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FILL OUT YOUR
EVALUATIONS

Dimitri Gielis

Developing APEX apps in 2018

www.apexRnD.be
dgielis.blogspot.com
@dgielis
dgielis@apexRnD.be

Dimitri Gielis



- Founder & CEO of APEX R&D
- 20+ years of Oracle Experience (OCP & APEX Certified)
- Oracle ACE Director
- “APEX Developer of the year 2009” by Oracle Magazine
- “Oracle Developer Choice award (ORDS)” in 2015
- Author Expert Oracle APEX
- Presenter at Conferences

APEX R&D
research & development

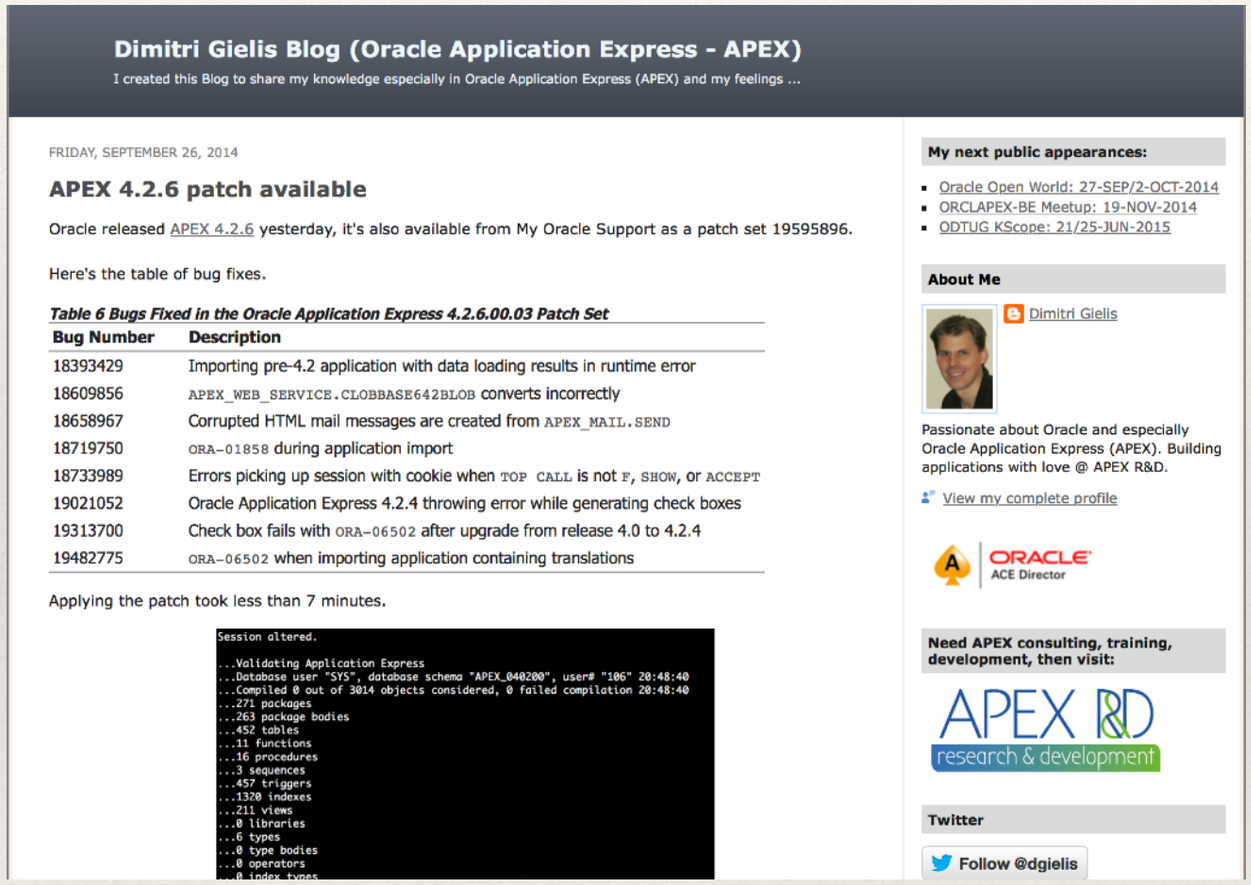


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http://dgielis.blogspot.com

@dgielis



Dimitri Gielis Blog (Oracle Application Express - APEX)

I created this Blog to share my knowledge especially in Oracle Application Express (APEX) and my feelings ...

