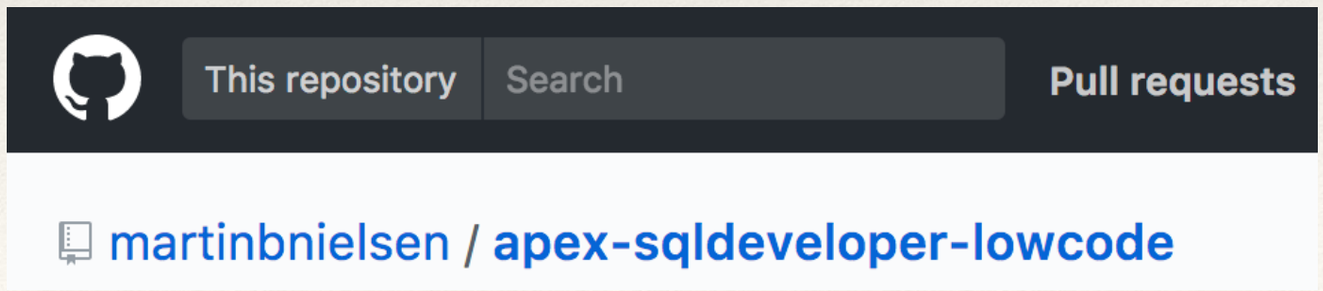
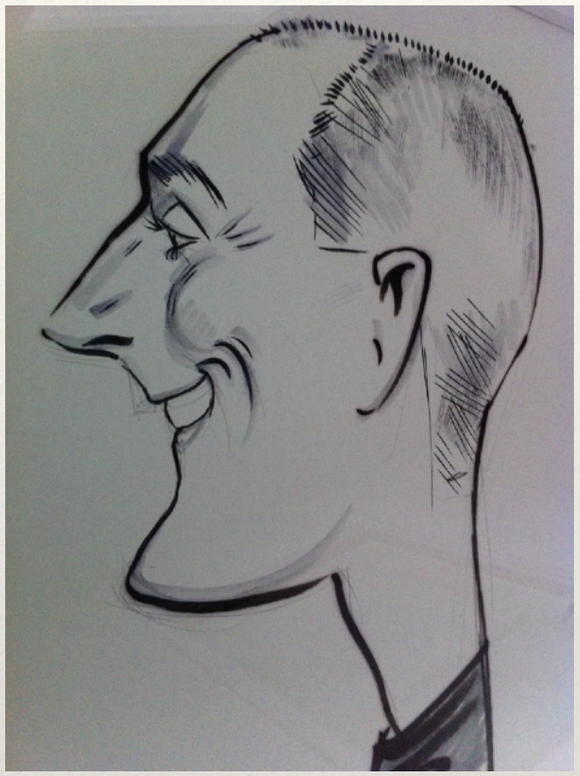
Martin B. Nielsen, MBNDATA

