thursday 20th of march 2025, APEX World 2025

25 Best Practices in 2025

Oliver Lemm

code of change

Hyand

about me

Deputy Head of Business Unit APEX / Low Code @ Hyand

Architect, Projekt Manager & Developer

ODTUG Kscope

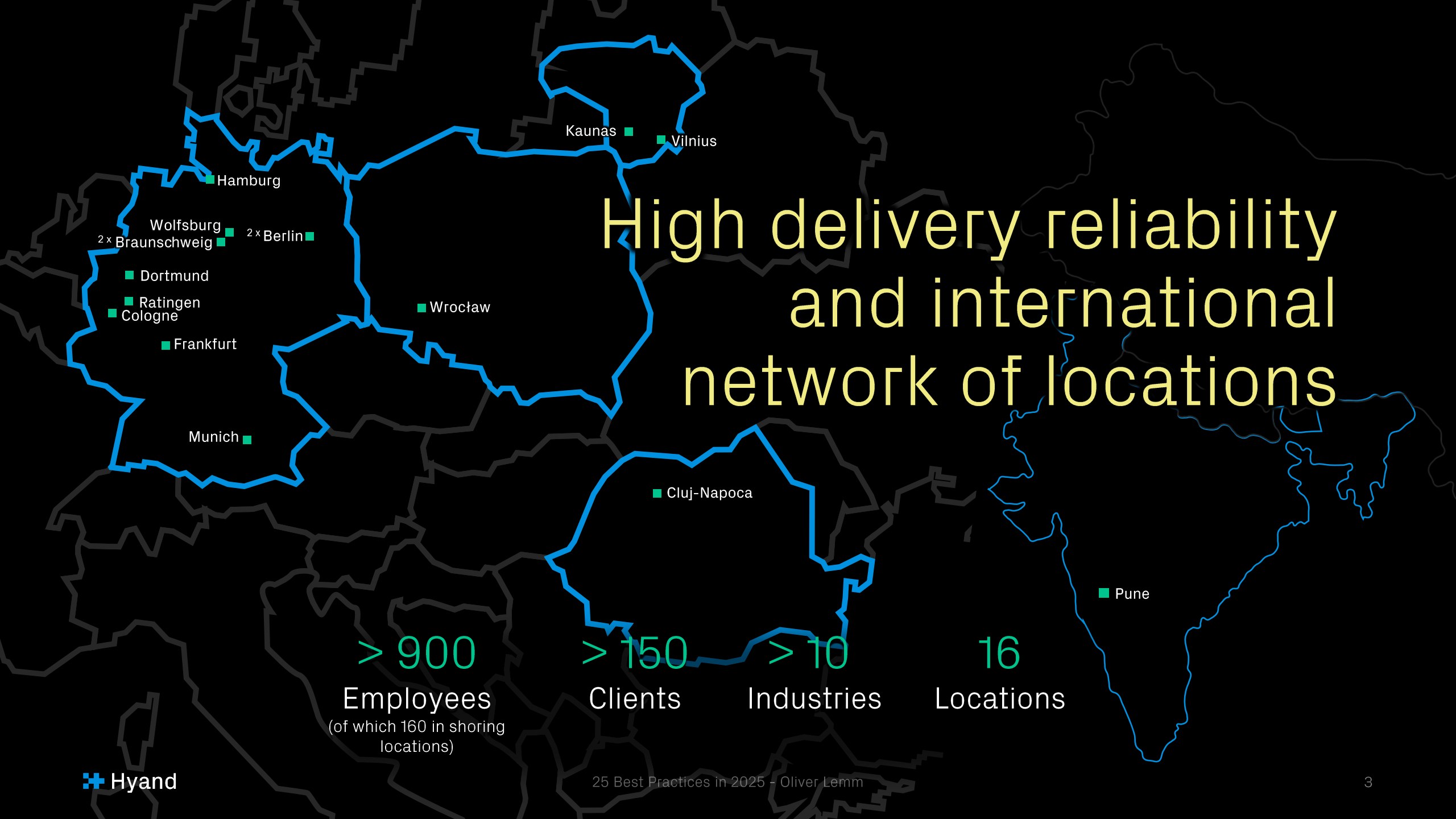
DOAG Konferenz + Ausstellung

IT-Tage 2024

APEX connect by DOAG

ā'pěks world (#orclapex) (#apexworld)

ā'pěks alpe adria



High delivery reliability and international network of locations

> 900
Employees
(of which 160 in shoring locations)

