

Dimitri Gielis

APEX Reporting



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Dimitri Gielis

- ❖ Founder & CEO of APEX R&D
- ❖ 19+ 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





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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.

[View my complete profile](#)

 ORACLE
ACE Director

Need APEX consulting, training, development, then visit:



Twitter

 Follow @dgielis



Agenda

- ❖ Classic Reports
 - ❖ Plain, Custom Template, Analytical Functions
- ❖ Interactive Reports
 - ❖ Many ways to manipulate and call
- ❖ Interactive Grids
 - ❖ Custom view
- ❖ Plug-ins and PL/SQL
 - ❖ Nested reports and full flexibility
- ❖ Exporting
 - ❖ Use of Cursor loops

Classic Reports

Classic Report

❖ what we think about

Demo Customers

Cust First Name	Cust Last Name	Cust Street Address1	Cust Street Address2	Cust City	Cust State	Cust Postal Code	Cust Email	Phone Number1	Phone Number2	URL	Credit Limit	Tags
John	Dulles	45020 Aviation Drive		Sterling	VA	20166	john.dulles@email.com	703-555-2143	703-555-8967	http://www.johndulles.com	1,000	
William	Hartsfield	6000 North Terminal Parkway		Atlanta	GA	30320		404-555-3285			1,000	REPEAT CUSTOMER
Edward	Logan	1 Harborside Drive		East Boston	MA	02128		617-555-3295			1,000	REPEAT CUSTOMER
Frank	OHare	10000 West OHare		Chicago	IL	60666		773-555-7693			1,000	
Fiorello	LaGuardia	Hangar Center	Third Floor	Flushing	NY	11371		212-555-3923			1,000	
Albert	Lambert	10701 Lambert International Blvd.		St. Louis	MO	63145		314-555-4022			1,000	
Eugene	Bradley	Schoephoester Road		Windsor Locks	CT	06096		860-555-1835			1,000	REPEAT CUSTOMER

[Download](#)

row(s) 1 - 7 of 7

Build-in Report Templates

Classic Report

❖ different report template: Timeline

 DG	DGIELIS@APEXRND.BE 37 minutes ago	 On-Hold	Arrange for vacation coverage 37 minutes ago
 DG	DGIELIS@APEXRND.BE 37 minutes ago	 On-Hold	HR software upgrades 37 minutes ago
 DG	DGIELIS@APEXRND.BE 37 minutes ago	 Closed	HR Support Systems 37 minutes ago
 DG	DGIELIS@APEXRND.BE 37 minutes ago	 Open	Investigate new Virus Protection software 37 minutes ago
 DG	DGIELIS@APEXRND.BE 37 minutes ago	 Open	Customize solutions 37 minutes ago
 DG	DGIELIS@APEXRND.BE 37 minutes ago	 Closed	Install in development 37 minutes ago

Classic Report

❖ different report template: Badge List

12 Active Bugs	31 Closed Bugs	188 Users
34 Projects	3 Milestones	15 Action Items

Classic Report

- ❖ different report template: Value Attribute Pairs (buttons!)

Button Positions

Previous	
Arrange for vacation coverage	On-Hold
Check software licenses	Closed
Check software licenses	Closed
Collect mission-critical spreadsheets	Open
Complete plan	Closed
Complete questionnaire	On-Hold
Next	

Component Templates

Show All

Pages

Regions

Lists

Reports

Buttons

Forms

Reports



Alerts

Display alerts, confirmations, and other action-oriented messages.



Badge List

Displaying badges or counters.



Cards

This report template provides the Cards UI and is useful for presenting a variety of information. Cards can be displayed in three styles, with icons or initials, and you can control the layout.



Comments

This report template is used to display user comments and status updates.



Standard

This is the default report template used for displaying tabular data.



Timeline

This timeline report template is useful for displaying recent updates and interactions within an application.



Value Attribute Pairs

This report template is useful for displaying attribute value / key value pairs and works well with both Row or Column based queries.

Demo UT Sample App

Custom Report Templates

Custom Report Template

- ❖ Generic Columns (column template)
- ❖ Named Column (row template)

Create Report Template

✓

✓

Name

*

Name

?

*

Theme

42. Universal Theme

▼

?

*

Template Class

- Select -

▼

?

*

Template Type:

☒ Generic Columns (column template)

☐ Named Column (row template)

?

