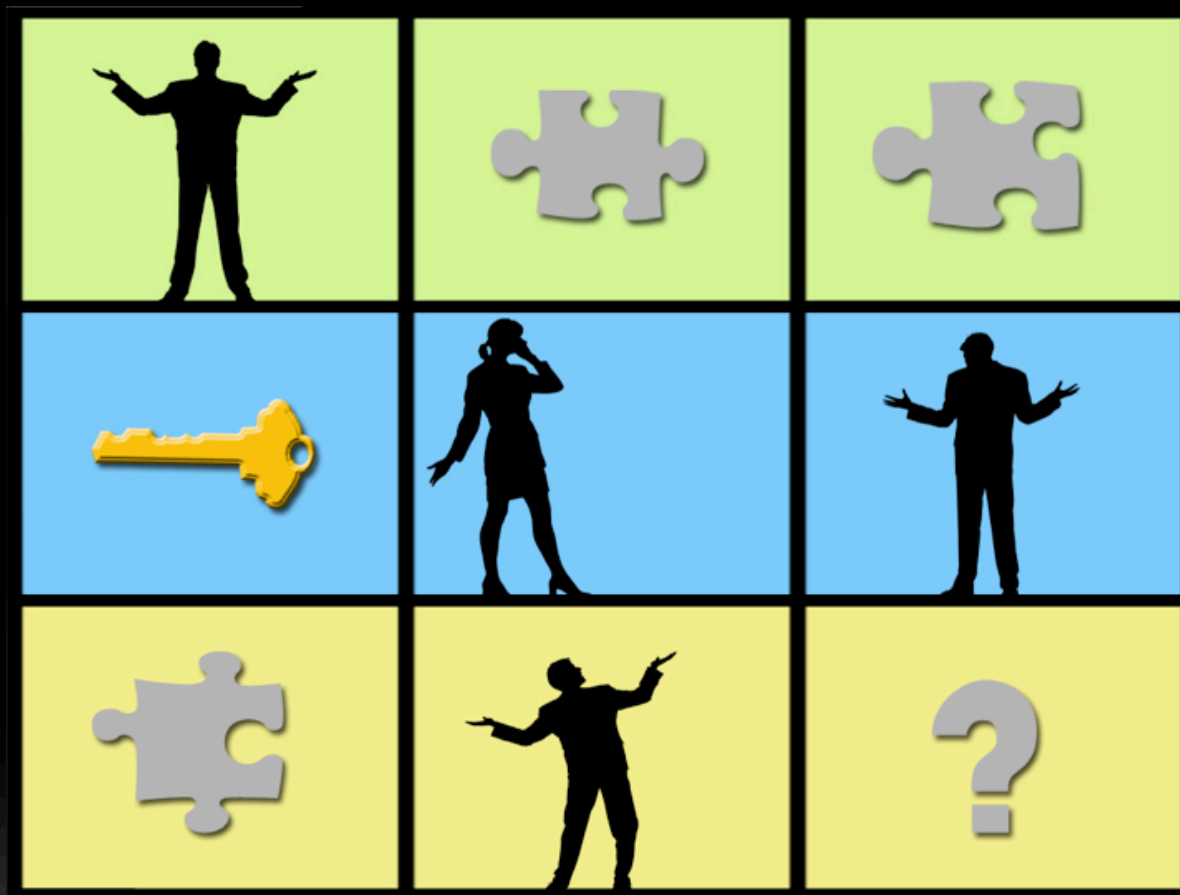


Oracle Open World 2009

Mastering an APEX Page?



- Co-founder of Apex Evangelists
- Oracle Consultant for over 4 years
- Vice President of the IOUG APEX SIG
- 'Dimitri.Gielis@AE' in the Application Express forums
- Presenter at IOUG, ODTUG, OOW, UKOUG, ...
- OCP 8i/9i/10g
- Oracle ACE Director
- Named "APEX Developer of the Year 2009"
by Oracle Magazine





APEX BLOG AGGREGATOR

by Apex Evangelists

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Quick Message: If you get an error by clicking on the tab from this page, please click [here](#).

