

## Create Entites :

```
SQL> create table addresses(  
  2  adres_id varchar2(2) not null,  
  3  line_1_number_building number,  
  4  line_2_number_street number,  
  5  line_3_area_local number,  
  6  city number,  
  7  zip_postcode number,  
  8  ios_country_code number,  
  9  state_province_country number);
```

Table created.

```
SQL> alter table addresses add constraint addresses_pk primary key (adres_id);
```

Table altered.

```
SQL> create table customer_addresses(  
  2  customer_id varchar2(20) not null,  
  3  address_id varchar2(10) not null,  
  4  date_form Date,  
  5  address_type_code number,  
  6  customers_customer_id number(2),  
  7  addresses_adres_id varchar(2),  
  8  ref_address_types_address_type_code number);
```

Table created.

```
SQL> create table customer_order_products(  
  2  order_id number,  
  3  prodect_id number,  
  4  quantity number,  
  5  comments varchar2(50),  
  6  products_prodect_id varchar(2),  
  7  customer_orders_order_id number);
```

Table created.

```
SQL> create table customer_orders(  
  2  order_id number,  
  3  customer_id varchar2(20) not null,  
  4  customer_payment_method_id number,  
  5  order_status_code number,  
  6  data_order_placed Date,  
  7  data_order_paid Date,  
  8  data_order_price number,  
  9  customers_customer_id number(2) );
```

Table created.

```
SQL> alter table customer_orders add constraint customer_orders_pk primary key (order_id);
```

Table altered.

```
SQL> create table customer_orders_delivery(  
  2  order_id number(2),  
  3  date_reported Date,  
  4  delivery_status_code number(2),  
  5  customer_orders_order_id number);
```

Table created.

```
SQL> create table customers(  
  2  customer_id number(2) not null,  
  3  customer_name varchar2(50),  
  4  customer_phone varchar2(15),  
  5  customer_email varchar2(50));
```

Table created.

```
SQL> alter table customers add constraint customer_pk primary key (customer_id);
```

Table altered.

```
SQL> create table products(  
  2  product_id number(10) not null,  
  3  product_type_code number,  
  4  supplier_id number(2),  
  5  product_price number,  
  6  suppliers_supplier_id number );
```

Table created.

```
SQL> alter table products add constraint product_pk primary key (product_id);
```

Table altered.

```
SQL> commit;
```

Commit complete.

```
SQL> create table ref_address_types(  
  2  address_type_code number not null,  
  3  address_type_code_1 varchar(2) );
```

Table created.

```
SQL> alter table ref_address_types add constraint ref_address_types_pk primary key (address_type_code);
```

Table altered.

```
SQL> create table suppliers(  
  2  supplier_id number not null,  
  3  supplier_name varchar(50),  
  4  location varchar(50) );
```

Table created.

```
SQL> alter table suppliers add constraint suppliers_pk primary key (supplier_id);
```

Table altered.

```
SQL> alter table customer_addresses add constraint customer_addresses_addresses_fk foreign key (addresses_addres_id) references addresses (address_id);
```

Table altered.

```
SQL> alter table customer_addresses add constraint customer_addresses_customers_fk foreign key (customers_customer_id) references customers (customer_id);
```

Table altered.

```
SQL> alter table customer_addresses add constraint customer_addresses_ref_address_types_fk foreign key (ref_address_types_address_type_code) references ref_address_type  
s (address_type_code);
```