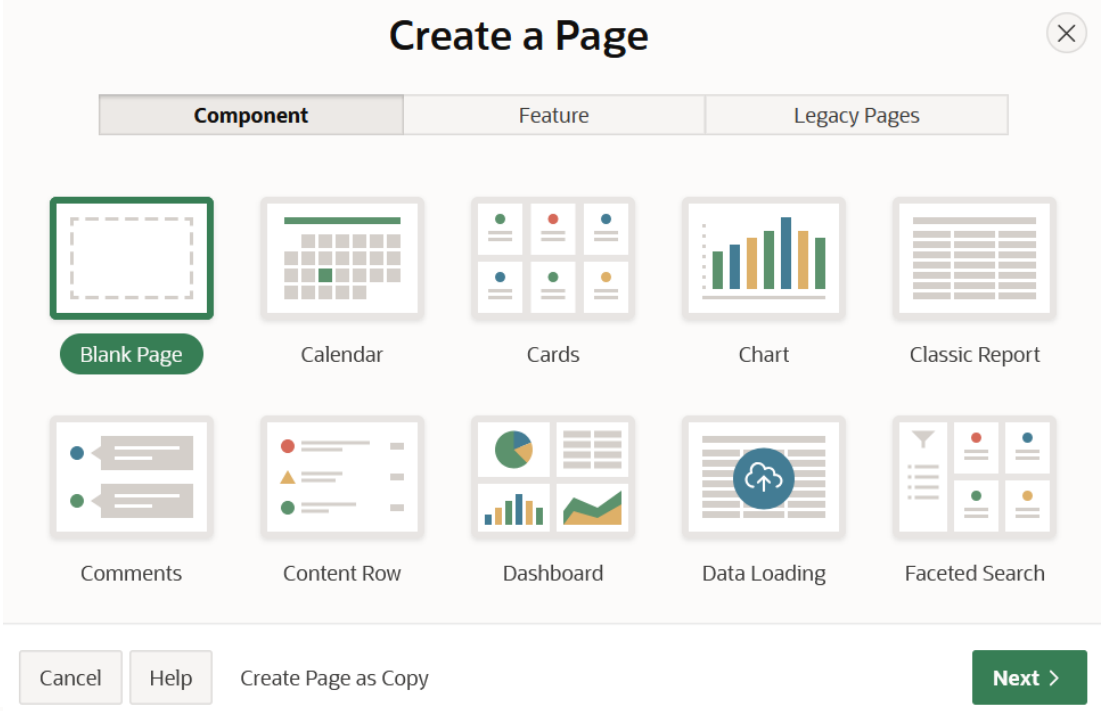
> 150
Clients

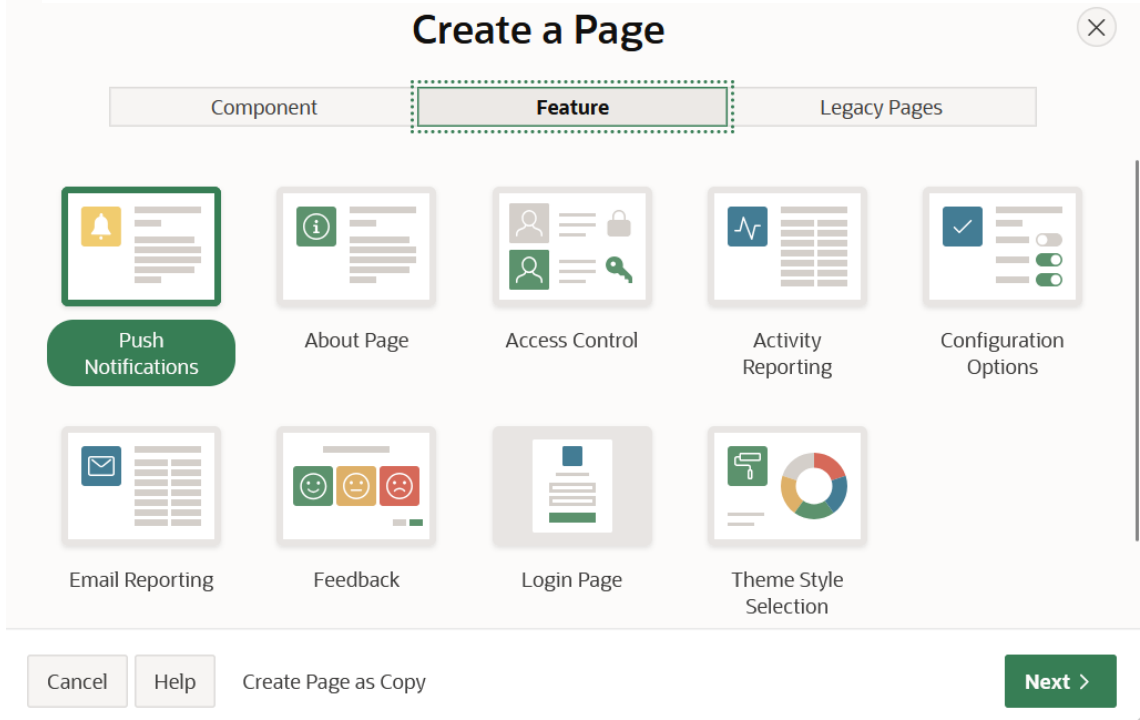
> 10
Industries

16
Locations

#1 Low Code Approach

- Use of Wizards
- Select best fitting component
- Reduce Custom Code