<

Cancel

Create

Demo Custom Report Templates

Combining queries

UNION [ALL], INTERSECT, MINUS Operators

❖ select ...
union all
select ...

```
SELECT location_id, department_name "Department",  
       TO_CHAR(NULL) "Warehouse" FROM departments  
UNION  
SELECT location_id, TO_CHAR(NULL) "Department", warehouse_name  
FROM warehouses;
```

LOCATION_ID	Department	Warehouse
1400	IT	
1400		Southlake, Texas
1500	Shipping	
1500		San Francisco
1600		New Jersey
1700	Accounting	
1700	Administration	
1700	Benefits	
1700	Construction	

Demo Unions

Analytical Functions

NTH_VALUE

LISTAGG NTILE LAG

RANK

COUNT

MIN MAX

SUM AVG

LEAD

DENSE_RANK

LAST_VALUE

ROW_NUMBER FIRST_VALUE

RATIO_TO_REPORT

Learning Analytical Functions

- ❖ Good video of Alex Nuijten - Analytic Functions: Unleash the SQL Power - <https://www.youtube.com/watch?v=z0Tx5rFDado>
- ❖ Oracle Documentation: <https://docs.oracle.com/database/121/SQLRF/functions004.htm#SQLRF06174>

Demo

Analytical Functions

Combination of techniques

by Product by TA by Region												
Health Economics		Region	- All -	Sub-Region(s)	- All -	Execute						
TA	Product	2016 Current Budget	Current Contracted Amount	Current Spent Amount	2016 Spend as % of Budget	Latest Planned Total Amount	Latest Planned Global / US	Latest Planned HE Zug	Latest Planned Affiliates	Forecasted 2016 Spend	\$000's Over / Under Budget	% of 2016 Current Budget
Bone/Neph/Inflam/Neuro		0.00	102.52	102.52	-%	-	-	-	-	102.52	102.52	-%
Bone/Neph/Inflam/Neuro		51.33	38.95	5.16	10.05%	0.00	-	-	0.00	38.95	-12.38	75.89%
Bone/Neph/Inflam/Neuro		290.00	44.53	44.53	15.35%	-	-	-	-	44.53	-245.47	15.35%
Bone/Neph/Inflam/Neuro		165.40	5.45	2.45	1.48%	0.00	-	-	0.00	5.45	-159.96	3.29%
Bone/Neph/Inflam/Neuro		150.00	12.85	1.02	0.68%	-	-	-	-	12.85	-137.15	8.57%
Bone/Neph/Inflam/Neuro		3,831.79	3,199.37	1,474.48	38.48%	0.00	0.00	-	0.00	3,199.37	-632.42	83.50%
Bone/Neph/Inflam/Neuro		39.00	872.95	362.32	929.02%	-	-	-	-	872.95	833.95	2,238.32%
Bone/Neph/Inflam/Neuro		40.00	23.00	0.22	0.56%	-	-	-	-	23.00	-17.00	57.50%
Bone/Neph/Inflam/Neuro		22.00	22.48	22.48	102.18%	-	-	-	-	22.48	0.48	102.18%
Bone/Neph/Inflam/Neuro		0.00	4.72	4.72	429,470.91%	0.00	-	-	0.00	4.72	4.72	429,472.73%
Bone/Neph/Inflam/Neuro		79.00	-	0.00	0.00%	30.00	30.00	-	-	30.00	-49.00	37.97%
Bone/Neph/Inflam/Neuro		328.62	323.49	269.53	82.02%	0.00	-	-	0.00	323.49	-5.13	98.44%
Bone/Neph/Inflam/Neuro		1,355.78	2,149.31	1,268.92	93.59%	32.65	-	-	32.65	2,181.96	826.18	160.94%
Bone/Neph/Inflam/Neuro		1,070.58	740.47	435.93	40.72%	100.00	20.00	80.00	0.00	840.47	-230.11	78.51%
Bone/Neph/Inflam/Neuro		2,342.96	2,267.88	1,627.46	69.46%	0.00	-	0.00	0.00	2,267.88	-75.08	96.80%
Bone/Neph/Inflam/Neuro		1,776.23	1,628.58	731.33	41.17%	94.45	-	-	94.45	1,723.03	-53.20	97.01%
Bone/Neph/Inflam/Neuro		61.00	59.42	41.57	68.14%	0.00	-	-	0.00	59.42	-1.58	97.41%
Bone/Neph/Inflam/Neuro Total		11,603.68	11,495.17	6,393.84	55.10%	257.10	50.00	80.00	127.10	11,752.27	148.59	101.28%
Cardio/Metabolic		300.40	63.41	32.12	10.69%	0.00	-	-	0.00	63.41	-237.00	21.11%
Cardio/Metabolic		0.00	1.79	0.00	-%	-	-	-	-	1.79	1.79	-%