Table altered.

```
SQL> alter table customer_order_products add constraint customer_order_products_customer_orders_fk foreign key (customer_orders_order_id) references customer_orders (order_id);
Table altered.
```

```
SQL> alter table customer_order_products add constraint customer_order_products_products_fk foreign key (product_id) references products (product_id);
Table altered.

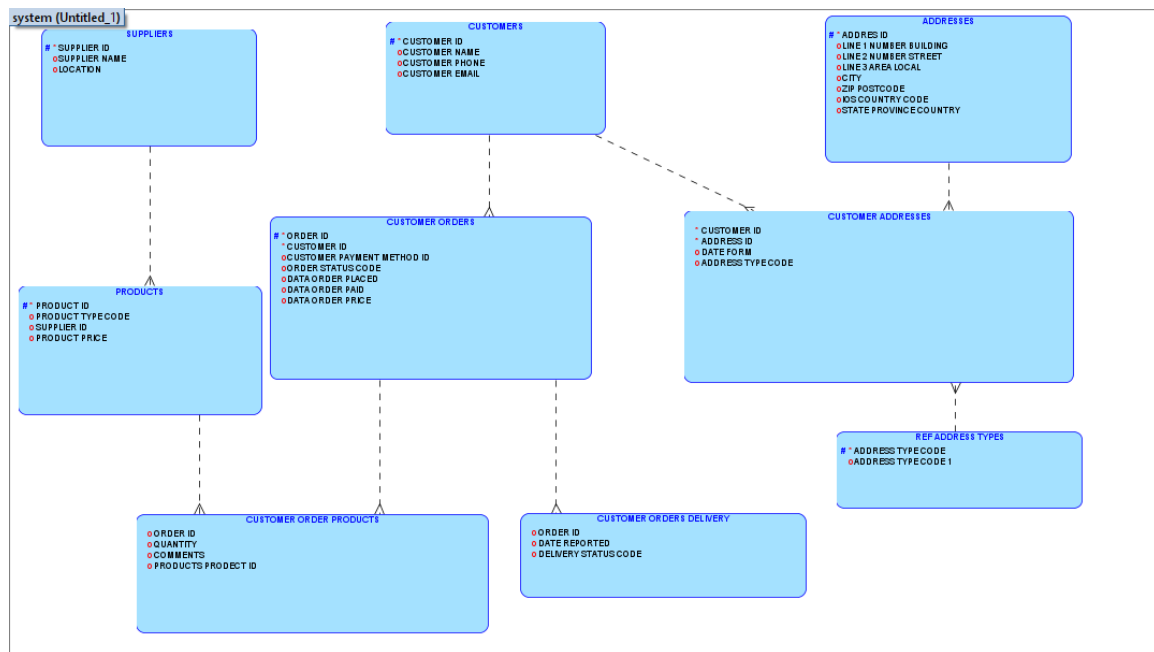
SQL> alter table customer_orders add constraint customer_orders_customers_fk foreign key (customers_customer_id) references customers (customer_id);
Table altered.
```

```
SQL> alter table customer_orders_delivery add constraint customer_orders_delivery_customer_orders_fk foreign key (customer_orders_order_id) references customer_orders (order_id);
Table altered.

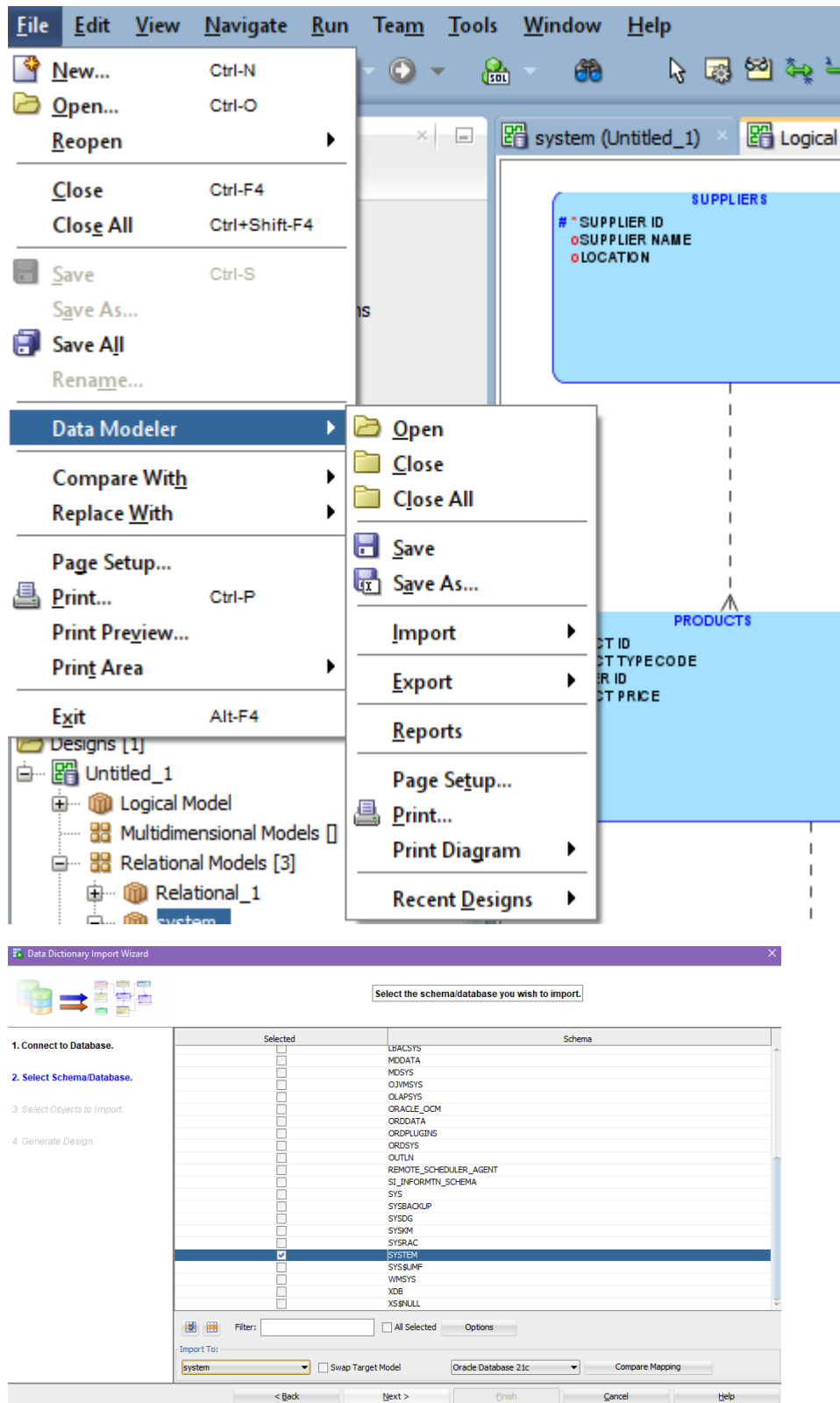
SQL> alter table products add constraint products_suppliers_fk foreign key (suppliers_supplier_id) references suppliers (supplier_id);
Table altered.
```

