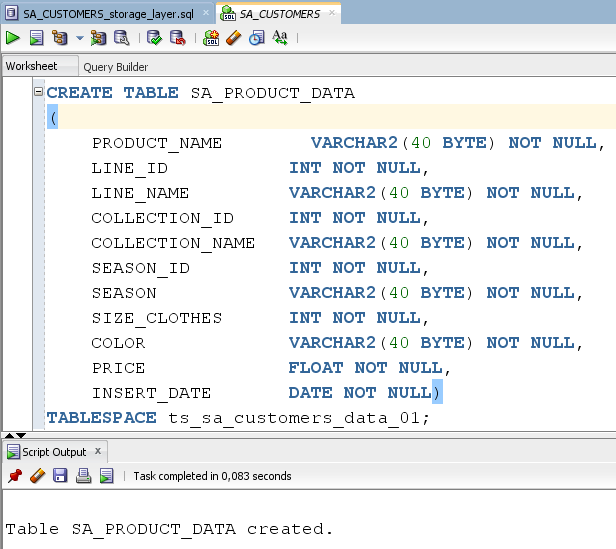
2)STORE

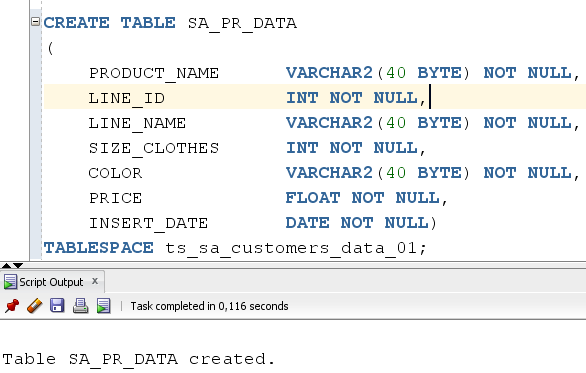
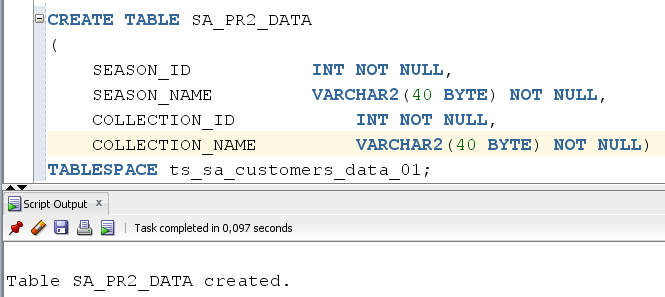
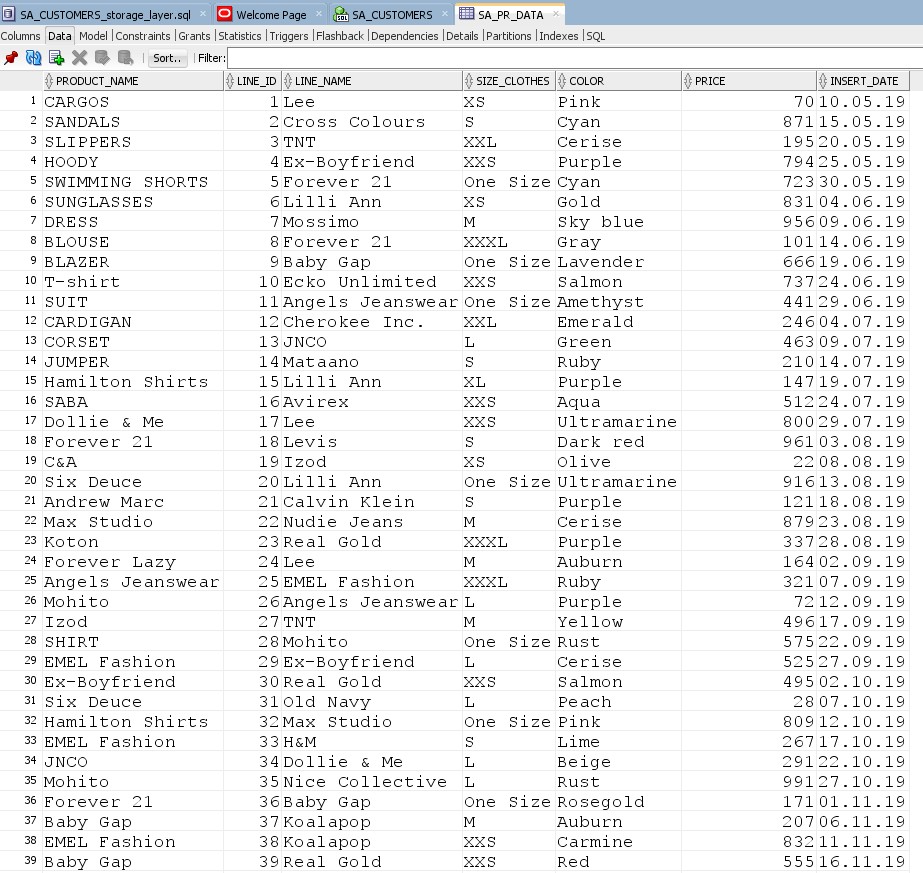