Cardio/Metabolic		1,330.00	1,241.30	379.16	28.51%	-	-	-	-	1,241.30	-88.70	93.33%
Cardio/Metabolic		10,439.08	8,395.15	5,547.41	53.14%	531.60	457.63	43.00	30.98	8,926.76	-1,512.32	85.51%
Cardio/Metabolic	Contracting	1,100.00	864.06	398.29	36.21%	124.00	124.00	-	-	988.06	-111.94	89.82%
Cardio/Metabolic Total		13,169.48	10,565.71	6,356.99	48.27%	655.60	581.63	43.00	30.98	11,221.31	-1,948.17	85.21%
Mature Onc TA		56.23	41.81	37.81	67.24%	0.00	-	-	0.00	41.81	-14.42	74.35%
Mature Onc TA		1,290.74	1,053.53	380.36	29.47%	0.00	-	0.00	0.00	1,053.53	-237.21	81.62%
Mature Onc TA		360.81	306.43	237.31	65.77%	0.00	-	-	0.00	306.43	-54.38	84.93%
Mature Onc TA Total		1,707.78	1,401.77	655.48	38.38%	0.00	-	0.00	0.00	1,401.77	-306.01	82.08%
OncTx		110.40	-	0.00	0.00%	0.00	-	-	0.00	0.00	-110.40	0.00%
OncTx		2,954.14	1,922.59	960.97	32.53%	440.78	403.00	-	37.78	2,363.37	-590.77	80.00%
OncTx		1,654.67	1,354.34	905.05	54.70%	22.00	-	22.00	0.00	1,376.34	-278.32	83.18%
OncTx		7,701.73	6,481.17	4,392.19	57.03%	13.71	2.37	-	11.33	6,494.87	-1,206.86	84.33%
OncTx		881.49	733.24	375.46	42.59%	0.00	-	-	0.00	733.24	-148.25	83.18%
OncTx		1,776.14	1,374.33	839.51	47.27%	10.00	-	10.00	0.00	1,384.33	-391.80	77.94%
OncTx Total		15,078.57	11,865.68	7,473.19	49.56%	486.48	405.37	32.00	49.11	12,352.16	-2,726.42	81.92%
X-Prod	Department Budget	2,048.78	3,930.58	2,886.74	140.90%	180.00	-	180.00	0.00	4,110.58	2,061.80	200.64%
X-Prod	HTA CoE	2,693.52	2,262.13	1,395.74	51.82%	190.00	190.00	-	-	2,452.13	-241.39	91.04%
X-Prod	Modeling COE	1,223.72	1,163.72	825.77	67.48%	0.00	-	0.00	-	1,163.72	-60.00	95.10%
X-Prod Total		5,966.02	7,356.43	5,108.25	85.62%	370.00	190.00	180.00	0.00	7,726.43	1,760.41	129.51%
Total		47,525.53	42,684.76	25,987.75	54.68%	1,769.18	1,227.00	335.00	207.19	44,453.94	-3,071.59	93.54%

More information

- ❖ Packaged Applications > Sample Reporting
- ❖ Oracle APEX 5 Classic Report Templates (Christina)
<https://storm-petrel.com/orablog/2015/12/20/oracle-apex-5-classic-report-templates.html>
- ❖ APEX Classic Report Named Column Templates (Jorge)
<http://rimblas.com/blog/2016/06/apex-classic-report-named-column-templates/>
- ❖ Highlighting negative numbers (Dimitri)
<http://dgielis.blogspot.be/2015/01/highlight-negative-numbers-in-apex.html>
- ❖ Analytic Functions: Unleash the SQL Power (Alex)
<https://www.youtube.com/watch?v=z0Tx5rFDado>
- ❖ ROLLUP, CUBE, GROUPING Functions and GROUPING SETS (Tim)
<https://oracle-base.com/articles/misc/rollup-cube-grouping-functions-and-grouping-sets>

Sample Reporting

Sample Reports

Interactive Grid

Interactive Report

Classic Report

Sidebar Filter

Use Cases

SQL Examples

Analytic Functions

Administration

Sample Reporting

Demonstration of reports and reporting techniques in Oracle APEX

This application highlights how to write Oracle SQL and the primary reporting engines of Oracle Application Express, interactive reports and classic reports. Use this application to better understand the native and declarative reporting functionality of Oracle Application Express and how to write simple and advanced SQL.