Then create all entities with attributes

LOGICAL:



## Relational Model:



Data Dictionary Import Wizard

Select the objects you wish to import.

1. Connect to Database.  
2. Select Schema/Database.  
3. Select Objects to Import.  
4. Generate Design.

| Selected                            | Schema | Object Name               |
|-------------------------------------|--------|---------------------------|
| <input checked="" type="checkbox"/> | SYSTEM | ADDRESSES                 |
| <input type="checkbox"/>            | SYSTEM | AGENT                     |
| <input type="checkbox"/>            | SYSTEM | AQ\$_INTERNET_AGENT_PRIVS |
| <input type="checkbox"/>            | SYSTEM | AQ\$_INTERNET_AGENTS      |
| <input type="checkbox"/>            | SYSTEM | AQ\$_KEY_SHARD_MAP        |
| <input type="checkbox"/>            | SYSTEM | AQ\$_QUEUES               |
| <input type="checkbox"/>            | SYSTEM | AQ\$_QUEUE_TABLES         |
| <input type="checkbox"/>            | SYSTEM | AQ\$_SCHEDULES            |
| <input type="checkbox"/>            | SYSTEM | COMMENTS                  |
| <input checked="" type="checkbox"/> | SYSTEM | CUSTOMER_ADDRESSES        |
| <input checked="" type="checkbox"/> | SYSTEM | CUSTOMER_ORDER_PRODUCTS   |
| <input checked="" type="checkbox"/> | SYSTEM | CUSTOMER_ORDERS           |
| <input checked="" type="checkbox"/> | SYSTEM | CUSTOMER_ORDERS_DELIVERY  |
| <input checked="" type="checkbox"/> | SYSTEM | CUSTOMERS                 |
| <input type="checkbox"/>            | SYSTEM | HELP                      |
| <input type="checkbox"/>            | SYSTEM | LOGMNR_AGE_SPILL\$        |
| <input type="checkbox"/>            | SYSTEM | LOGMNR_ATTRCOL\$          |
| <input type="checkbox"/>            | SYSTEM | LOGMNR_ATTRIBUTE\$        |
| <input type="checkbox"/>            | SYSTEM | LOGMNR_CCOL\$             |
| <input type="checkbox"/>            | SYSTEM | LOGMNR_CCONCOL_GG         |
| <input type="checkbox"/>            | SYSTEM | LOGMNR_CCON_GG            |
| <input type="checkbox"/>            | SYSTEM | LOGMNR_CDBNAME_UID_MAP    |
| <input type="checkbox"/>            | SYSTEM | LOGMNR_CDEF\$             |

Tables Views Users Roles Directories External Tables Materialized View Logs Contexts Clusters Sequences Synonyms

Tablespaces Temp Tablespaces Dimensions Types Packages Stored Procedures Functions Undo Tablespaces

Filter:

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Data Dictionary Import Wizard

View summary and generate Oracle SQL Developer Data Modeler design.

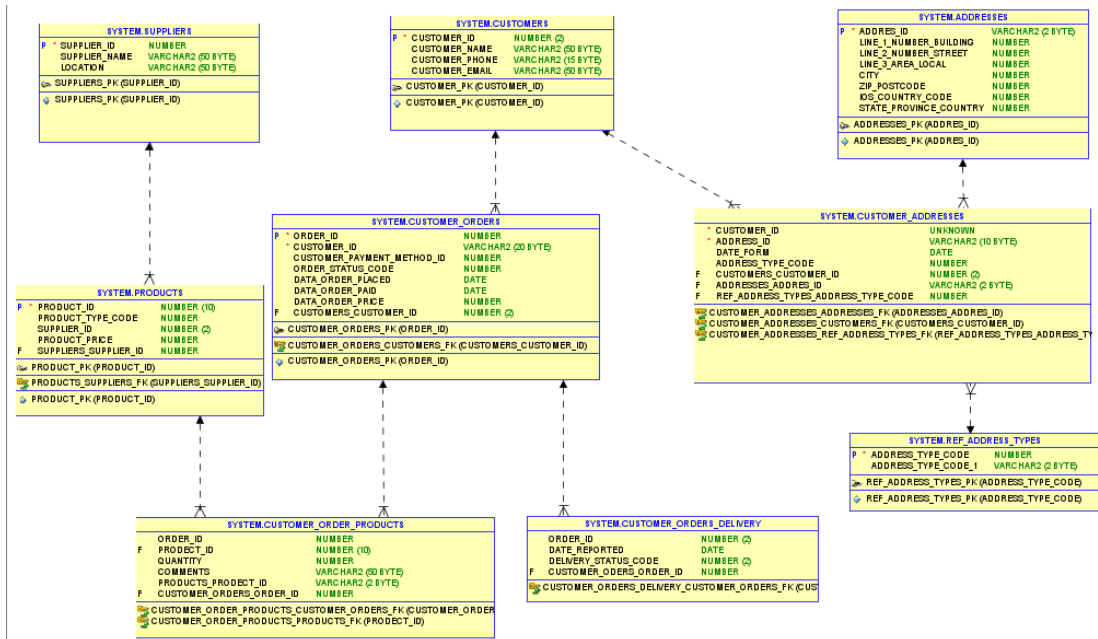
1. Connect to Database.  
2. Select Schema/Database.  
3. Select Objects to Import.  
4. Generate Design.