It will bring you to the About page from which you can navigate to all other pages. I'm currently looking into the problem, but for now this is the workaround.

Search Interactive ☐ Between and Apex-only ☐ [GO](#)

Blog Selection [➔](#)

Michael's first post from Collab 08

★★★★★

[Apex Blog](#)

16-APR-2008 15:45

I'm passionate about APEX and also want to start some blog posts.

[Show Comments \(0\)](#)

Oracle Database 11g Release 2 is coming

★★★★★

[Pawel Barut](#)

15-APR-2008 22:52

Written by [Pawel Barut](#)

I've just received Oracle Partner Network newsletter with invitation to Oracle Database 11g Release 2 Roadshow. On this Roadshow Oracle is also going to find partners for beta testing. My guess: This year Oracle 11g R2 will be the main topic on Oracle Open World.

Schedule of Roadshow in Europe:

- May 12, 2008: UK, Reading
- May 13, 2008: Benelux, De Meern
- May 14, 2008: Germany, Muenchen
- May 15, 2008: Italy, Milan
- May 16, 2008: Turkey, Istanbul
- May 19, 2008: Czech Republic, Prague

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Anymchart Integration Kit for APEX 3.x



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Welcome to the Anymchart Integration Kit for APEX 3.x

[Oracle Application Express](#) 3.x has the ability to create Flash charts. These charts are based on Anymchart 3.3. The look and feel is fine, but not great. There are also some problems to print the chart and there is no ability to create combined types of charts for ex a bar and a line chart in one graph.

This package provides you with the ability to upgrade the version of Anymchart to version 5 in APEX. The look and feel of this version is much nicer and most of the problems that the charts in APEX have are fixed.

Anymchart provides some nice charting solutions for the typical charts you know, but next to that they also have maps, gauges and gantt charts. On the left you can navigate to the different solutions. For the charts we show how a chart looks like in APEX out-of-the-box and next to it, how it looks like with our integration kit. On the left the standard chart in APEX is shown, in the middle how it looks like with the integration kit without changing the code and on the right we changed the xml a bit to make the chart a bit nicer.

We strongly believe that making use of the power of APEX and the nice charting facilities of Anymchart can help your applications look even more professional and attractive.

This integration kit is brought to you by the partnership of [Apex Evangelists](#) and [Anymchart](#).



Features:

- save as image
- save as PDF
- a lot of chart types
- multiple axis
- easy integration into APEX 3.0
- interactive maps

**UPGRADE YOUR
CHARTS NOW!**

Improve and extend your APEX applications using new version of

AnymChart

THE INDUSTRY LEADER
IN DATA VISUALIZATION

**ORACLE PARTNER**

Provided by

Apex Evangelists
Oracle Specialists

- Who's completely new in APEX?
- Who has less than 1 year APEX experience?



- Why do you want to know what is happening on an APEX Page?
- How is an APEX Page structured?
- Real examples
- Q&A

Why?









Logout |

Employees | Blank |

Blank

0.10:
0.10: S H O W: application="724" page="3" workspace="" request="" session="3997766281896838"
0.11: Language derived from: FLOW_PRIMARY_LANGUAGE, current browser language: en-us
0.11: alter session set nls_language="AMERICAN"
0.11: alter session set nls_territory="AMERICA"
0.11: NLS: CSV charset=WE8MSWIN1252
0.11: ...NLS: Set Decimal separator=","
0.11: ...NLS: Set NLS Group separator=","
0.11: ...NLS: Set date format="DD-MON-RR"
0.11: ...Setting session time_zone to +00:00
0.11: NLS: Language=en-us
0.11: Application 724, Authentication: CUSTOM2, Page Template: 264084229641535989
0.11: ...Session ID 3997766281896838 can be used
0.11: ...Application session: 3997766281896838, user=DIMI
0.11: ...Determine if user "ADMIN" workspace "54352117549007872" can develop application "724" in workspace "54352117549007872"
0.11: Session: Fetch session header information
0.11: ...Metadata: Fetch page attributes for application 724, page 3
0.11: Fetch session state from database
0.11: Branch point: BEFORE_HEADER
0.12: Fetch application meta data
0.12: Computation point: BEFORE_HEADER
0.12: Processing point: BEFORE_HEADER
0.12: Show page template header
0.12: Computation point: AFTER_HEADER
0.12: Processing point: AFTER_HEADER