Interactive Grid

Reports which allow for in-line editing and other customization by

Interactive Report

Reports which enable customization by the end user

Classic Report

Tabular data which can be filtered by page item values

Sidebar Filter Report

Classic report with a sidebar "e-commerce" filter

Use Cases

Demonstrations of advanced APEX report techniques

SQL Examples

Demonstrations of advanced SQL techniques

Analytic Functions

Demonstrations of various analytic functions available in Oracle SQL.

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APEX on OTN

1.2.22 [Set Screen Reader Mode On](#)

Packaged Applications > Sample Reporting

Sample Reporting

Sample Reports

Use Cases

SQL Examples

CASE Statements

Connect By

Pivot

Regular Expressions

Soundex

String Functions

Group By

Inline Views

Pipelined Functions

Analytic Functions

Administration

SQL Examples \

Pivot Syntax

This report highlights the use of the **PIVOT operator**. This operator takes data in separate rows, aggregates it, and converts it into columns. Expand the **SQL Source** region to see the SQL syntax.

Note that in APEX 5.0, the **PIVOT** functionality was added to interactive reports.

Project	Open	Closed	Pending	On-hold
ACME Web Express Configuration	3	4	0	0
Bug Tracker	0	3	1	1
Client Server Conversion	1	4	4	0
Convert Spreadsheets	1	2	1	0
Discussion Forum	1	2	0	0
Email Integration	0	3	1	0
Employee Satisfaction Survey	0	1	0	2
Load Packaged Apps	1	2	1	1
Maintain Support Systems	2	2	0	0
Migrate Desktop Application	3	3	1	0
Migrate from Legacy Server	0	0	10	0
Public Website	2	2	0	1
Software Project Tracking	3	1	0	0
Training for ACME Web Express	0	2	0	1

SQL Source

Packaged Applications > Sample Reporting

Learn and share SQL, for free.

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[Start Coding Now](#)[View Scripts and Tutorials](#)[Learn More...](#)

- Home
- SQL Worksheet
- My Session
- Schema
- Design
- My Scripts
- Code Library

Code Library

🔍

dense_rank

🔍

Dense_Rank-1

it does not skip any sequence

Script

👍 3

🎥 10

📅 1.1 years ago

👤 Dense_Rank-1

ROW_NUMBER(), RANK(), DENSE_RANK() WITH EXAMPLE

ROW_NUMBER(), RANK(), DENSE_RANK() WITH EXAMPLE

Script

🎥 8

📅 3 weeks ago

👤 SQL for Hierarchical Format

Function DENSE_RANK - Eduardo Alves

Exemplificando a utilização da função DENSE_RANK, neste caso, foram realizadas 3 consultas, onde: 1- a função não recebe parâmetro

Script

🎥 5

📅 3 months ago

👤 Eduado Soares Alves

Analytics - listagg

Playing with listagg, among others, for basic set manipulation

Script

🎥 3

📅 2 months ago

👤 swesley_perth

☰

Area

All

Category

All

Types

All

Tutorials

Scripts

Sort By

Date Added

Executions

Name

Likes

Show Liked Only

Results Per Page

60

Reset Search

row(s) 1 - 4 of 4

Demo

Sample Reporting app

Live SQL

Interactive Reports

Interactive Report

- ❖ Many features:
 - ❖ Highlight
 - ❖ Break
 - ❖ Aggregates
 - ❖ Computations
 - ❖ Pivot
 - ❖ ...