**Database Name:** Oracle  
**Database Version:** Oracle Database 21c Express Edition Release 21.0.0.0.0 - Production Version 21.3.0.0.0

**DB Objects that will be imported:**

|       |   |
|-------|---|
| TABLE | 9 |
| USER  | 2 |

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## DDL:

```

1  -- Generated by Oracle SQL Developer Data Modeler 22.2.0.165.1149
2  -- at:      19:01:10  1A-11-2022  GMT+03:00
3  -- site:    Oracle Database 21c
4  -- type:    Oracle Database 21c
5
6
7
8  CREATE USER system IDENTIFIED BY ACCOUNT UNLOCK ;
9
10 -- predefined type, no DDL - MDSYS.SDO_GEOMETRY
11
12 -- predefined type, no DDL - XMLTYPE
13
14 CREATE TABLE system.addresses (
15     address_id          VARCHAR2(2 BYTE) NOT NULL,
16     line_1_number_building NUMBER,
17     line_2_number_street  NUMBER,
18     line_3_area_local     NUMBER,
19     city                 NUMBER,
20     zip_postcode         NUMBER,
21     ios_country_code     NUMBER,
22     state_province_country NUMBER
23 )
24 PCTFREE 10 PCTUSED 40 TABLESPACE system LOGGING
25 STORAGE ( INITIAL 65536 NEXT 1048576 PCTINCREASE 0 MINEXTENTS 1 MAXEXTENTS 2147483645 FREELISTS 1 FREELIST GROUPS 1 BUFFER_POOL DEFAULT
26 )
27 NO INMEMORY;
28
29 CREATE UNIQUE INDEX system.addresses_pk ON
30     system.addresses (
31         address_id
32     )
33     TABLESPACE system PCTFREE 10
  