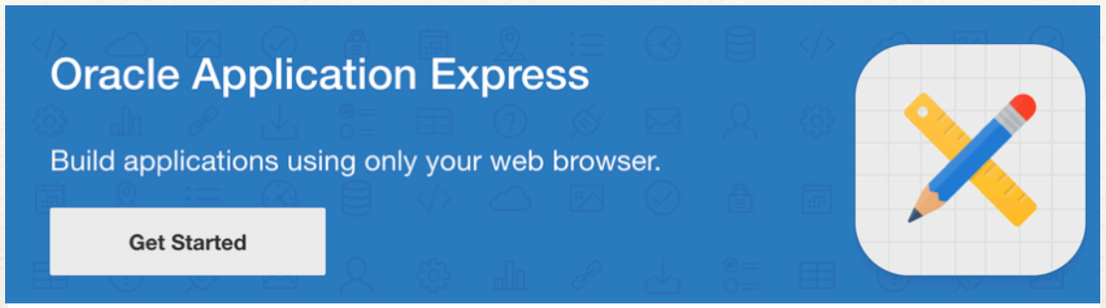
SQLDeveloper, LowCode and APEX

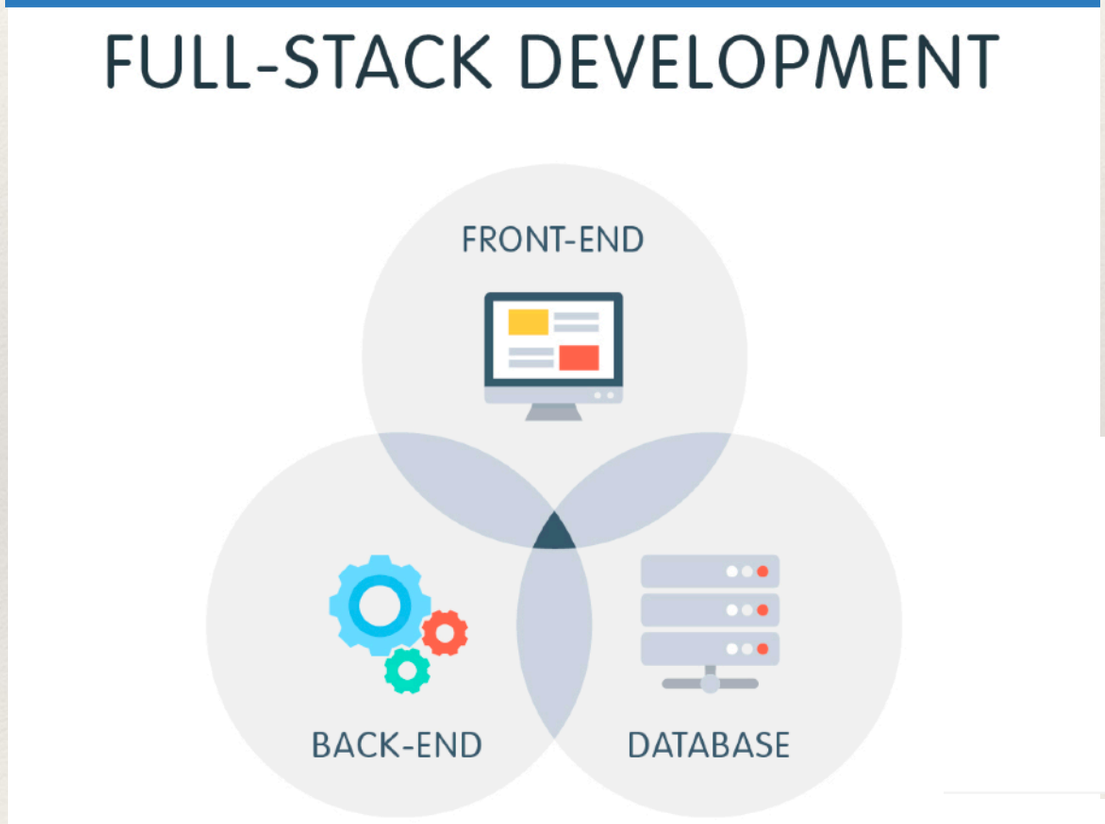
DOUG



Profile







IT Konsulentbistand

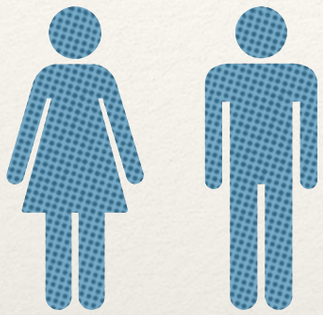
APEX Kursus - Næste: 6/11 2017

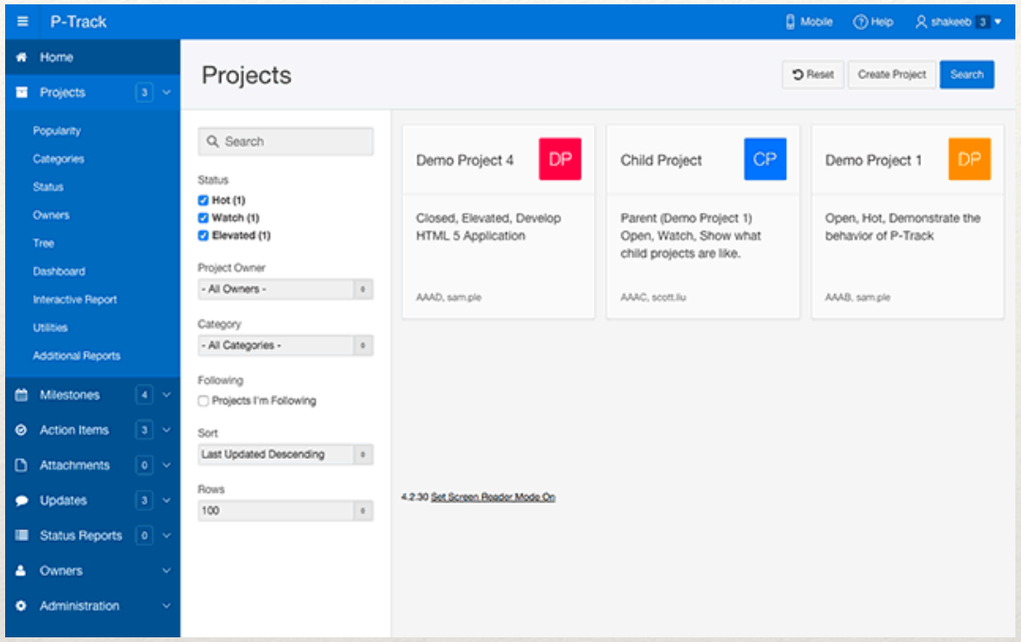
How to lowCode

- Generate as much as possible
- Use the tools which can help you generate your application artifacts.
- Do NOT repeat your work (type once, use many times)
- The less coding, the less bugs :-)
- Encourage keeping documentation up to date, by making it a “living thing”.