Interactive Report

❖ different view: Icon View

Go Icon View Table View List View Actions


Bag


Ladies Shoes


Belt


Mens Shoes


Blouse


Skirt


Business Shirt


Trousers


Jacket


Wallet

1 - 10 of 10

Interactive Report

❖ different view: Icon View

▼ Icon View

Show	<input checked="" type="button" value="Yes"/> No	
Custom	Yes <input checked="" type="button" value="No"/>	
Columns Per Row	5	▼
Link Column	ICON_LINK	▼
Image Source Column	DETAIL_IMG_NO_STYLE	▼
Label Column	PRODUCT_NAME	▼
Image Attributes	width="75" height="75"	
HTML ALT Text		
HTML TITLE Text		

Interactive Report

❖ different view: Detail View

Q

Go

Actions



Bag

Category:

Accessories

Available:

Yes

Last Date Sold:

5/7/2017

Description:

Unisex bag suitable for carrying laptops with room for many additional items

Price

Units

Sales

Customers

\$125.00

16

\$2,000.00

6



Belt

Category:

Accessories

Available:

Yes

Last Date Sold:

4/23/2017

Description:

Leather belt

Price

Units

Sales

Customers

\$30.00

11

\$330.00

3



Blouse

Category:

Womens

Available:

Yes

Last Date Sold:

5/7/2017

Description:

Silk blouse ideal for all business women

Price

Units

Sales

Customers

\$60.00

16

\$960.00

5

Interactive Report

❖ different view: Detail View

▼ Detail View

Show

Before Rows

```
<style>
table.apexir_WORKSHEET_CUSTOM { border: none !important; -moz-box-shadow: none; box-shadow:
none; -webkit-box-shadow: none; }
.apexir_WORKSHEET_DATA td {border-bottom: none !important;}
table.reportDetail td {
padding: 2px 4px !important;
border: none !important;
font: 11px/16px Arial, sans-serif;
}
table.reportDetail td.separator {
background: #F0F0F0 !important;
}
```

For Each Row

```
<tr>
<td rowspan="5" valign="top"></td>
<td colspan="6"><h1><a href="#ICON_LINK#"><strong>#PRODUCT_NAME#</strong></a></h1></td>
</tr>
<tr>
<td><strong>#CATEGORY_LABEL#</strong></td><td>#CATEGORY#</td>
<td><strong>#PRODUCT_AVAIL_LABEL#</strong></td><td>#PRODUCT_AVAIL#</td>
<td><strong>#LAST_DATE_SOLD_LABEL#</strong></td><td>#LAST_DATE_SOLD#</td>
</tr>
<tr>
<td>
</tr>
```

Interactive Report

- ❖ Call a report through
 - ❖ URL
 - ❖ PL/SQL
 - ❖ DA - JavaScript

Demo

Call Interactive Reports

Interactive Grids

Interactive Grid

- ❖ Many features:
 - ❖ Highlight
 - ❖ Break
 - ❖ Aggregate
 - ❖ ...
- ❖ Same feature set as Interactive Reports in future and more...
the same but very different (mvc)!

Reporting

<>

i

The following examples demonstrate how Interactive Grids can be utilized for reporting purposes, rather than only for updating content. Each has **Editable = No**

Basic Reporting

Demonstrates a basic read only report.

Column Groups

Demonstrates how column groups can be applied to different columns.

Add Toolbar Button

Demonstrates how to add a toolbar button to an Interactive Grid region.

Row Header

Demonstrates how to add a row header to a report.

Sequence Row Header

Demonstrates how to add a sequence number for each row.

Multiple Selection

Demonstrates how to utilize the rows selected to populate a second region.

Saved Reports

Demonstrate the different types of saved reports.

Single Row View

Demonstrates including the single row view in a non-editable Interactive Grid.

Icon and Detail Views

Demonstrates including icon and detail views within an Interactive Grid.

Chart View

Demonstrates including a chart view within an Interactive Grid.

1.0.2

[Set Screen Reader Mode On](#)

Interactive Grid Sample Application

⬆

IG Cookbook

Home

Basic Editable IG on E...

Basic IG Report on EMP

Hide Report Settings A...

Windows List View Style

Rows Per Page on Tool...

Custom Row Height wi...

Variable Height Rows

Update Selection

Dynamic Column Total

Cell Style Based on Data

Report Checkbox Colu...

Copy to Clipboard

Double Grid

Split Grid and Form Mu...