FRIDAY, SEPTEMBER 26, 2014

APEX 4.2.6 patch available

Oracle released APEX 4.2.6 yesterday, it's also available from My Oracle Support as a patch set 19595896.

Here's the table of bug fixes.

Table 6 Bugs Fixed in the Oracle Application Express 4.2.6.00.03 Patch Set

Bug Number	Description
18393429	Importing pre-4.2 application with data loading results in runtime error
18609856	`APEX_WEB_SERVICE.CLOBBASE642BLOB` converts incorrectly
18658967	Corrupted HTML mail messages are created from `APEX_MAIL.SEND`
18719750	`ORA-01858` during application import
18733989	Errors picking up session with cookie when `TOP CALL` is not `F`, `SHOW`, or `ACCEPT`
19021052	Oracle Application Express 4.2.4 throwing error while generating check boxes
19313700	Check box fails with `ORA-06502` after upgrade from release 4.0 to 4.2.4
19482775	`ORA-06502` when importing application containing translations

Applying the patch took less than 7 minutes.

```
Session altered.

...Validating Application Express
...Database user "SYS", database schema "APEX_040200", user# "106" 20:48:40
...Compiled 0 out of 3014 objects considered, 0 failed compilation 20:48:40
...271 packages
...263 package bodies
...452 tables
...11 functions
...16 procedures
...3 sequences
...457 triggers
...1320 indexes
...211 views
...0 libraries
...6 types
...0 type bodies
...0 operators
...0 index types
```

My next public appearances:

- Oracle Open World: 27-SEP/2-OCT-2014
- ORCLAPEX-BE Meetup: 19-NOV-2014
- ODTUG KScope: 21/25-JUN-2015

About Me

Dimitri Gielis

Passionate about Oracle and especially Oracle Application Express (APEX). Building applications with love @ APEX R&D.

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ORACLE ACE Director

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SATURDAY, AUGUST 05, 2017

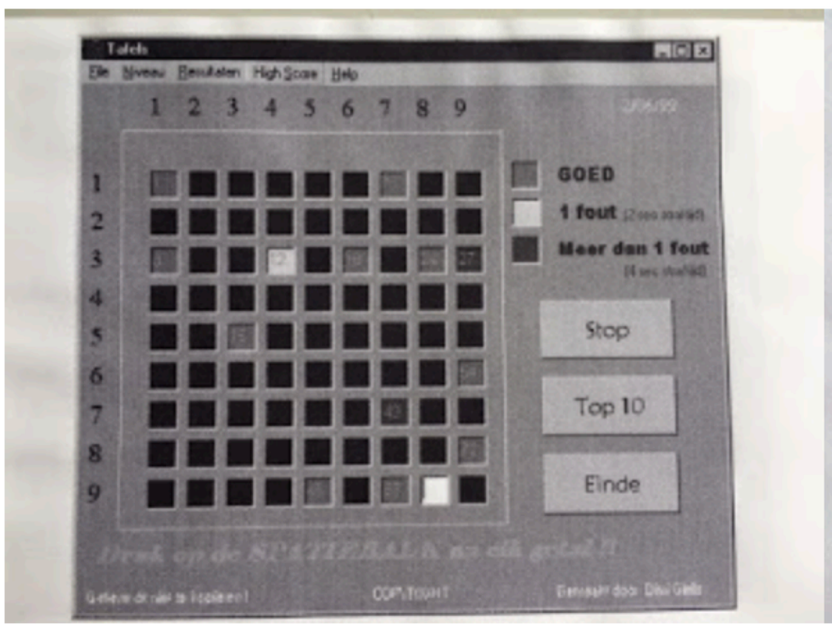
From idea to app or how I do an Oracle APEX project anno 2017

For a long time I had in mind to write in great detail how I do an Oracle APEX project from A to Z. But so far I never took the time to actually do it, until today :)

So here's the idea; I love building projects that help people and I love to share what I know, so I will combine both. I will write exactly my thoughts and things I do as I'm moving along with this project, so you have full insight what's happening behind the scenes.