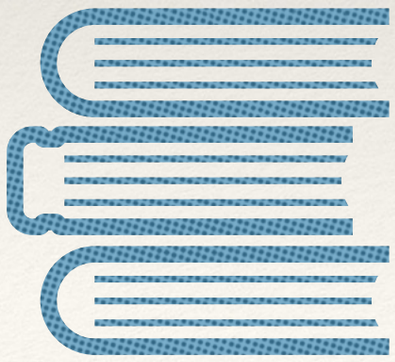
Application Artifacts

Developers

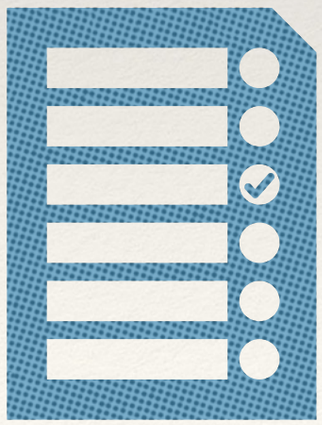




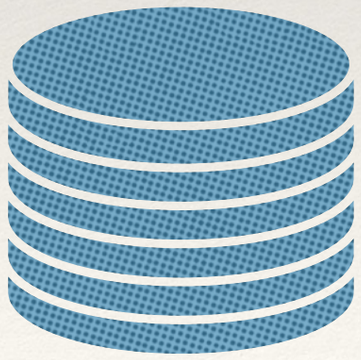
Application



Documentation

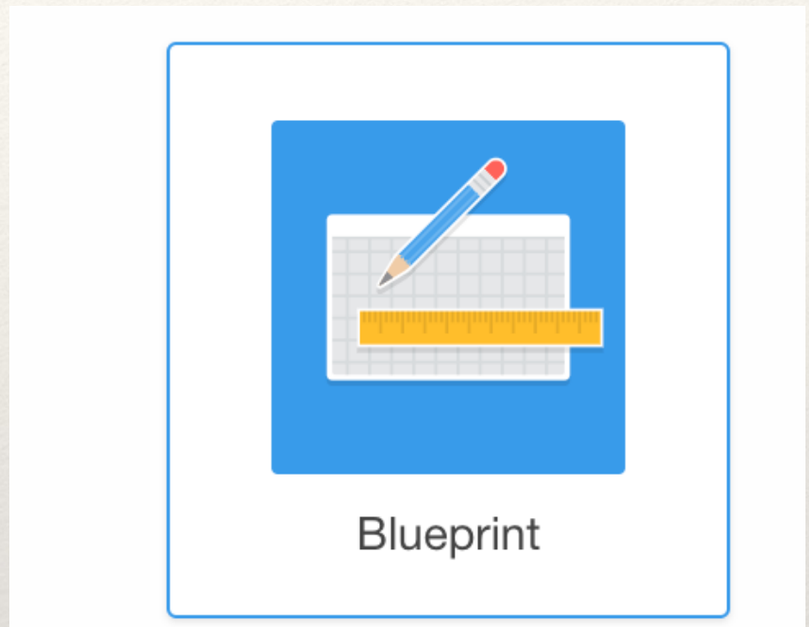


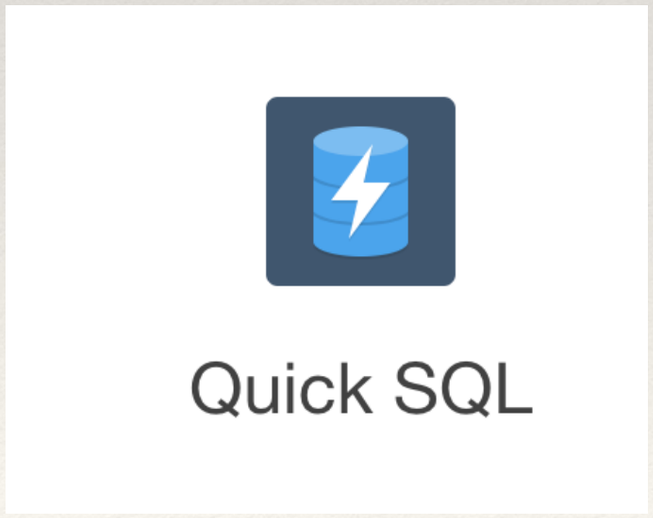
Project Plan

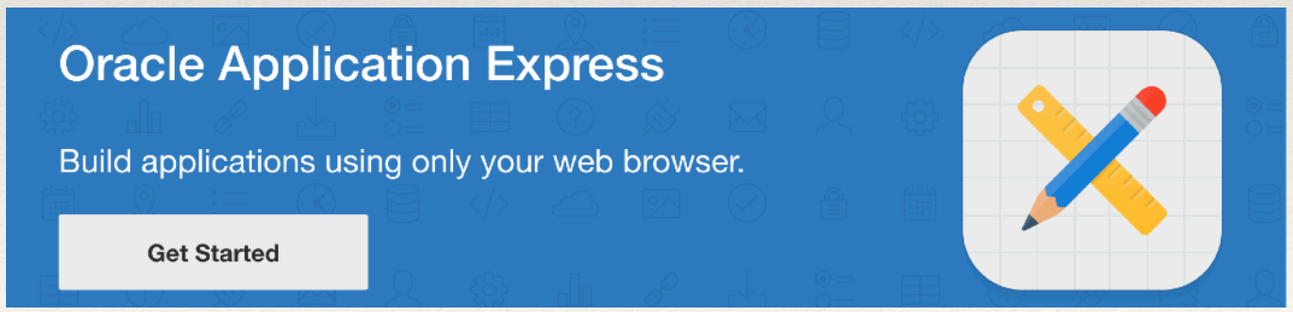


Database

lowCode Landscape





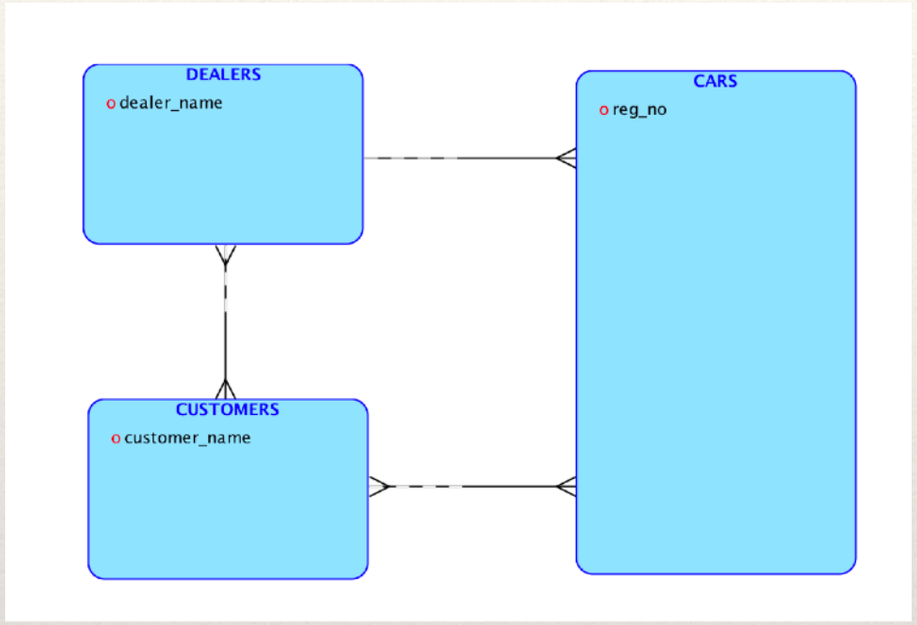


lowCode using SQLDeveloper

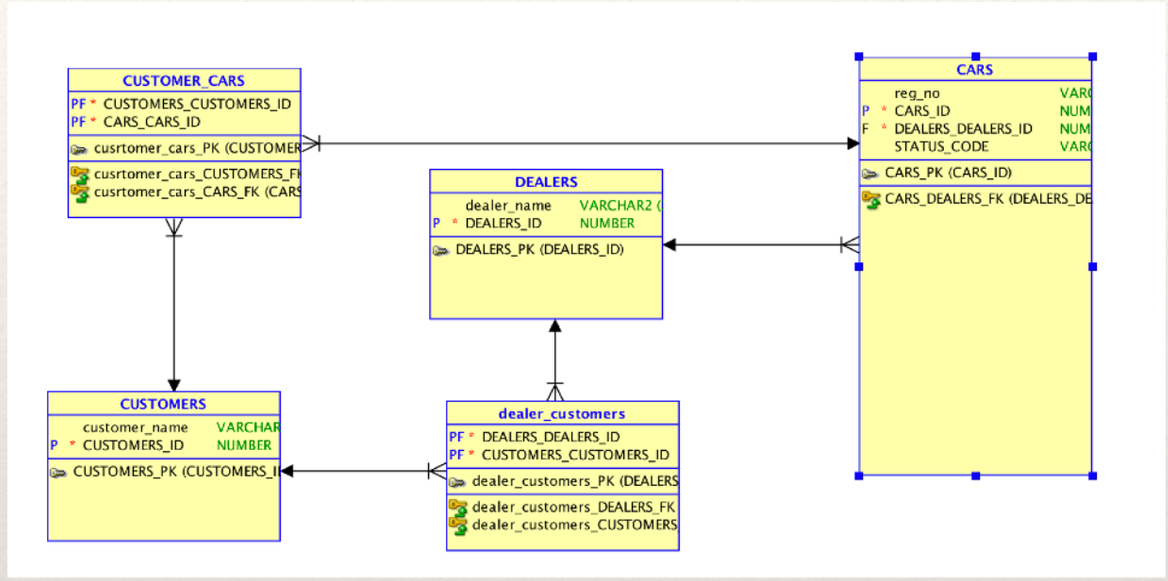
- Create process model
- ER model -> Relational model
  - Resolve Many-to-Many relations
  - Generate primary keys
  - Generate constraints
- Transformations
  - Index on foreign keys
  - RDBMS comments
  - Generating sequences
  - Generating triggers for PK
  - Generating triggers for auditing
  - …
- Relational model -> DDL