Edit in Dialog

IG Cards

Simple Control

Copy Down

Spinner

Tasks (no order)

LMS

123

DE

Demosthenes

Politics

Male

Country: Greece

Born: -384

Died: -322

Age: 62

Learn More

FC

Fidel Castro

Politics

Male

Country: Cuba

Born: 1926

Died:

Age:

Learn More

JG

Joseph Goebbels

Politics

Male

Country: Germany

Born: 1897

Died: 1945

Age: 48

Learn More

MC

Marie Curie

Science & Technology

Female

Country: Poland

Born: 1867

Died: 1934

Age: 67

Learn More

Demo Interactive Grid

Plugins and PL/SQL

Plug-ins

❖ Go to apex.world > Plug-ins

apex.world

Home

Beginners

Post Jobs & Find Developers

Meetings & Trainings

Plug-ins

Community

apex.world

Feedback

Contact

Register

Login

Plug-in Details

3 of 10

Get Update Notifications (Login needed)

Like (Login needed)

Plug-in Overview

Pretius APEX Nested reports (2.0)

Dynamic Action Plug-in by [Bartosz Ostrowski](#)

The plugin is dynamic action plugin implementing nested reports within APEX Classic Reports, Interactive Reports and static HTML tables. Scope of data, data appearance and behavior is customizable with the plugin attributes.

DB versions

11.2.0.1,12.1.0.1

APEX versions

5.0.0

[Github Project Page](#)

[Download](#)

[Demo](#)

[Homepage](#)

Department	Loc	President	Managers	Salesmans	Clerks	Analysts	Total
SALES	CHICAGO	0	1	4	1	0	6
RESEARCH	DALLAS	0	1	0	2	2	5
ACCOUNTING	NEW YORK	1	1	0	1	0	3

Name	JOB	Salary	Commision
KING 222	PRESIDENT	5000	0

Name	JOB	Salary	Commision
BLAKE	MANAGER	2850	0
CLARK	MANAGER	2450	0

Name	JOB	Salary	Commision
MILLER	CLERK	1300	0

Click here to edit personal data

Employee name

MILLER

Employee ID

7934

Phone number

972-(311)755-9197

Employee e-mail

miller@company.com

City

Netanya

Hire date

1982-01-23

Address

75 Hanover Plaza

Postal code

7168 Utah Lane

Name	JOB	Salary	Commision
JONES	MANAGER	2975	0

1 - 3

PL/SQL

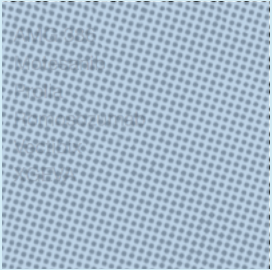
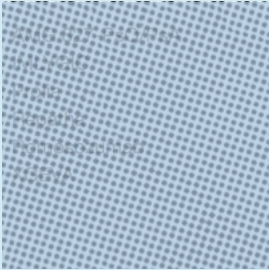
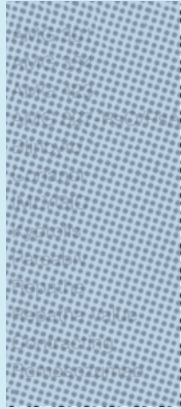
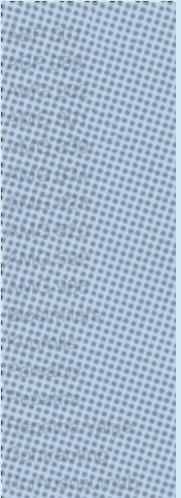
Product Categories

Define Years

Start year

End year

Product Categories by Year

	2009	2010	2011	2012	2013	2014	2015	2016
Accelerated								
Launch								
Defend								
Grow								