Background

Way back, in the year 1999, I build an application in Visual Basic to help children study the multiplication tables. My father was a math teacher and taught people who wanted to become primary school teachers. While doing the visits of the primary schools, he saw the problem that children had difficulties to automate the multiplications from 1 till 10, so together we thought about how we could help them. That is how the Visual Basic application was born. I don't have a working example anymore of the program, but I found some paper prints from that time, which you see here:





We are now almost 20 years later and last year my son had difficulties memorizing the multiplication tables too. I tried sitting next to him and help him out, but when things don't go as smooth as you hope... You have

My next public appearances:

- Montreal Oracle Dev Day: 25-OCT-2017
- APAC Tour: New Zealand and Australia: 17/28-NOV-2017

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ORACLE ACE Director

Printing in Oracle APEX?

Check APEX Office Print.



LIVE CODING



What we will build

- Attractions
  - Different attractions with images
- People
  - Preferences of one or more attractions
- Administration
  - View activity of app

Agenda

- From idea to Oracle APEX app
- Create the Oracle Database Objects
- Build a starter APEX app with Blueprint
- Enhance the APEX app

From idea to Oracle APEX app

SATURDAY, AUGUST 05, 2017

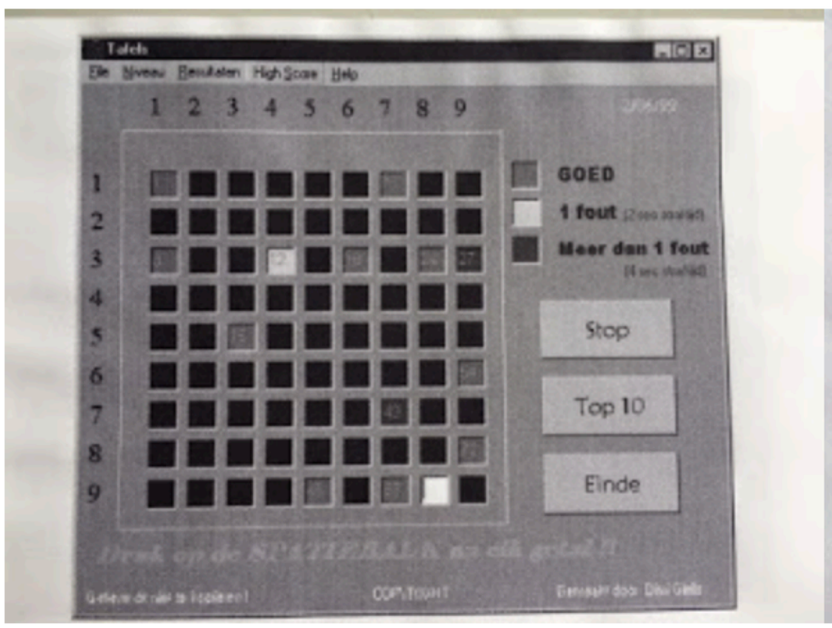
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Multiplication Table - mtable.online

x	1	2	3	4	5	6	7	8	9
1	1								9
2				8	10				
3				12			21	24	
4					20		28		36
5	5					30		40	45
6		12							
7	7								
8				32	40				
9			27		45			72	81

http://dgielis.blogspot.be/2017/08/from-idea-to-app-or-how-i-do-oracle.html

and 10. It also helps their parents to get insight in timings and mistakes of their children's multiplications.

Timeline

No project without deadline, so I've set my go-production date to August 20th, 2017. So I've about 2 weeks, typically one sprint in our projects.

Following along and feedback

I will tweet, blog and create some videos to show my progress. You can follow along and reach me on any of those channels. If you have any questions, tips or remarks during the development, don't hesitate to add a comment. I always welcome new ideas or insights and am happy to go in more detail if something is not clear.

High level break-down of plan for the following days

- Create user stories and supporting ERD
- List of the tools I use and why I use them
- Set up the development environment
- Create the Oracle database objects
- Set up a domain name
- Set up reverse proxy and https
- Create a landing page and communicate
- Build the Oracle APEX application: the framework
- Refine the APEX app: create custom authentication and authorization scheme
- Refine the APEX app: adding the game
- Refine the APEX app: improve the flow and navigation
- Refine the APEX app: add ability to print results to PDF
- Set up build process
- Check security
- Communicate first version of the app to registered people
- Check performance
- Refine the APEX app: add more reports and statistics
- Check and reply to feedback
- Set up automated testing
- A word on debugging
- Refine the APEX app: making final changes
- Set up backups
- Verify documentation and lessons learned
- Close the loop and Celebrate :)