```

```

33      TABLESPACE system PCTFREE 10
34      STORAGE ( INITIAL 65536 NEXT 1048576 PCTINCREASE 0 MINEXTENTS 1 MAXEXTENTS 2147483645 FREELISTS 1 FREELIST GROUPS 1 BUFFER_POOL
35      DEFAULT )
36      LOGGING;
37
38  ALTER TABLE system.addresses
39      ADD CONSTRAINT addresses_pk PRIMARY KEY ( address_id )
40      USING INDEX system.addresses_pk;
41
42  CREATE TABLE system.customer_addresses (
43      customer_id          unknown
44      -- ERROR: Datatype UNKNOWN is not allowed
45      NOT NULL,
46      address_id           VARCHAR2(10 BYTE) NOT NULL,
47      date_form            DATE,
48      address_type_code    NUMBER,
49      customers_customer_id NUMBER(2),
50      addresses_address_id VARCHAR2(2 BYTE),
51      ref_address_types_address_type_code NUMBER
52  )
53  PCTFREE 10 PCTUSED 40 TABLESPACE system LOGGING
54      STORAGE ( INITIAL 65536 NEXT 1048576 PCTINCREASE 0 MINEXTENTS 1 MAXEXTENTS 2147483645 FREELISTS 1 FREELIST GROUPS 1 BUFFER_POOL DEFAULT
55      )
56      NO INMEMORY;
57
58  CREATE TABLE system.customer_order_products (
59      order_id             NUMBER,
60      product_id           NUMBER(10),
61      quantity            NUMBER,
62      comments             VARCHAR2(50 BYTE),
63      products_product_id  VARCHAR2(2 BYTE),
64      customer_orders_order_id NUMBER
65  )
66  PCTFREE 10 PCTUSED 40 TABLESPACE system LOGGING
67      STORAGE ( INITIAL 65536 NEXT 1048576 PCTINCREASE 0 MINEXTENTS 1 MAXEXTENTS 2147483645 FREELISTS 1 FREELIST GROUPS 1 BUFFER_POOL DEFAULT
68      )
69      NO INMEMORY;
70
71  CREATE TABLE system.customer_orders (
72      order_id             NUMBER NOT NULL,
73      customer_id          VARCHAR2(20 BYTE) NOT NULL,
74      customer_payment_method_id NUMBER,
75      order_status_code    NUMBER,
76      data_order_placed    DATE,
77      data_order_paid      DATE,
78      data_order_price     NUMBER,
79      customers_customer_id NUMBER(2)
80  )
81  PCTFREE 10 PCTUSED 40 TABLESPACE system LOGGING
82      STORAGE ( INITIAL 65536 NEXT 1048576 PCTINCREASE 0 MINEXTENTS 1 MAXEXTENTS 2147483645 FREELISTS 1 FREELIST GROUPS 1 BUFFER_POOL DEFAULT
83      )
84      NO INMEMORY;
85
86  CREATE UNIQUE INDEX system.customer_orders_pk ON
87      system.customer_orders (
88          order_id
89      ASC )
90      TABLESPACE system PCTFREE 10
91      STORAGE ( INITIAL 65536 NEXT 1048576 PCTINCREASE 0 MINEXTENTS 1 MAXEXTENTS 2147483645 FREELISTS 1 FREELIST GROUPS 1 BUFFER_POOL
92      DEFAULT )
93      LOGGING;
94
95  ALTER TABLE system.customer_orders
96      ADD CONSTRAINT customer_orders_pk PRIMARY KEY ( order_id )
97      USING INDEX system.customer_orders_pk;