[Logout](#) |[Employees](#) | [Blank](#) |

0.12: Region: Breadcrumb

Blank

0.13: Computation point: BEFORE_BOX_BODY
0.13: Processing point: BEFORE_BOX_BODY
0.13: Computation point: AFTER_BOX_BODY
0.13: Processing point: AFTER_BOX_BODY

How?

Page

Logout |

Employees | Blank |

Employees > Employees

Edit EMPLOYEES

First Name

Last Name

Email

Hire Date 

Salary

Buttons

Items

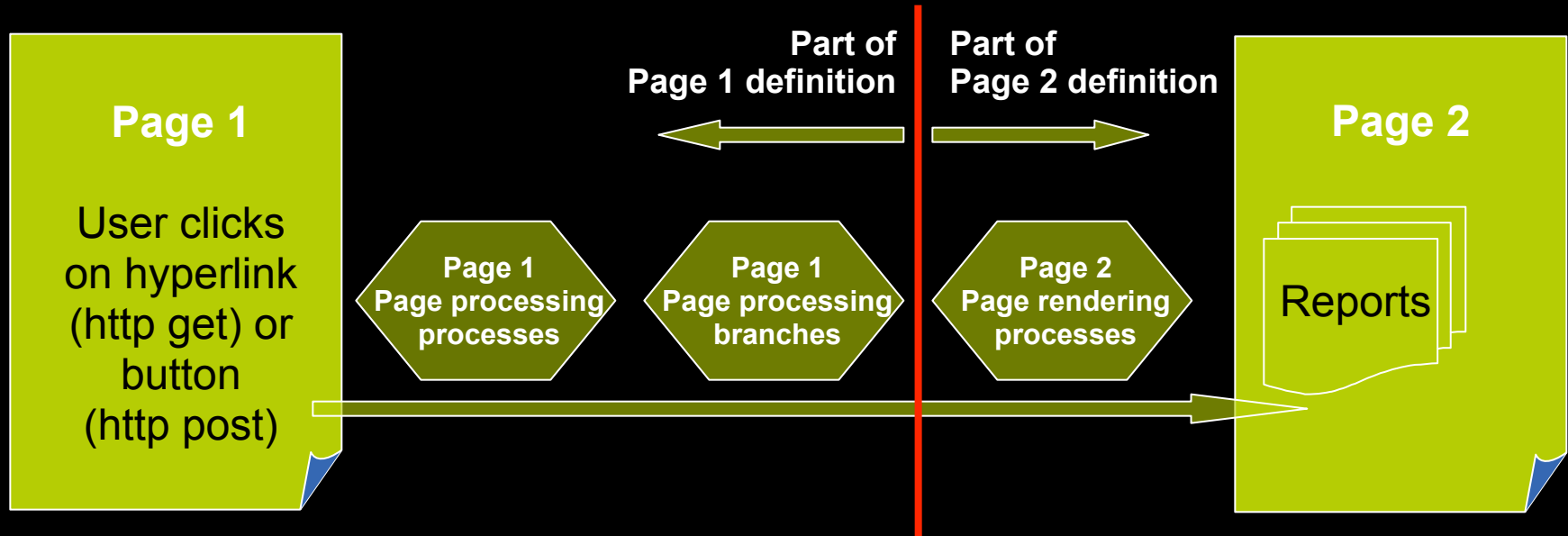
Regions

DIMI

- APEX Page has two phases
 - Show (Rendering)
 - Accept (Processing)



Page Processing, Branching and Rendering



On hyperlink: flow goes directly to
Page 2 rendering.
I.e Page 1 processing and branches
are skipped.