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Blog Archive

▼ 2017 (20)
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- ► October (4)
- ► September (2)
- ▼ August (8)
  - Create a Custom Authentication and Authorization S...
  - Build the Oracle APEX application: the framework
  - Set up domain and launch page
  - Create the Oracle database objects
  - Set up an APEX development environment
  - List of the tools I use and why I use them
  - Create user stories and supporting ERD
  - From idea to app or how I do an Oracle APEX projec...
- ► March (1)
- ► February (3)
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► 2012 (49)
► 2011 (42)
► 2010 (93)
► 2009 (85)

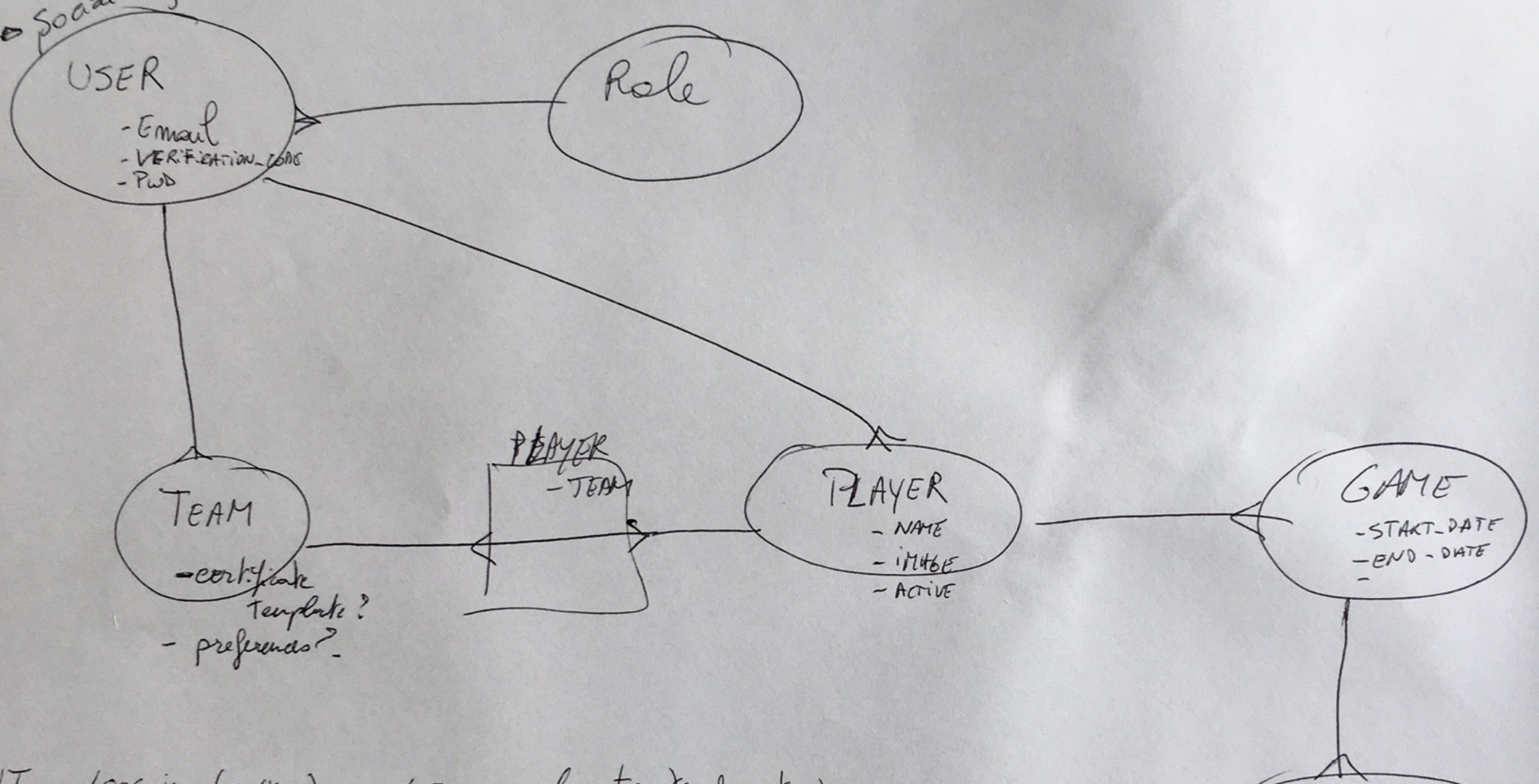
Create the ERD & Database Objects

APEX 5.2

└ Social login: FB / Tw. / ...