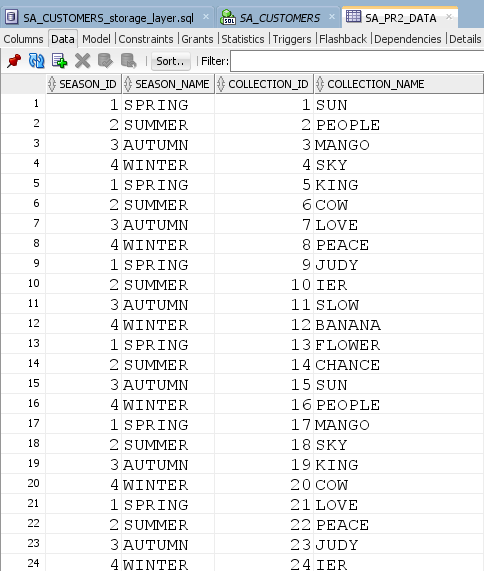
I have uploaded data to this table from the generated file “STORE.xls”.



3)PRODUCT



Creating two auxiliary tables and using cross join to generate a large amount of data:



* СROSS JOIN

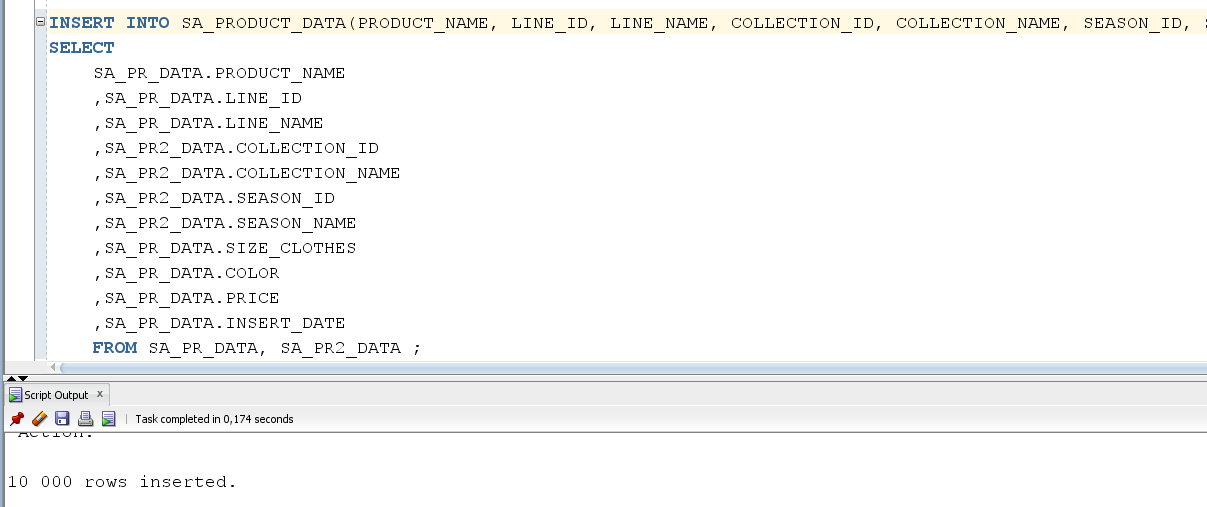
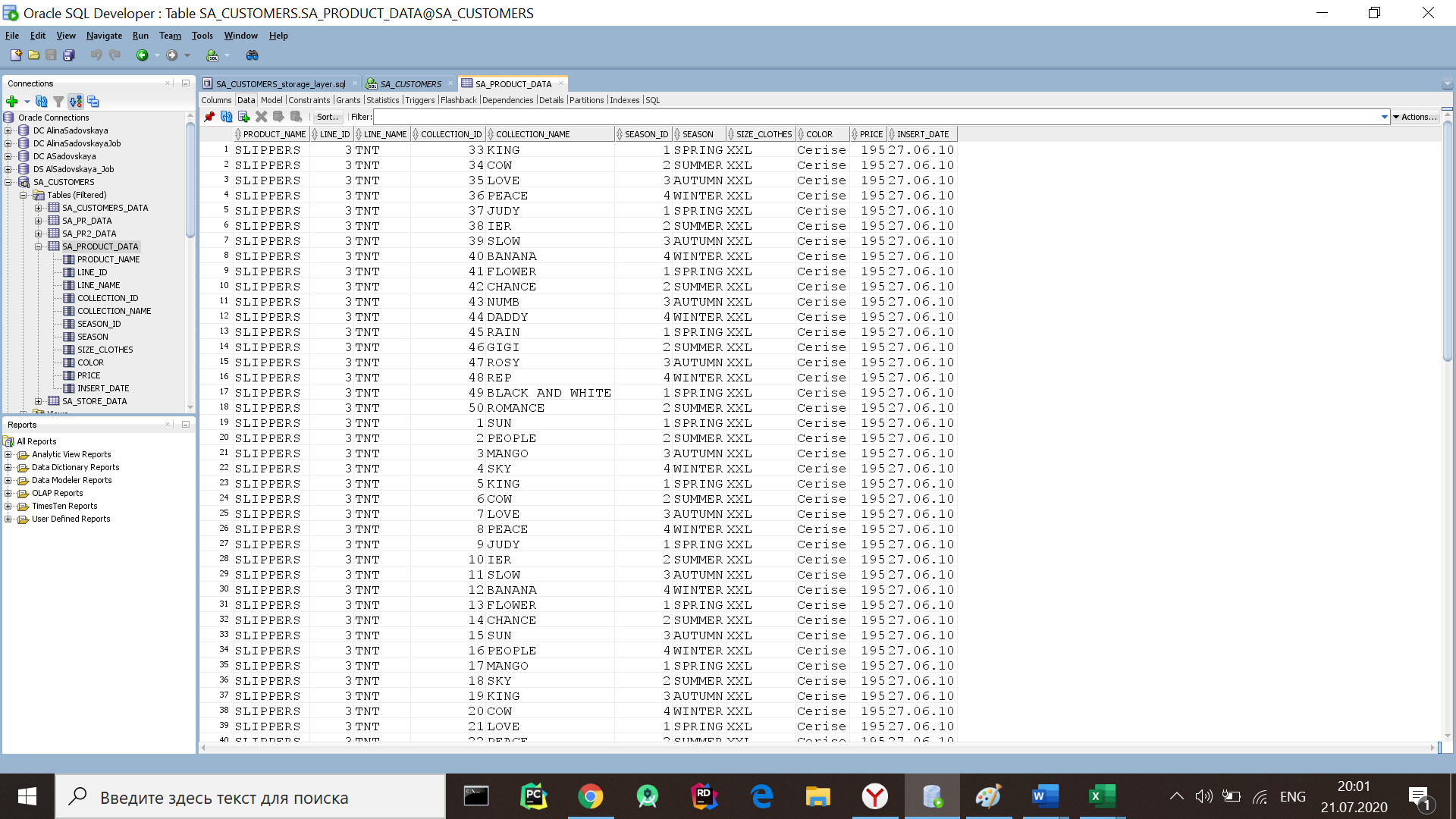
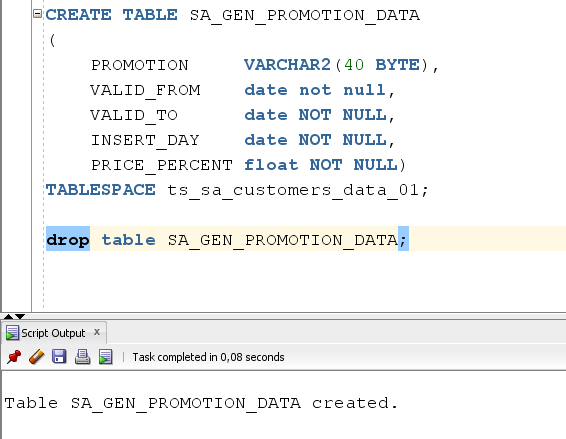