ORACLE Application Express [Logout](#) [Help](#)

[Home](#) [Application Builder](#) [SQL Workshop](#) [Utilities](#)

Home > Application Builder > Application 724 > Page 3

Page 3

Page 3 View Definition Run Copy Delete Create > Set: none Last Updated: ADMIN, 4 seconds ago Page Comments: 0

Page Rendering

Page
Page Name: [Blank](#) Template: [Application default](#)
Title: [Blank](#) Header Text:
HTML Header: Footer Text:
HTML Body: Build Option:
Help Text: Authorization: [No](#)
Page Group: Cached: [No](#)
Regions
Display Point: Region Position 01
1 >>> [Breadcrumb](#) [Breadcrumb Entry](#)
Buttons
Items
Computations
Processes

Page Processing

Computations
Validations
Processes
Branches

Shared Components

Tabs
Tab Set: TS1
[Employees](#)
[Blank](#)
Lists of Values
Breadcrumbs
[Breadcrumb](#)
Lists
Templates
Page [One Level Tabs](#)
Region [Breadcrumb Region](#)
Breadcrumb [Breadcrumb Menu](#)
Theme
20. [Modern Blue](#)
Security
Navigation Bar
200. [Logout](#) Redirect To &LOGOUT_URL.

APEX Page - Definition



Page 2 View Events Go Show All Show Used Set: none Name: Employees Last Updated: 38 minutes ago

Page Rendering

Process: After Header Fetch Row from EMPLOYEES
(F|#OWNER#:EMPLO..)

Region: Breadcrumb: Breadcrumb Region Position 01 (1,1)
Breadcrumbs

Region: HTML Text Page Template Body (3) (1,10)
Edit EMPLOYEES

(10)	<u>CANCEL</u>	Location: Template Close
(20)	<u>DELETE</u>	Location: Template Delete
(30)	<u>SAVE</u>	Location: Template Create
(40)	<u>CREATE</u>	Location: Template Create
(1)	<u>P2_EMPLOYEE_ID</u>	[Hidden and Protected]
(1)	<u>P2_FIRST_NAME</u>	[Text Field]
(2)	<u>P2_LAST_NAME</u>	[Text Field]
(3)	<u>P2_EMAIL</u>	[Text Field]
(5)	<u>P2_HIRE_DATE</u>	[Date Picker (MM/DD/YYYY)]
(7)	<u>P2_SALARY</u>	[Text Field]

No computations

Page Processing

No computations

✓ Validation: P2_HIRE_DATE must be date (Inline + Notification) sequence: 5

✓ Validation: P2_SALARY must be number (Inline + Notification) sequence: 7

✓ Validation: P2_COMMISSION_PCT must be numb (Inline + Notification) sequence: 8

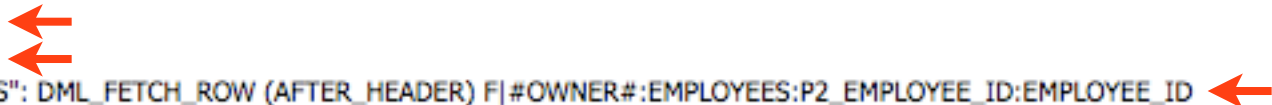
✓ Validation: P2_MANAGER_ID must be number (Inline + Notification) sequence: 9

✓ Validation: P2_DEPARTMENT_ID must be numbe (Inline + Notification) sequence: 10

Process: After Submit Process Row of EMPLOYEES
(#OWNER#:EMPLOYE..)