98

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```

99 CREATE TABLE system.customer_orders_delivery (
100     order_id          NUMBER(2),
101     date_reported      DATE,
102     delivery_status_code NUMBER(2),
103     customer_orders_order_id NUMBER
104 )
105 PCTFREE 10 PCTUSED 40 TABLESPACE system LOGGING
106 STORAGE ( INITIAL 65536 NEXT 1048576 PCTINCREASE 0 MINEXTENTS 1 MAXEXTENTS 2147483645 FREELISTS 1 FREELIST GROUPS 1 BUFFER_POOL DEFAULT
107 )
108 NO INMEMORY;
109
110 CREATE TABLE system.customers (
111     customer_id      NUMBER(2) NOT NULL,
112     customer_name     VARCHAR2(50 BYTE),
113     customer_phone    VARCHAR2(15 BYTE),
114     customer_email    VARCHAR2(50 BYTE)
115 )
116 PCTFREE 10 PCTUSED 40 TABLESPACE system LOGGING
117 STORAGE ( INITIAL 65536 NEXT 1048576 PCTINCREASE 0 MINEXTENTS 1 MAXEXTENTS 2147483645 FREELISTS 1 FREELIST GROUPS 1 BUFFER_POOL DEFAULT
118 )
119 NO INMEMORY;
120
121 CREATE UNIQUE INDEX system.customer_pk ON
122     system.customers (
123         customer_id
124     ASC )
125     TABLESPACE system PCTFREE 10
126     STORAGE ( INITIAL 65536 NEXT 1048576 PCTINCREASE 0 MINEXTENTS 1 MAXEXTENTS 2147483645 FREELISTS 1 FREELIST GROUPS 1 BUFFER_POOL
127         DEFAULT )
128     LOGGING;
129
130 ALTER TABLE system.customers
131     ADD CONSTRAINT customer_pk PRIMARY KEY ( customer_id )

132     USING INDEX system.customer_pk;
133
134 CREATE TABLE system.products (
135     product_id        NUMBER(10) NOT NULL,
136     product_type_code  NUMBER,
137     supplier_id        NUMBER(2),
138     product_price      NUMBER,
139     suppliers_supplier_id NUMBER
140 )
141 PCTFREE 10 PCTUSED 40 TABLESPACE system LOGGING
142 STORAGE ( INITIAL 65536 NEXT 1048576 PCTINCREASE 0 MINEXTENTS 1 MAXEXTENTS 2147483645 FREELISTS 1 FREELIST GROUPS 1 BUFFER_POOL DEFAULT
143 )
144 NO INMEMORY;
145
146 CREATE UNIQUE INDEX system.product_pk ON
147     system.products (
148         product_id
149     ASC )
150     TABLESPACE system PCTFREE 10
151     STORAGE ( INITIAL 65536 NEXT 1048576 PCTINCREASE 0 MINEXTENTS 1 MAXEXTENTS 2147483645 FREELISTS 1 FREELIST GROUPS 1 BUFFER_POOL
152         DEFAULT )
153     LOGGING;
154
155 ALTER TABLE system.products
156     ADD CONSTRAINT product_pk PRIMARY KEY ( product_id )
157     USING INDEX system.product_pk;
158
159 CREATE TABLE system.ref_address_types (
160     address_type_code  NUMBER NOT NULL,
161     address_type_code_1 VARCHAR2(2 BYTE)
162 )
163 PCTFREE 10 PCTUSED 40 TABLESPACE system LOGGING
164 STORAGE ( INITIAL 65536 NEXT 1048576 PCTINCREASE 0 MINEXTENTS 1 MAXEXTENTS 2147483645 FREELISTS 1 FREELIST GROUPS 1 BUFFER_POOL DEFAULT