MULTIPLICATION TABLE

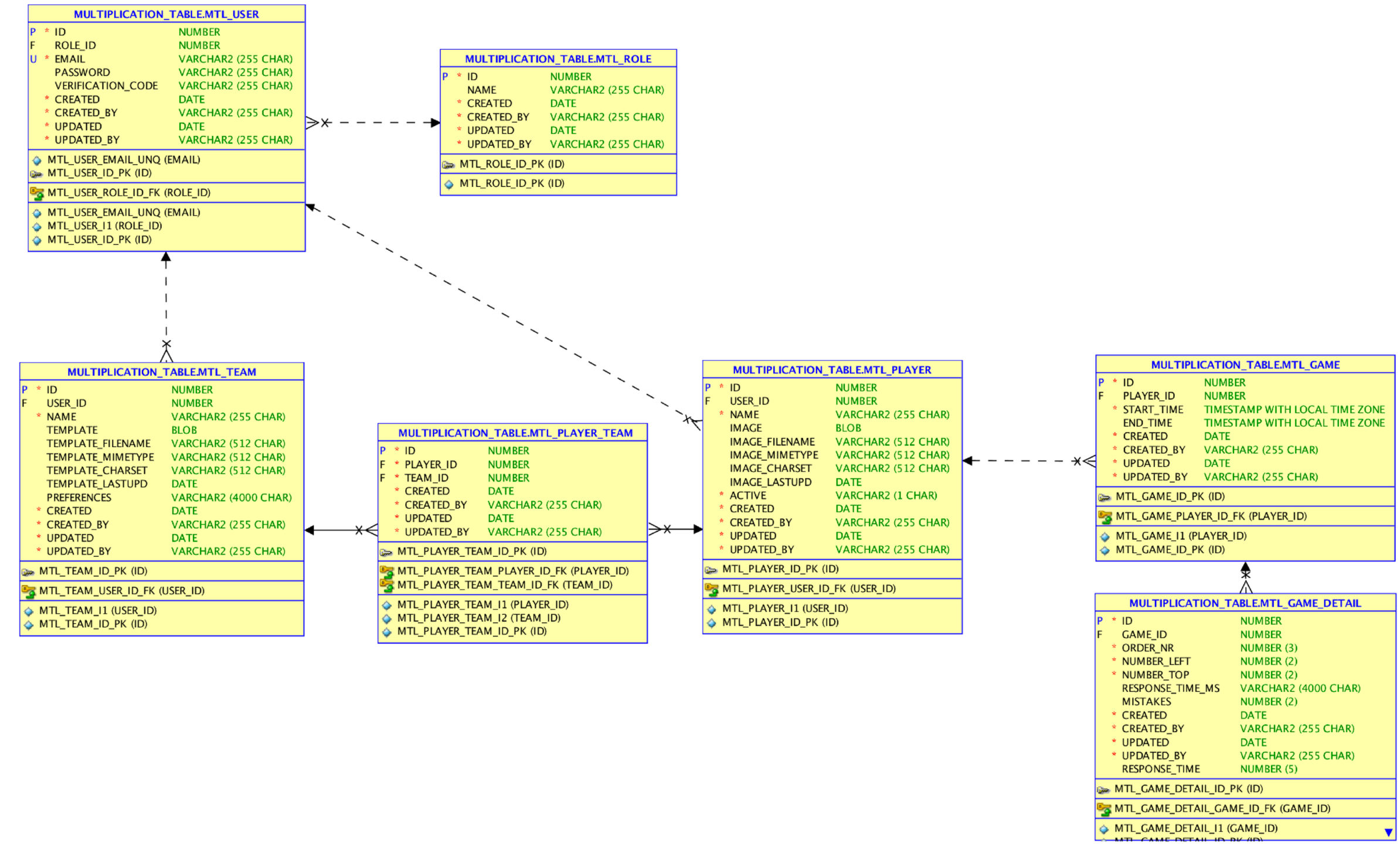
TABLES v1.0 (2)



IDEA

- PARENT Logs in (= User) (can apply to teacher too)
- Creates children (= PLAYER)
- Children plays game (= GAME)
- To Group children to get into variety (= TEAM) (can apply to class too)
  Child can belong to one or more Teams