Go To Page: f?p=&APP_ID.:1:&SESSION.&succe (After Processing) sequence: 1 Unconditional

```
0.11:
0.11: S H O W: application="724" page="2" workspace="" request="" session="3997766281896838"
0.11: Language derived from: FLOW_PRIMARY_LANGUAGE, current browser language: en-us
0.11: alter session set nls_language="AMERICAN"
0.11: alter session set nls_territory="AMERICA"
0.11: NLS: CSV charset=WE8MSWIN1252
0.11: ...NLS: Set Decimal separator="."
0.11: ...NLS: Set NLS Group separator=","
0.11: ...NLS: Set date format="DD-MON-RR"
0.11: ...Setting session time_zone to +00:00
0.11: NLS: Language=en-us
0.11: Application 724, Authentication: CUSTOM2, Page Template: 264084229641535989
0.11: ...Session ID 3997766281896838 can be used
0.11: ...Application session: 3997766281896838, user=DIMI
0.11: ...Determine if user "ADMIN" workspace "54352117549007872" can develop application "724" in workspace "54352117549007872"
0.11: Session: Fetch session header information
0.12: ...Metadata: Fetch page attributes for application 724, page 2
0.12: Fetch session state from database
0.12: Branch point: BEFORE_HEADER
0.12: Fetch application meta data
0.12: Computation point: BEFORE_HEADER
0.12: Processing point: BEFORE_HEADER
0.12: Show page template header
0.13: Computation point: AFTER_HEADER
0.13: Processing point: AFTER_HEADER
0.13: ...Process "Fetch Row from EMPLOYEES": DML_FETCH_ROW (AFTER_HEADER) F|#OWNER#:EMPLOYEES:P2_EMPLOYEE_ID:EMPLOYEE_ID
```



0.13: Region: Breadcrumbs

Employees > Employees

Employees > Employees

0.14: Computation point: BEFORE_BOX_BODY

0.14: Processing point: BEFORE_BOX_BODY

0.14: Region: Edit EMPLOYEES

Edit EMPLOYEES

Cancel

Delete

Apply Changes

0.14: Item: P2_EMPLOYEE_ID HIDDEN_PROTECTED

0.14: Item: P2_FIRST_NAME TEXT

First Name

Lex

0.14: Item: P2_LAST_NAME TEXT

Last Name

De Haan

0.14: Item: P2_EMAIL TEXT

Email

LDEHAAN

0.14: Item: P2_HIRE_DATE PICK_DATE_MM_DD_YYYY

Hire Date

01/13/1993

0.14: Item: P2_SALARY TEXT

Salary

17000

0.14: Computation point: AFTER_BOX_BODY

0.14: Processing point: AFTER_BOX_BODY

Page 2 View **Events** Go ☐ Show All ☒ Show Used < > Set: none Name: Employees Last Updated: 38 minutes ago

Page Rendering

Process: After Header Fetch Row from EMPLOYEES
(F|#OWNER#:EMPLO..)

Region: Breadcrumb: Breadcrumb Region Position 01 (1,1)
Breadcrumbs

Region: HTML Text Page Template Body (3) (1,10)
Edit EMPLOYEES

(10)	<u>CANCEL</u>	Location: Template Close
(20)	<u>DELETE</u>	Location: Template Delete
(30)	<u>SAVE</u>	Location: Template Create
(40)	<u>CREATE</u>	Location: Template Create
(1)	<u>P2_EMPLOYEE_ID</u>	[Hidden and Protected]
(1)	<u>P2_FIRST_NAME</u>	[Text Field]
(2)	<u>P2_LAST_NAME</u>	[Text Field]
(3)	<u>P2_EMAIL</u>	[Text Field]
(5)	<u>P2_HIRE_DATE</u>	[Date Picker (MM/DD/YYYY)]
(7)	<u>P2_SALARY</u>	[Text Field]

No computations

Page Processing

No computations

✓ Validation: P2_HIRE_DATE must be date (Inline + Notification) sequence: 5

✓ Validation: P2_SALARY must be number (Inline + Notification) sequence: 7

✓ Validation: P2_COMMISSION_PCT must be numb (Inline + Notification) sequence: 8

✓ Validation: P2_MANAGER_ID must be number (Inline + Notification) sequence: 9

✓ Validation: P2_DEPARTMENT_ID must be numbe (Inline + Notification) sequence: 10

Process: After Submit Process Row of EMPLOYEES
(#OWNER#:EMPLOYE..)