SQLDeveloper Modelling

ER Model



Relational Model



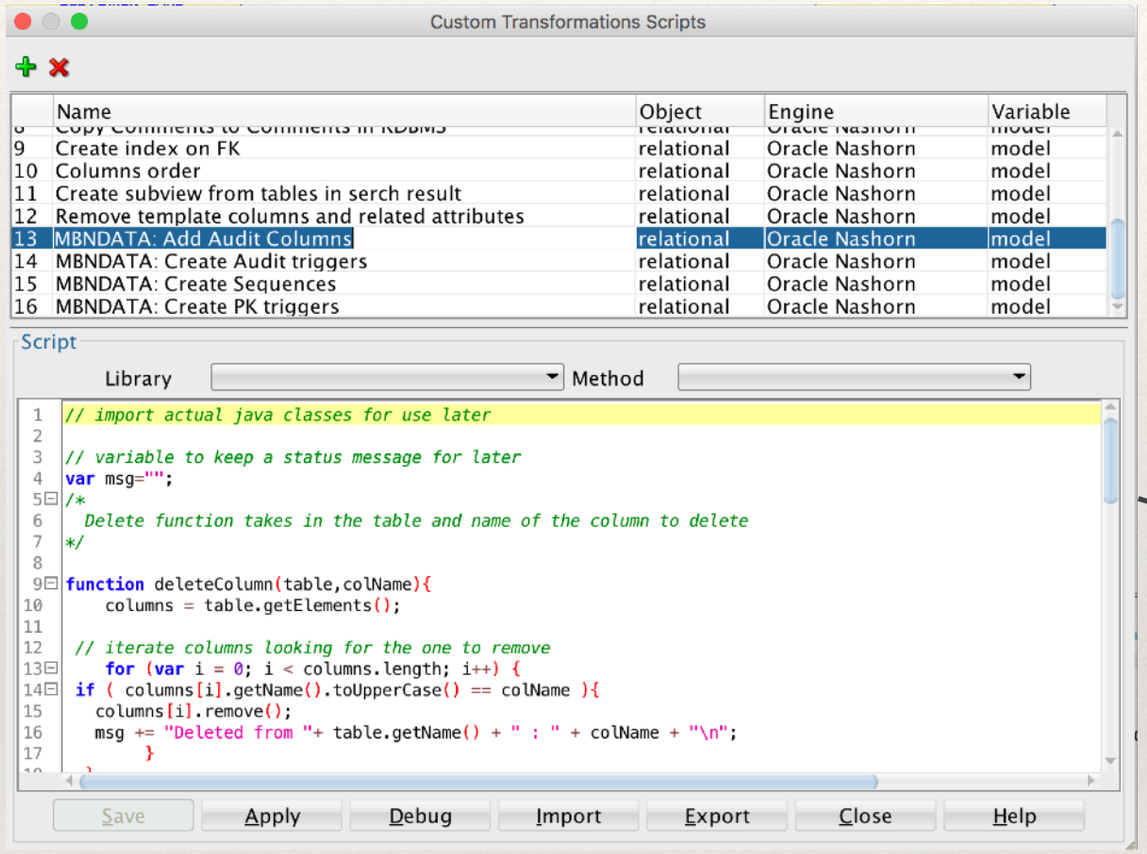
DDL

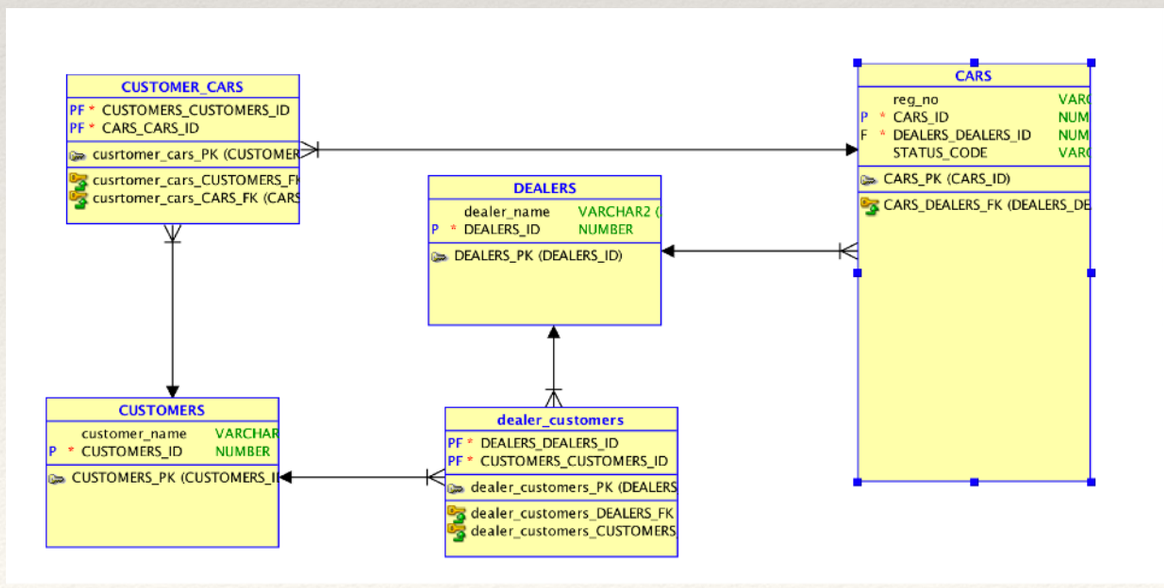
DDL File Editor - Oracle Database 11g

Oracle Database 11g | Car Dealer Example | Generate | Clear

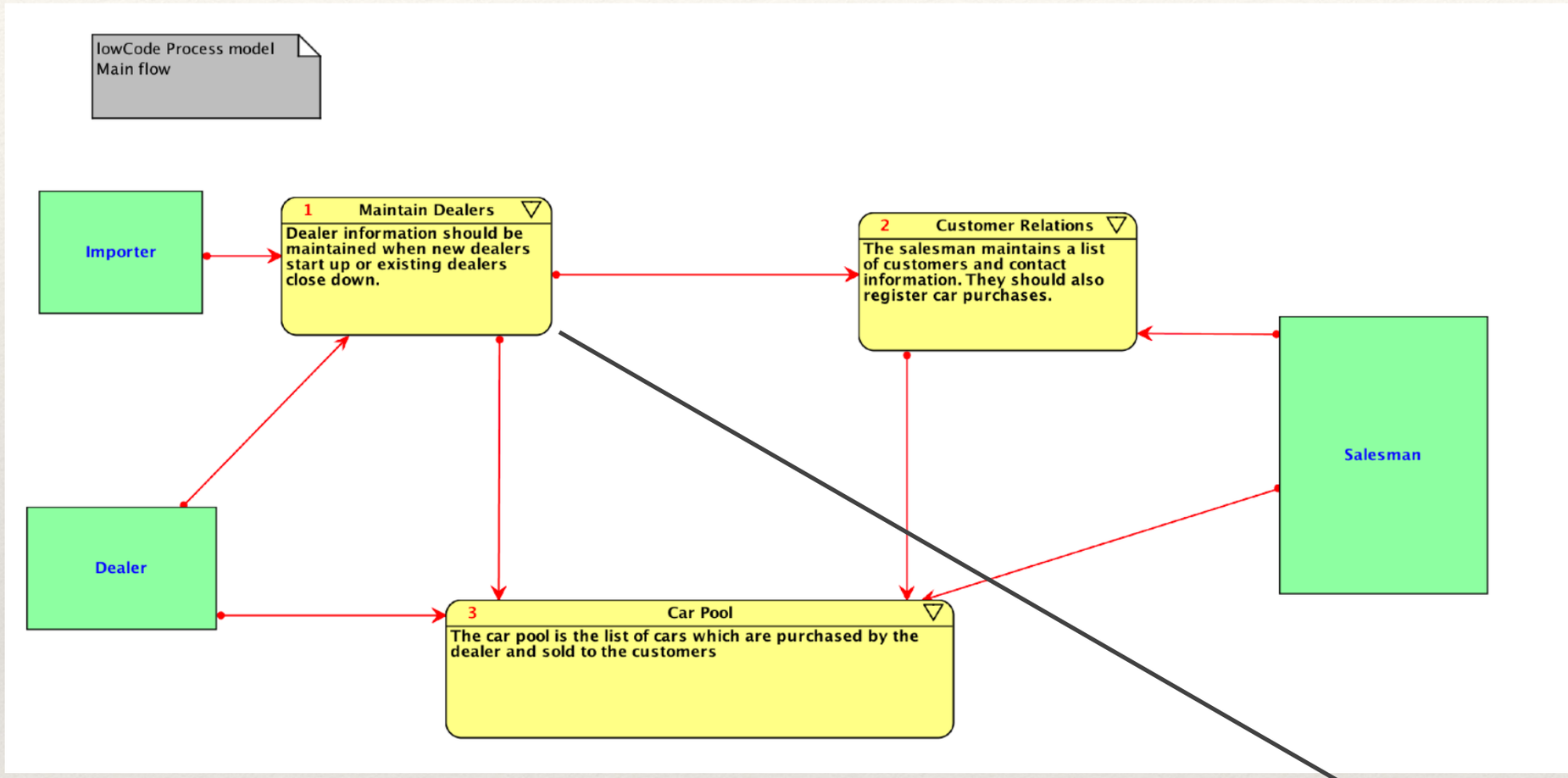
```
1  -- Generated by Oracle SQL Developer Data Modeler 17.2.0.188.1104
2  --   at:        2017-10-17 11:50:54 CEST
3  --   site:      Oracle Database 11g
4  --   type:      Oracle Database 11g
5
6
7
8  CREATE TABLE cars (
9      reg_no              VARCHAR2(60),
10     cars_id             NUMBER NOT NULL,
11     dealers_dealers_id  NUMBER NOT NULL,
12     status_code         VARCHAR2(1)
13 );
14
15 ALTER TABLE cars
16     ADD CHECK (
17         status_code IN (
18             'A','D','I','X'
19         )
20     );
21
22 COMMENT ON COLUMN cars.reg_no IS
23     'The car registration number';
24
25 ALTER TABLE cars ADD CONSTRAINT cars_pk PRIMARY KEY ( cars_id );
26
27 CREATE TABLE customer_cars (
28     customers_customers_id  NUMBER NOT NULL,
29     cars_cars_id            NUMBER NOT NULL
```