SQL Developer Data Modeler



Quick SQL

Quick SQL — Saved Models — Administration — Help — dgielis@apexrnd.be

AA6R.2

Save — Generate SQL

Worksheet — Clear — Syntax and Examples

```
#prefix: mtl, auditcols: true, apex: true

role
  name

  user
    email             /nn /lower /unique
    password          vc(255)
    verification_code vc(255)

    player
      name   /nn
      image  file
      active vc(1) /cc Y, N /default Y

      game
        start_time tswltz /nn
        end_time   tswltz

        game_detail
          order_nr         num(3) /nn
          number_left      num(2) /nn
          number_top       num(2) /nn
          response_time_ms
          mistakes         num(2)

    team
      name        /nn
      template    file
      preferences

player team
  player id /nn
  team id   /nn

view player_team_vw player team player_team
```

Settings

```
-- drop objects
drop table MTL_ROLE cascade constraints;
drop table MTL_USER cascade constraints;
drop table MTL_PLAYER cascade constraints;
drop table MTL_GAME cascade constraints;
drop table MTL_GAME_DETAIL cascade constraints;
drop table MTL_TEAM cascade constraints;
drop table MTL_PLAYER_TEAM cascade constraints;
drop view MTL_PLAYER_TEAM_VW;

-- create tables
create table MTL_ROLE (
    ID                              NUMBER GENERATED BY DEFAULT ON NULL AS IDENTITY
                                    constraint MTL_ROLE_ID_PK primary key,
    NAME                            VARCHAR2(255),
    CREATED                         DATE not null,
    CREATED_BY                      VARCHAR2(255) not null,
    UPDATED                         DATE not null,
    UPDATED_BY                      VARCHAR2(255) not null
)
;

create table MTL_USER (
    ID                              NUMBER GENERATED BY DEFAULT ON NULL AS IDENTITY
                                    constraint MTL_USER_ID_PK primary key,
    ROLE_ID                         NUMBER
                                    constraint MTL_USER_ROLE_ID_FK
                                    references MTL_ROLE on delete cascade,
    EMAIL                           VARCHAR2(255)
                                    constraint MTL_USER_EMAIL_UNQ unique not null,
    PASSWORD                        VARCHAR2(255),
    VERIFICATION_CODE               VARCHAR2(255),
    CREATED                         DATE not null,
    CREATED_BY                      VARCHAR2(255) not null,
    UPDATED                         DATE not null,
    UPDATED_BY                      VARCHAR2(255) not null
)
;

create table MTL_PLAYER (
```

Demo

Reverse Engineer

ERD to QuickSQL

http://dgielis.blogspot.nl/2017/12/reverse-engineer-existing-oracle-tables.html

FRIDAY, DECEMBER 08, 2017

Reverse engineer existing Oracle tables to Quick SQL



If you didn't hear about Oracle Quick SQL, it's time to read about it as it's something you have without knowing (it's a packaged app in Oracle APEX) and I believe you should start using :)

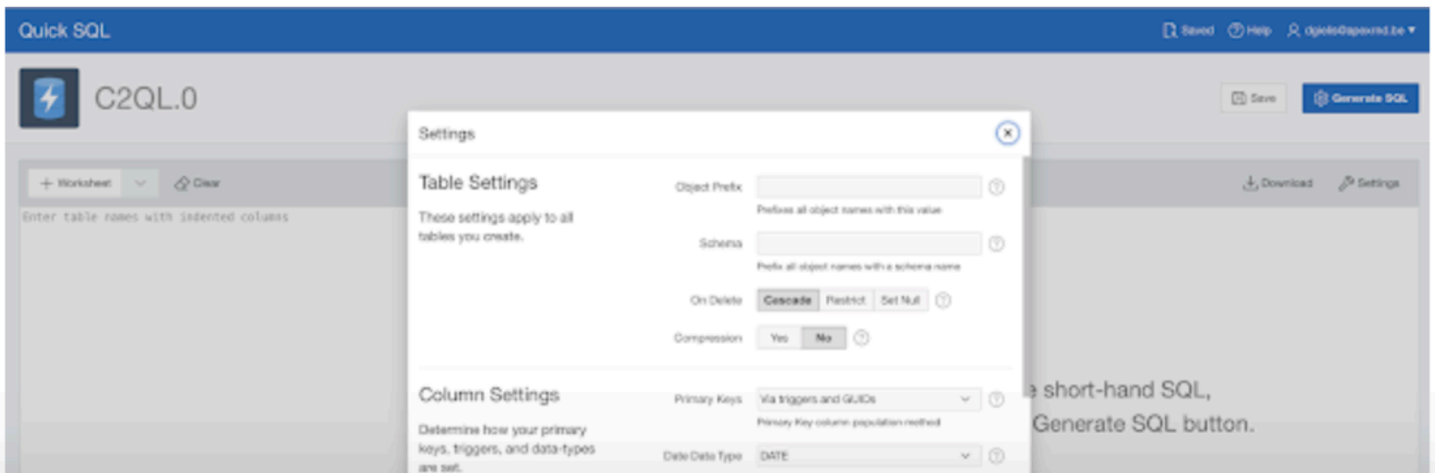
> Quick SQL enables you to rapidly design and prototype data models using a markdown-like shorthand syntax that expands to standards-based Oracle SQL. You can easily create master detail relationships, check constraints, and even generate sample data.