Go To Page: f?p=&APP_ID.:1:&SESSION.&succe (After Processing)
sequence: 1Unconditional

0.01: A C C E P T: Request="SAVE"
0.03: Metadata: Fetch application definition and shortcuts
0.04: NLS: www_flow.g_flow_language_derived_from=FLOW_PRIMARY_LANGUAGE: www_flow.g_browser_language=en-us
0.04: alter session set nls_language="AMERICAN"
0.04: alter session set nls_territory="AMERICA"
0.04: NLS: CSV charset=WE8MSWIN1252
0.04: ...NLS: Set Decimal separator="."
0.04: ...NLS: Set NLS Group separator=","
0.04: ...NLS: Set date format="DD-MON-RR"
0.04: ...Setting session time_zone to +00:00
0.04: Fetch session state from database
0.05: ...Check session 3997766281896838 owner
0.05: ...Metadata: Fetch Page, Computation, Process, and Branch
0.05: Session: Fetch session header information
0.05: ...Metadata: Fetch page attributes for application 724, page 2
0.05: ...Validate item page affinity.
0.05: ...Validate hidden_protected items.
0.05: ...Check authorization security schemes
0.05: Session State: Save form items and p_arg_values 
0.05: ...Session State: Save "P2_EMPLOYEE_ID" - saving same value: "102"
0.05: ...Session State: Save Item "P2_FIRST_NAME" newValue="Lex" "escape_on_input="N"
0.05: ...Session State: Save Item "P2_LAST_NAME" newValue="De Haan" "escape_on_input="N"
0.05: ...Session State: Save Item "P2_EMAIL" newValue="LDEHAAN" "escape_on_input="N"
0.06: ...Session State: Save Item "P2_HIRE_DATE" newValue="01/13/1993" "escape_on_input="N"
0.06: ...Session State: Save Item "P2_SALARY" newValue="17000" "escape_on_input="N"
0.06: Processing point: ON_SUBMIT_BEFORE_COMPUTATION
0.06: Branch point: BEFORE_COMPUTATION
0.06: Computation point: AFTER_SUBMIT
0.06: Tabs: Perform Branching for Tab Requests
0.06: Branch point: BEFORE_VALIDATION
0.06: Perform validations: 
0.07: ...Item is date validation: P2_HIRE_DATE
0.07: ...Item is numeric validation: P2_SALARY
0.07: ...Item is numeric validation: P2_COMMISSION_PCT
0.08: ...Item is numeric validation: P2_MANAGER_ID
0.08: ...Item is numeric validation: P2_DEPARTMENT_ID
0.08: Branch point: BEFORE_PROCESSING
0.08: Processing point: AFTER_SUBMIT 
0.08: ...Process "Process Row of EMPLOYEES": DML_PROCESS_ROW (AFTER_SUBMIT) #OWNER#:EMPLOYEES:P2_EMPLOYEE_ID:EMPLOYEE_ID|IUD

Home > Application Builder > Application 168 > Page 2 > Database Object Dependencies