```



```

165 )
166 NO INMEMORY;
167
168 CREATE UNIQUE INDEX system.ref_address_types_pk ON
169 system.ref_address_types (
170 address_type_code
171 ASC )
172 TABLESPACE system PCTFREE 10
173 STORAGE ( INITIAL 65536 NEXT 1048576 PCTINCREASE 0 MINEXTENTS 1 MAXEXTENTS 2147483645 FREELISTS 1 FREELIST GROUPS 1 BUFFER_POOL
174 DEFAULT )
175 LOGGING;
176
177 ALTER TABLE system.ref_address_types
178 ADD CONSTRAINT ref_address_types_pk PRIMARY KEY ( address_type_code )
179 USING INDEX system.ref_address_types_pk;
180
181 CREATE TABLE system.suppliers (
182 supplier_id NUMBER NOT NULL,
183 supplier_name VARCHAR2(50 BYTE),
184 location VARCHAR2(50 BYTE)
185 )
186 PCTFREE 10 PCTUSED 40 TABLESPACE system LOGGING
187 STORAGE ( INITIAL 65536 NEXT 1048576 PCTINCREASE 0 MINEXTENTS 1 MAXEXTENTS 2147483645 FREELISTS 1 FREELIST GROUPS 1 BUFFER_POOL DEFAULT
188 )
189 NO INMEMORY;
190
191 CREATE UNIQUE INDEX system.suppliers_pk ON
192 system.suppliers (
193 supplier_id
194 ASC )
195 TABLESPACE system PCTFREE 10
196 STORAGE ( INITIAL 65536 NEXT 1048576 PCTINCREASE 0 MINEXTENTS 1 MAXEXTENTS 2147483645 FREELISTS 1 FREELIST GROUPS 1 BUFFER_POOL
197 DEFAULT )
198 LOGGING;
199
200 ALTER TABLE system.suppliers
201 ADD CONSTRAINT suppliers_pk PRIMARY KEY ( supplier_id )
202 USING INDEX system.suppliers_pk;
203
204 ALTER TABLE system.customer_addresses
205 ADD CONSTRAINT customer_addresses_addresses_fk FOREIGN KEY ( addresses_address_id )
206 REFERENCES system.addresses ( address_id )
207 NOT DEFERRABLE;
208
209 ALTER TABLE system.customer_addresses
210 ADD CONSTRAINT customer_addresses_customers_fk FOREIGN KEY ( customers_customer_id )
211 REFERENCES system.customers ( customer_id )
212 NOT DEFERRABLE;
213
214 ALTER TABLE system.customer_addresses
215 ADD CONSTRAINT customer_addresses_ref_address_types_fk FOREIGN KEY ( ref_address_types_address_type_code )
216 REFERENCES system.ref_address_types ( address_type_code )
217 NOT DEFERRABLE;
218
219 ALTER TABLE system.customer_order_products
220 ADD CONSTRAINT customer_order_products_customer_orders_fk FOREIGN KEY ( customer_orders_order_id )
221 REFERENCES system.customer_orders ( order_id )
222 NOT DEFERRABLE;
223
224 ALTER TABLE system.customer_order_products
225 ADD CONSTRAINT customer_order_products_products_fk FOREIGN KEY ( product_id )
226 REFERENCES system.products ( product_id )
227 NOT DEFERRABLE;
228
229 ALTER TABLE system.customer_orders
230 ADD CONSTRAINT customer_orders_customers_fk FOREIGN KEY ( customers_customer_id )