PL/SQL

❖ Full flexibility to generate HTML/CSS

```
1 declare
2   l_start_year number(4) := :P2_START_YEAR;
3   l_end_year   number(4) := :P2_END_YEAR;
4   l_products   varchar2(32767);
5 begin
6   sys.ftp.p('<table id="product_cat">');
7   sys.ftp.p('<thead><tr><th></th>'); -- year
8   for r in (select l_start_year+level-1 as year
9              from dual
10             connect by level <= l_end_year-l_start_year+1
11            )
12   loop
13     sys.ftp.p('<th>' || r.year || '</th>');
14   end loop;
15   sys.ftp.p('</tr></thead>');
16   sys.ftp.p('<tbody><tr>');
17   for s in (select status, id
18              from opts_status
19              order by order_nr
20             )
21   loop
22     sys.ftp.p('<td><b>' || s.status || '</b></td>');
23     for r in (select l_start_year+level-1 as year
24                from dual
25               connect by level <= l_end_year-l_start_year+1
26              )
27     loop
28       select listagg(p.product_name, '<br/>') within group (order by p.product_name)
29         into l_products
30         from opts_product_status ps, opts_product p
31        where ps.product_id = p.id
32              and ps.status_id = s.id
33              and to_char(ps.start_date, 'YYYY') = to_char(r.year);
34       sys.ftp.p('<td>' || l_products || '</td>');
35     end loop;
36     sys.ftp.p('</tr>');
37   end loop;
38   sys.ftp.p('</tbody></table>');
39 end;
```

```
1 #product_cat {
2   width:100%;
3 }
4
5 #product_cat tbody tr:nth-child(odd) {
6   background-color: rgba(4, 179, 224, 0.21);
7 }
8
9 #product_cat tbody tr:nth-child(even) {
10   background-color: rgba(4, 179, 224, 0.51);
11 }
12
13 #product_cat td{
14   padding: 15px;
15 }
16
17 #product_cat th {
18   background-color: #399BEA;
19   color: white;
20   padding: 15px;
21   text-align:center;
22 }
23
24 #product_cat td{
25   vertical-align: top;
26 }
```

Export to ...



Examples: See AOP in action

	Reports	Features	Backend	Testing
Overview	Custom Report (SQL)	Native Office Charts	Dynamic Print	Process Plug-in
Start	Classic Report	JET Charts	Mailings: Mail Merge - Labels	Dynamic Action Plug-in
Tour	Classic with Totals	Other Charts (HighCharts, ...)	Send Print by Email	Office Types Word, Excel, Powerpoint
Examples	Tabular Form	Images	PL/SQL API	HTML and Markdown
Doc	Interactive Report	QR and Barcodes	Scheduled Print	Plug-in Template and Data Types
More	Combo: Classic and IRs	HTML (Rich Text) Editor	Print in Batch	Error Testing
	Interactive Grid	Markdown Editor	Multiple Prints to Zip	AOP Usage
Support	More Examples	Inline PDF	Tag Count	Automated Tests

Cursor Loops

```
1 select
2   'file1' as "filename",
3   cursor(
4     select
5       c.cust_first_name as "cust_first_name",
6       c.cust_last_name as "cust_last_name",
7       c.cust_city as "cust_city",
8       cursor(select o.order_total as "order_total",
9              'Order ' || rownum as "order_name",
10             cursor(select p.product_name as "product_name",
11                    i.quantity as "quantity",
12                    i.unit_price as "unit_price", APEX_WEB_SERVICE.BLOB2CLOBBASE64(p.product_image) as "image"
13                   from demo_order_items i, demo_product_info p
14                   where o.order_id = i.order_id
15                   and i.product_id = p.product_id
16                  ) "product"
17                from demo_orders o
18                where c.customer_id = o.customer_id
19              ) "orders"
20     from demo_customers c
21     where customer_id = 1
22   ) as "data"
23 from dual
```

Getting more power ...

- ❖ APEX Dictionary Views

Demo
Cursor Loops
Export Multiple Regions

Recap

- ❖ Classic Reports
 - ❖ Plain, Custom Template, Analytical Functions
- ❖ Interactive Reports
 - ❖ Many ways to manipulate
- ❖ Interactive Grids
 - ❖ Custom view
- ❖ Plug-ins and PL/SQL
 - ❖ Nested reports and full flexibility
- ❖ Exporting
 - ❖ Use of Cursor loops

Group : 5.1 Productivity Apps			
Application 	Name	Pages	Type
101	Quick SQL	26	Packaged Application
105	Data Reporter	137	Packaged Application
Group : 5.1 Sample Apps			
Application	Name	Pages	Type
100	Sample Reporting	39	Packaged Application
106	IG Cookbook	22	Database Application
107	Sample Interactive Grids	48	Packaged Application
108	Universal Theme Sample Application	108	Packaged Application
91710000000	Sample Database Application	62	Packaged Application
Group : Presentation			
Application	Name	Pages	Type
109	APEX Reporting (from Blueprint)	45	Database Application
110	ODTUG - KSCOPE17 - Deep Dive	10	Database Application
111	AOP Sample Application (APEX 5.1)	94	Database Application

Useful APEX applications

Q&A

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