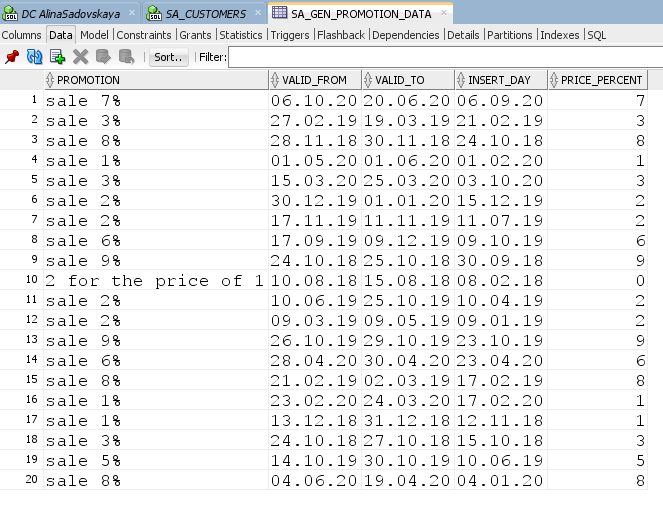
Table after filling in the data:



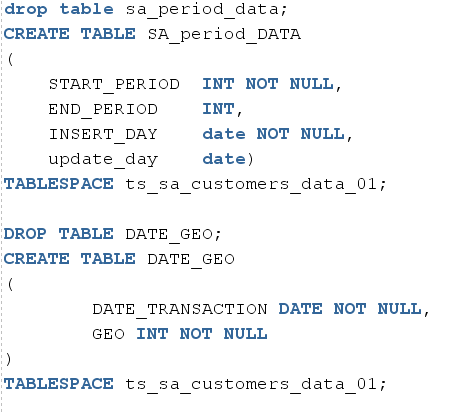
4)promotion



I have uploaded data to this table from the generated file “promotion.xls”.

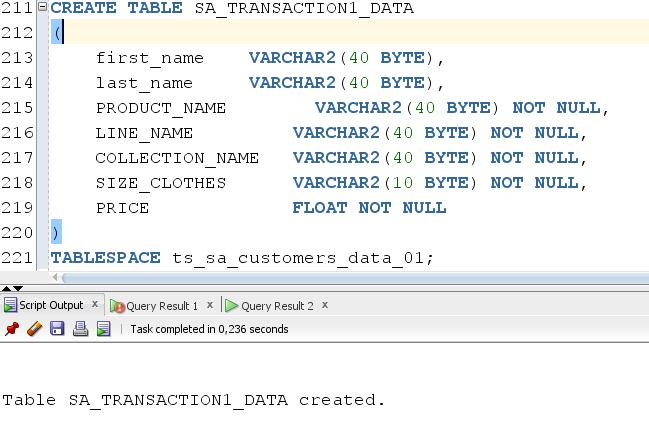


5)Create table SA\_PERIOD\_DATA, DATE\_GEO and upload data from “date\_geo.xls”, “period.xls” documents