In my blog post Create the Oracle database objects I go over the history how I created database objects and why I think Quick SQL is great and why I use it.

I guess most people typically use Quick SQL at the start of a new project, as it's the quickest way to create your data model and Oracle database objects. That is my primary use case too, but I started to use Quick SQL even on projects where database objects already exist.

In the project I'm currently involved in, the datamodel was generated by another tool, but as we iterate through the project, tables change, columns get renamed and added, row version were requested, triggers need to be made Oracle APEX aware...

Now we could do those changes manually, but I thought it made much more sense to create the data model in Quick SQL and use the features that come with Quick SQL. By clicking a checkbox we can include a Row version, Quick SQL generates the triggers automatically in an APEX aware form, we can generate as much sample data as we want by adding /insert and we can use all the other features that come with Quick SQL. For example when you want to include a history table in the future it's just another checkbox to click.



My next public appearances:

- APEX Meetup Paris: 14-MAR-2018
- APEX World: 22/23-MAR-2018
- APEX Connect: 24/26-APR-2018
- ODTUG KScope: 10/14-JUN-2018

About Me



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ORACLE ACE Director

Printing in Oracle APEX?

Check APEX Office Print.



Make your template in Word, Excel or Powerpoint and print into Word, Excel, Powerpoint, PDF or HTML5. One APEX

Build a starter APEX app with Blueprint

Create an Application

What type of application would you like to create?



Blueprint



Desktop



Mobile



Websheet

From a spreadsheet · Copy an existing application

About

Cancel Help

Next

Demo

Enhance the APEX app

Blueprint as basis

- Use Blueprint as starting point
- then enhance…

Different ways to enhance

- Using different components (Cards, Lists, …)
- Use of APEX Plug-ins
- Using APEX APIs
- Changing Universal Theme (Theme Roller, Template Options, …)
- Custom CSS
- Including JavaScript

Printing & Exporting

















https://www.apexofficeprint.com

Examples: See AOP in action

Overview
Start
Tour
Examples
Doc
More
Support

Reports

- Custom Report (SQL)
- Classic Report
- Classic with Totals
- Tabular Form
- Excel sheet generation
- Interactive Report
- Combo: Classic and IRs
- Interactive Grid
- Multiple reports (IR, IG, Classic, Custom, Charts) in one PDF
- Dashboard (charts with reports)
- More Examples

Features

- AOP Starter Template
- Native Office Charts
- JET Charts
- Other Charts (HighCharts, ...)
- Images
- QR and Barcodes
- HTML (Rich Text) Editor
- Markdown Editor
- Create template in HTML and output in PDF/Word
- Inline PDF
- Print PDF directly to local Printer

Backend

- Dynamic Print
- Mailings: Mail Merge - Labels
- Send Print by Email
- Send HTML Email
- PL/SQL API
- Scheduled Print
- Print in Batch
- Multiple Prints to Zip
- Tag Count
- Output to Directory on Server
- Print PDF directly to IP Printer

Testing

- Process Plug-in
- Dynamic Action Plug-in
- Table with Templates
- Office Types
  Word, Excel, Powerpoint
- HTML, Markdown and Text
- Plug-in Template and Data Types
- Custom REST call
- Error Testing
- AOP Usage
- Debugging
- Automated Tests

APEX Office Print (AOP) Sample Application

Recap

- From idea to Oracle APEX app
- Create the Oracle Database Objects
- Build a starter APEX app with Blueprint
- Enhance the APEX app

Q&A

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Consulting, Development, Training

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