Page 2 View Objects Go Previous Next Set: no

Schema	Database Object	Referenced Type
TRAINING	OEHR_EMPLOYEES	Table
1 - 1		



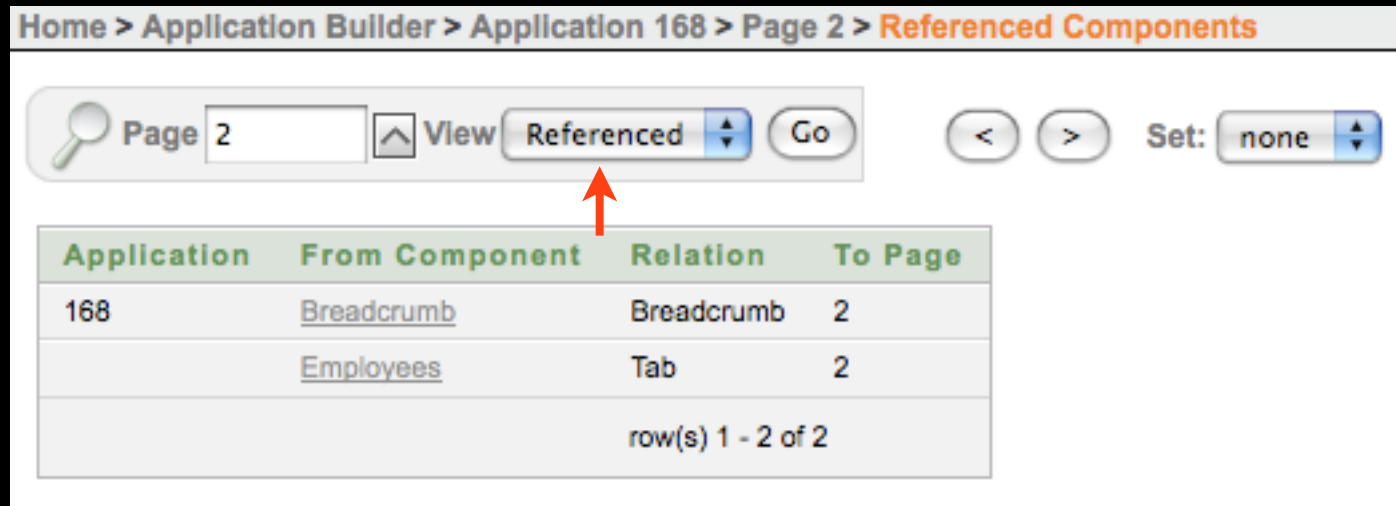
Home > Application Builder > Application 168 > Page 2 > Referenced Components

Page 2 View Referenced Go

< > Set: none

Application	From Component	Relation	To Page
168	Breadcrumb	Breadcrumb	2
	Employees	Tab	2

row(s) 1 - 2 of 2



f?p=App:Page:Session:Request:Debug:Clearcache:itemNames:itemValues:PrinterFriendly

In our example:

f?p=168:2:2418976357694433:::P2_EMPLOYEE_ID:100

f?p=**App**:Page:Session:Request:Debug:Clearcache:itemNames:itemValues:PrinterFriendly

In our example:

f?p=**168**:2:2418976357694433:::P2_EMPLOYEE_ID:100

f?p=App:Page:Session:Request:Debug:Clearcache:itemNames:itemValues:PrinterFriendly

In our example:

f?p=168:2:2418976357694433:::P2_EMPLOYEE_ID:100

f?p=App:Page:Session:Request:Debug:Clearcache:itemNames:itemValues:PrinterFriendly

In our example:

f?p=168:2:2418976357694433:::P2_EMPLOYEE_ID:100

f?p=App:Page:Session:Request:Debug:Clearcache:itemNames:itemValues:PrinterFriendly

In our example:

f?

p=168:2:2418976357694433:APPLICATION_PROCESS=Process_Name::P2_EMPLOYEE_ID:100

f?p=App:Page:Session:Request:**Debug:Clearcache**:itemNames:itemValues:PrinterFriendly

In our example:

f?p=168:2:2418976357694433::**Y:N**:P2_EMPLOYEE_ID:100

f?p=App:Page:Session:Request:Debug:Clearcache:**itemNames**:itemValues:PrinterFriendly

In our example:

f?p=168:2:2418976357694433:::**P2_EMPLOYEE_ID**:100

f?p=App:Page:Session:Request:Debug:Clearcache:itemNames:**itemValues**:PrinterFriendly

In our example:

f?p=168:2:2418976357694433::::P2_EMPLOYEE_ID:**100**



Live Demos

- Edit Employees
- Print to PDF
- AJAX

Q & A

- Why it's important to understand the working of an APEX Page
- How an APEX Page is structured: Processing and Rendering and ...
- Saw some real case scenarios

- More information
 - Websites
 - Oracle Application Express Homepage: <http://apex.oracle.com>
 - Email
 - dimitri.gielis@apex-evangelists.com
 - Blog
 - <http://dgielis.blogspot.com>
 - Apex Evangelists (AE)
 - <http://www.apex-evangelists.com>

- Please hand in Evaluation Form
 - Session
 - #S308882
 - Speaker
 - Dimitri Gielis
 - Title
 - What happens on an APEX Page?