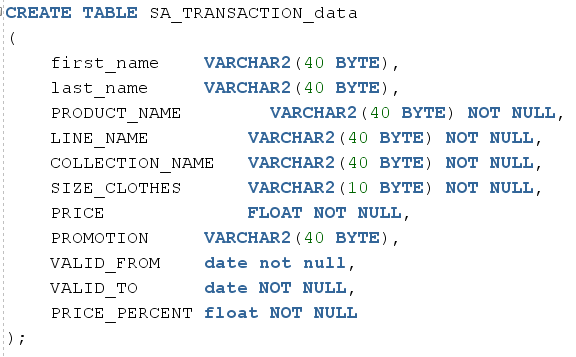


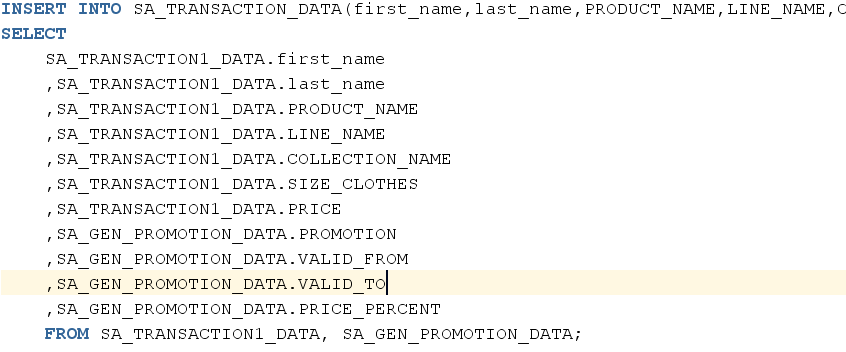
6)Now created table TRANSACTION:

1.

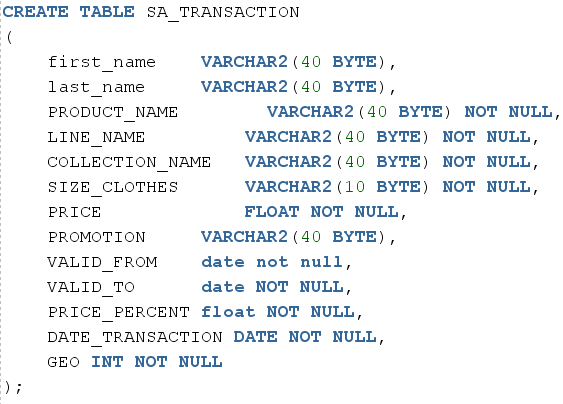


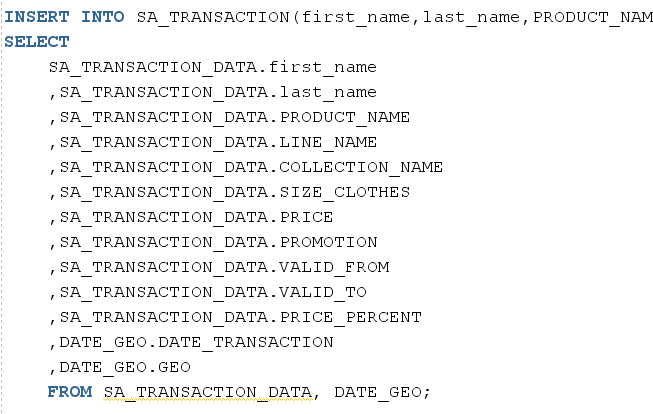
2.





3. Create final table:







As a result, we got the following transaction table (3 mln rows):