```

```

230      ADD CONSTRAINT customer_orders_customers_fk FOREIGN KEY ( customers_customer_id )
231      REFERENCES system.customers ( customer_id )
232      NOT DEFERRABLE;
233
234 ALTER TABLE system.customer_orders_delivery
235      ADD CONSTRAINT customer_orders_delivery_customer_orders_fk FOREIGN KEY ( customer_orders_order_id )
236      REFERENCES system.customer_orders ( order_id )
237      NOT DEFERRABLE;
238
239 ALTER TABLE system.products
240      ADD CONSTRAINT products_suppliers_fk FOREIGN KEY ( suppliers_supplier_id )
241      REFERENCES system.suppliers ( supplier_id )
242      NOT DEFERRABLE;
243
244
245
246 -- Oracle SQL Developer Data Modeler Summary Report:
247 --
248 -- CREATE TABLE                      9
249 -- CREATE INDEX                       6
250 -- ALTER TABLE                      14
251 -- CREATE VIEW                       0
252 -- ALTER VIEW                        0
253 -- CREATE PACKAGE                     0
254 -- CREATE PACKAGE BODY                0
255 -- CREATE PROCEDURE                   0
256 -- CREATE FUNCTION                    0
257 -- CREATE TRIGGER                     0
258 -- ALTER TRIGGER                      0
259 -- CREATE COLLECTION TYPE              0
260 -- CREATE STRUCTURED TYPE              0
261 -- CREATE STRUCTURED TYPE BODY         0
262 -- CREATE CLUSTER                     0
263
264 -- CREATE CLUSTER                     0
265 -- CREATE CONTEXT                     0
266 -- CREATE DATABASE                     0
267 -- CREATE DIMENSION                   0
268 -- CREATE DIRECTORY                   0
269 -- CREATE DISK GROUP                  0
270 -- CREATE ROLE                        0
271 -- CREATE ROLLBACK SEGMENT            0
272 -- CREATE SEQUENCE                    0
273 -- CREATE MATERIALIZED VIEW           0
274 -- CREATE MATERIALIZED VIEW LOG        0
275 -- CREATE SYNONYM                     0
276 -- CREATE TABLESPACE                 0
277 -- CREATE USER                        1
278 --
279 -- DROP TABLESPACE                   0
280 -- DROP DATABASE                      0
281 --
282 -- REDACTION POLICY                   0
283 --
284 -- ORDS DROP SCHEMA                   0
285 -- ORDS ENABLE SCHEMA                 0
286 -- ORDS ENABLE OBJECT                 0
287 --
288 -- ERRORS                            1
289 -- WARNINGS                           0

```