SQLDeveloper Transformations

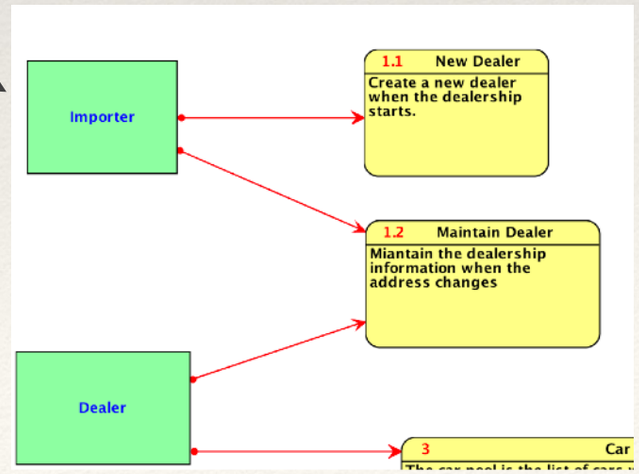




SQLDeveloper Process Model



Composite processes



SQLDeveloper Modeller

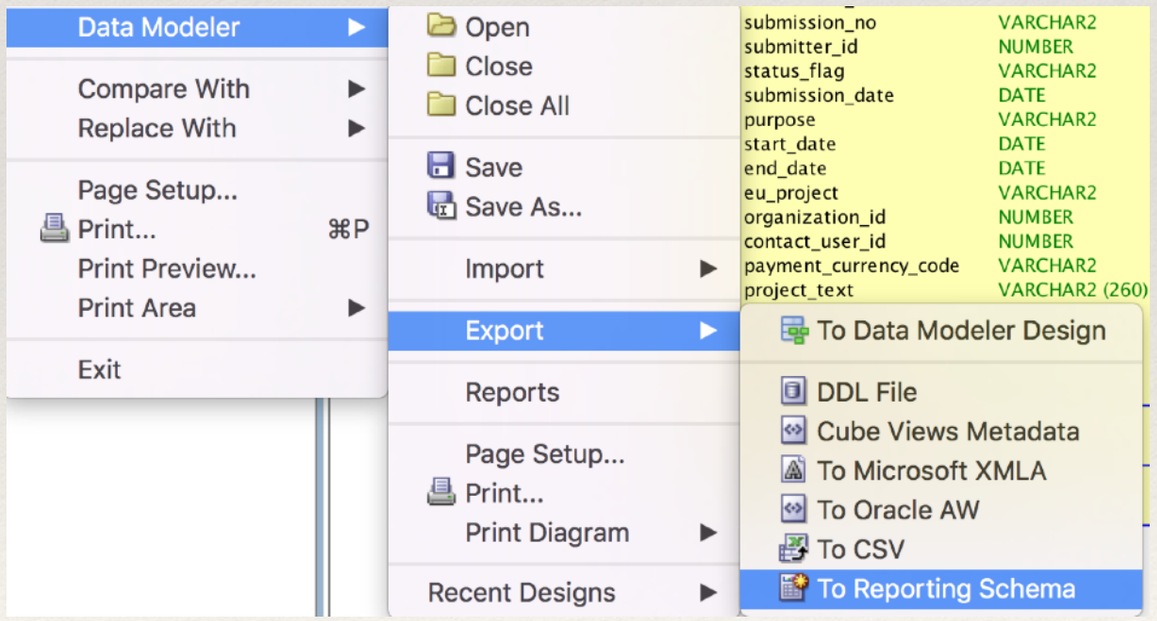
Demo

SQLDeveloper Reporting Scheme

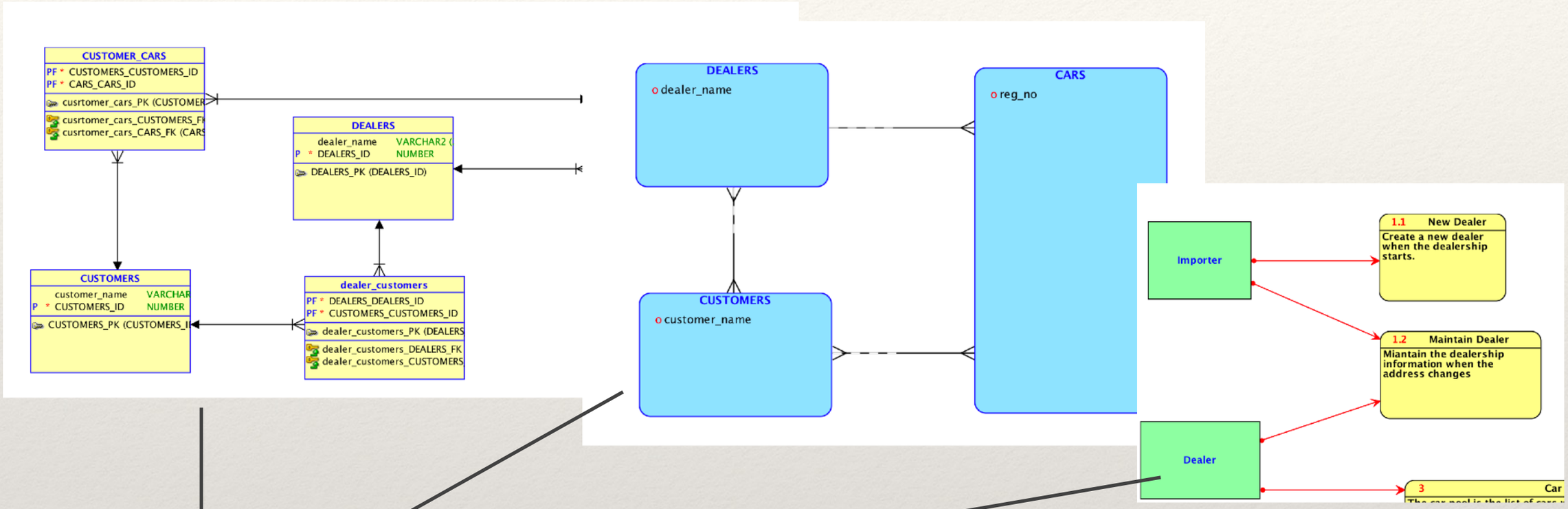
Create the reporting scheme once

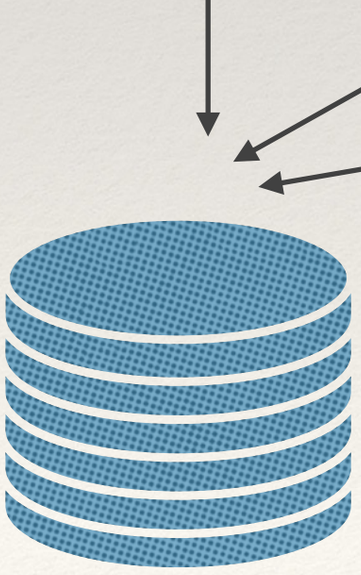
```
REM Create a user for the reporting schema

create user datamodel identified by oracle;
grant create session, create table, create view to datamodel;
alter user datamodel quota unlimited on users;
```

Export to the reporting scheme when the model changes

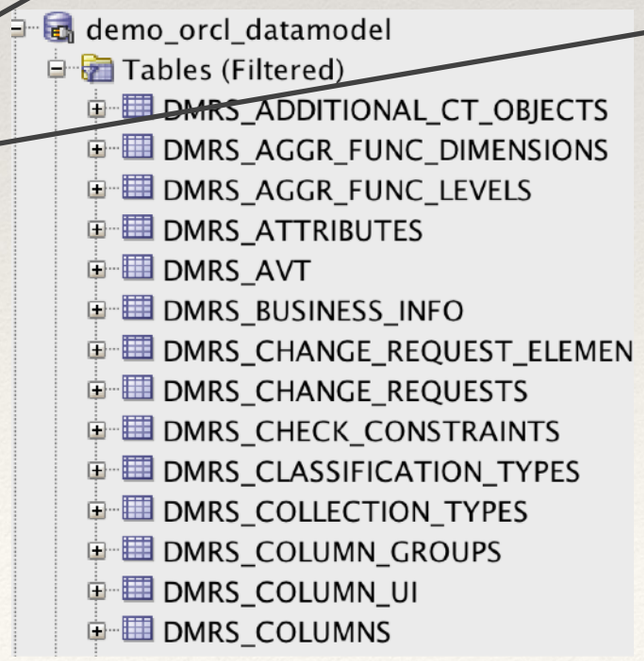


SQLDeveloper Reporting Scheme



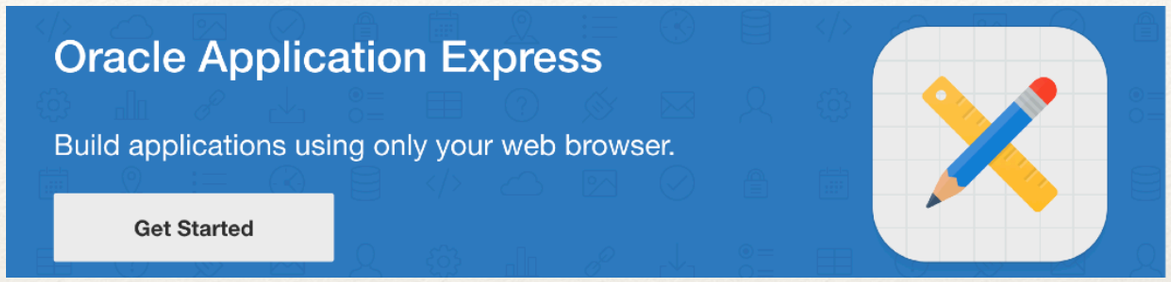


Reporting Schema



Using the Reporting Scheme

Reporting Scheme



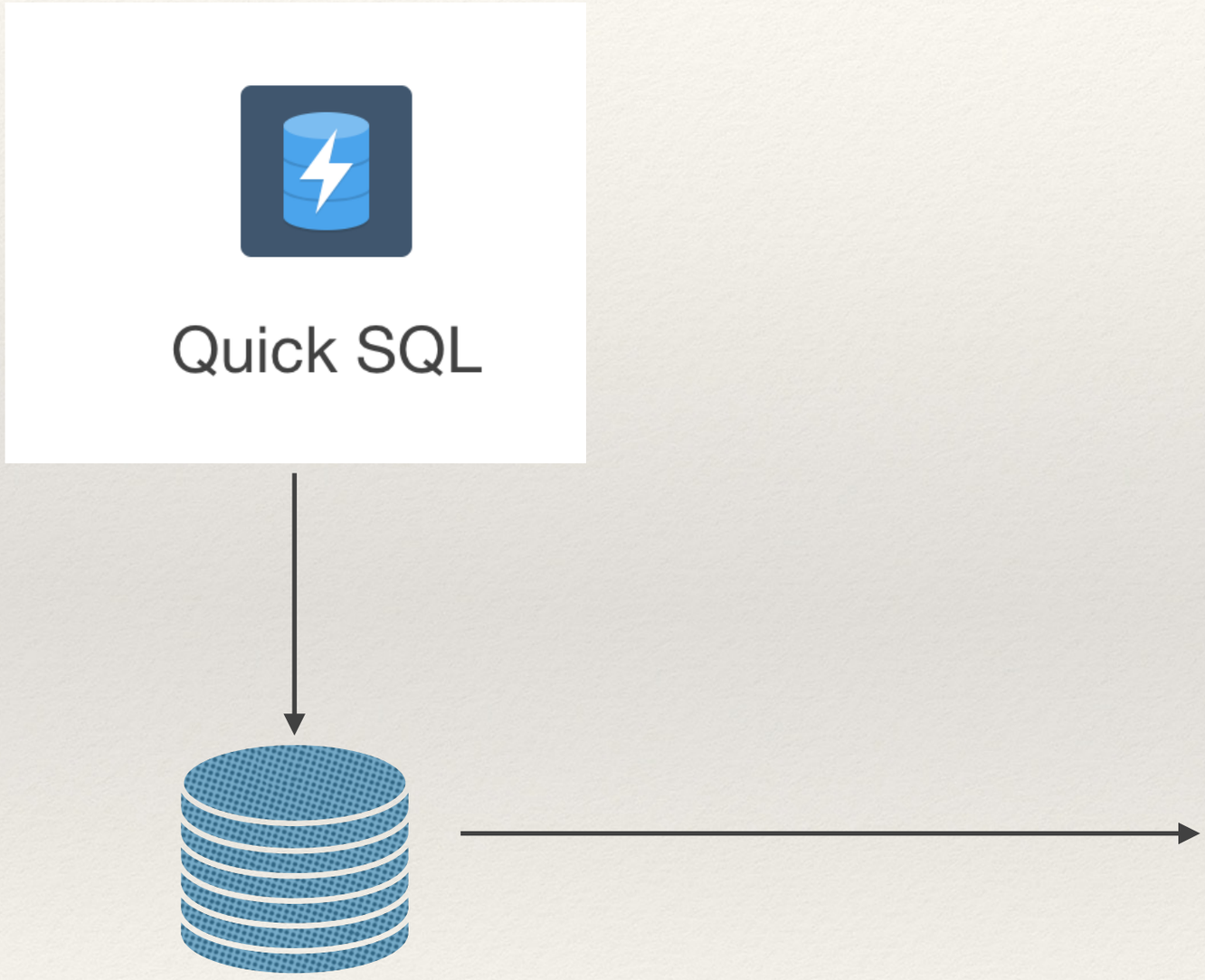
Reporting Schema	APEX
Domains	List of values
Process Model	Menu, Features, Developer assistance, Help Text
Datamodel	User interface defaults, Help Text

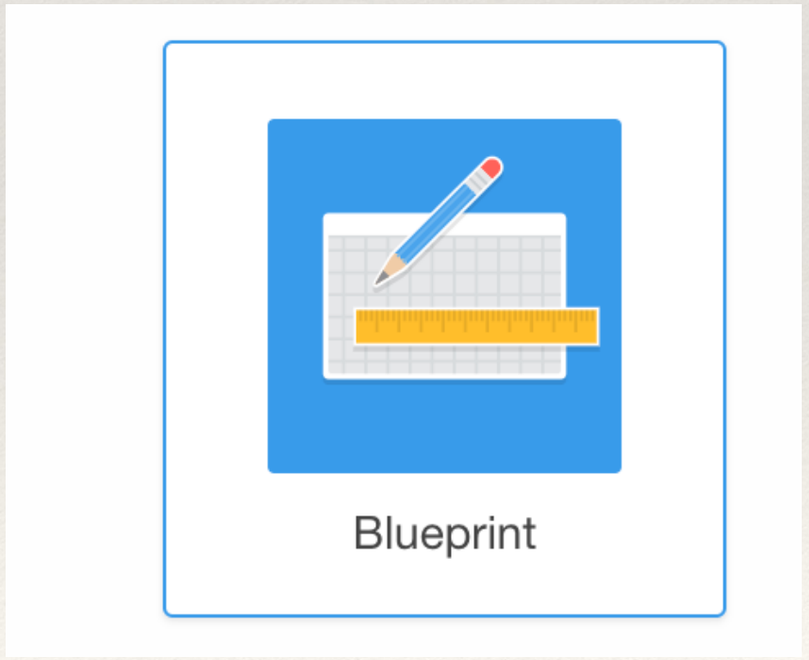
Reporting Scheme

Demo

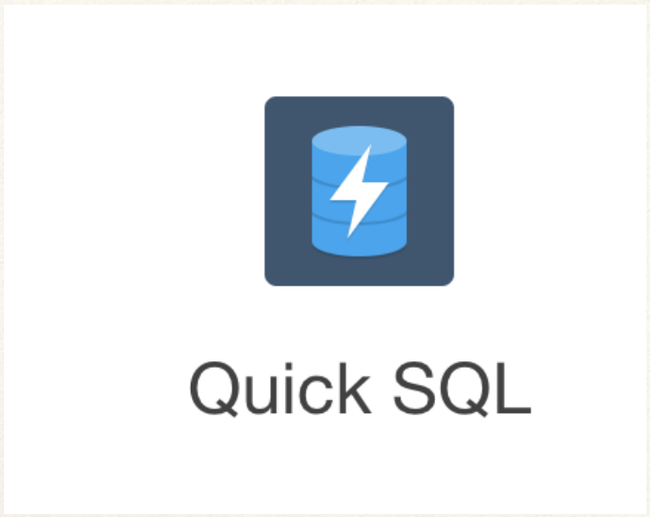
lowCode Landscape

APEX 5 Packaged application for generating DDL



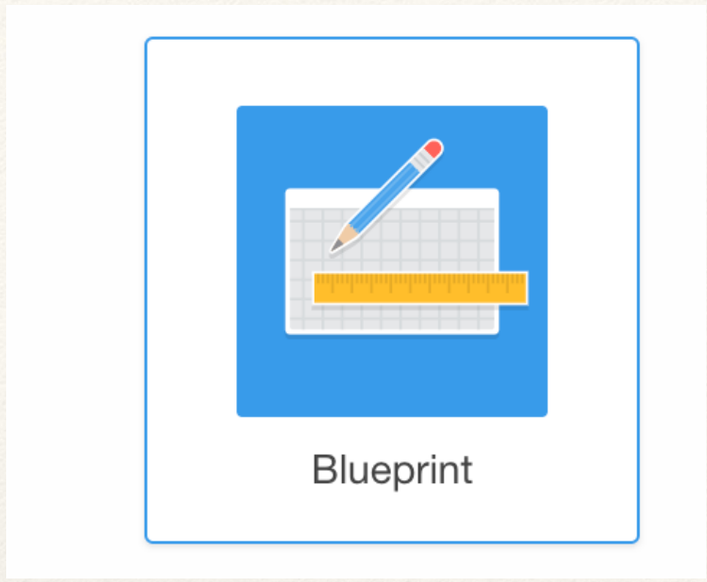


APEX 5.2 feature for generating applications



Quick SQL

Demo

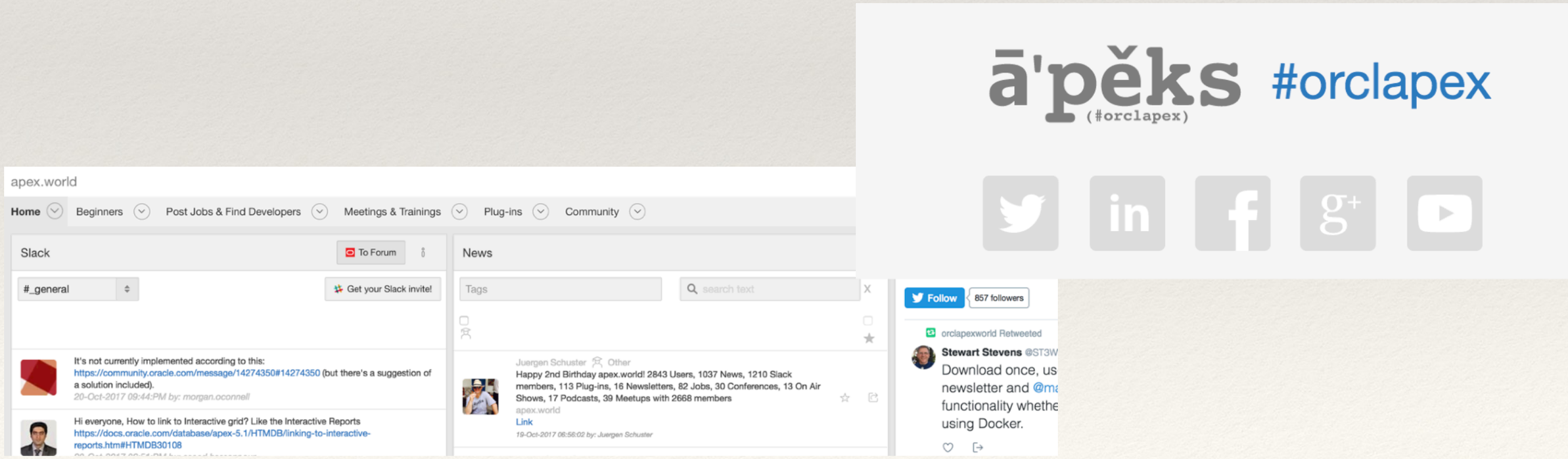


APEX Blueprint

Demo

How do I start lowCoding ?

- Download SQL Developer
- Download examples from Github
- Download database VM or use apex.oracle.com



Questions