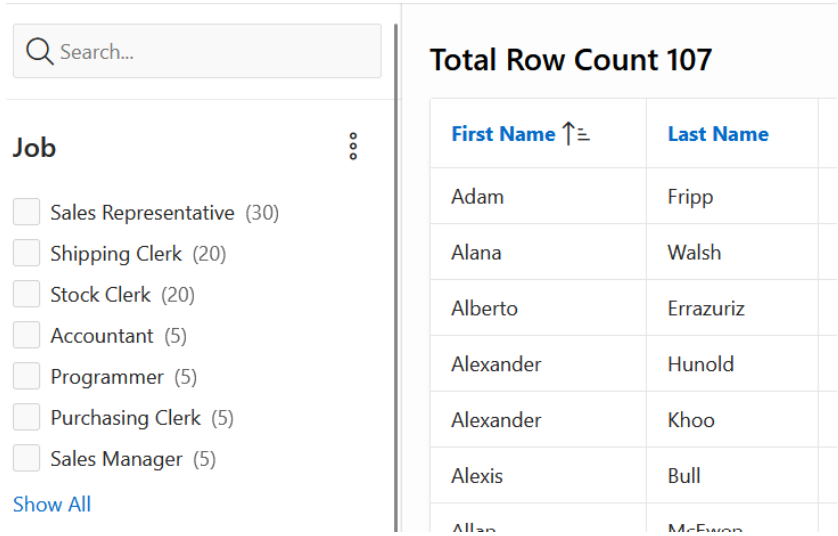




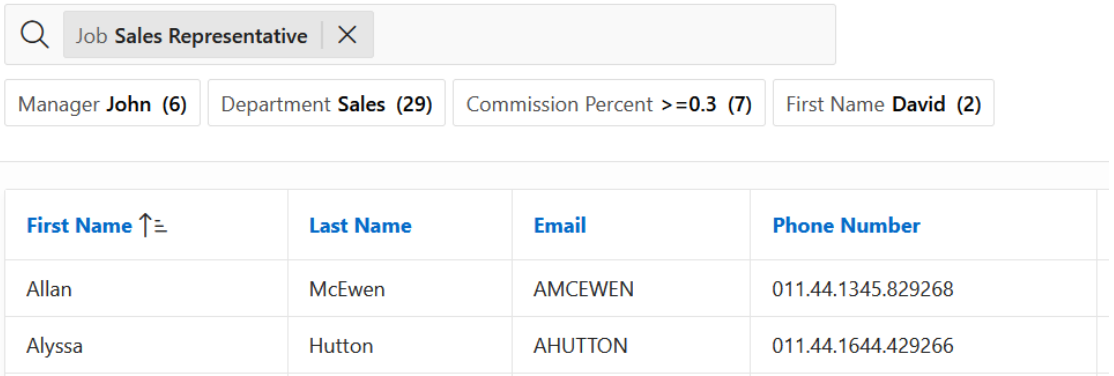
#2 Which Report type

1. Faceted Search
2. Smart Filters
3. Interactive Report
4. ~~Interactive Grid~~

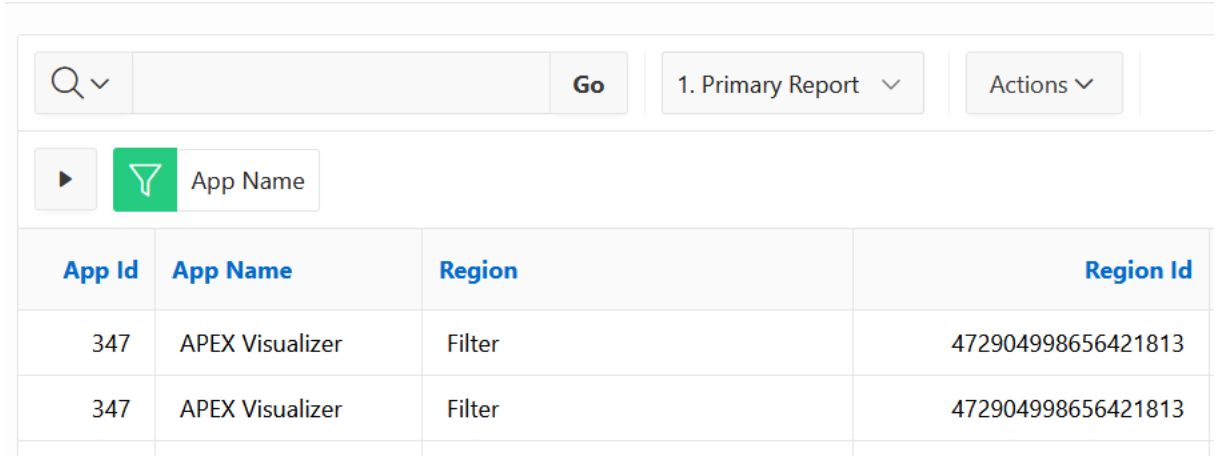
Faceted Search



Smart Filters

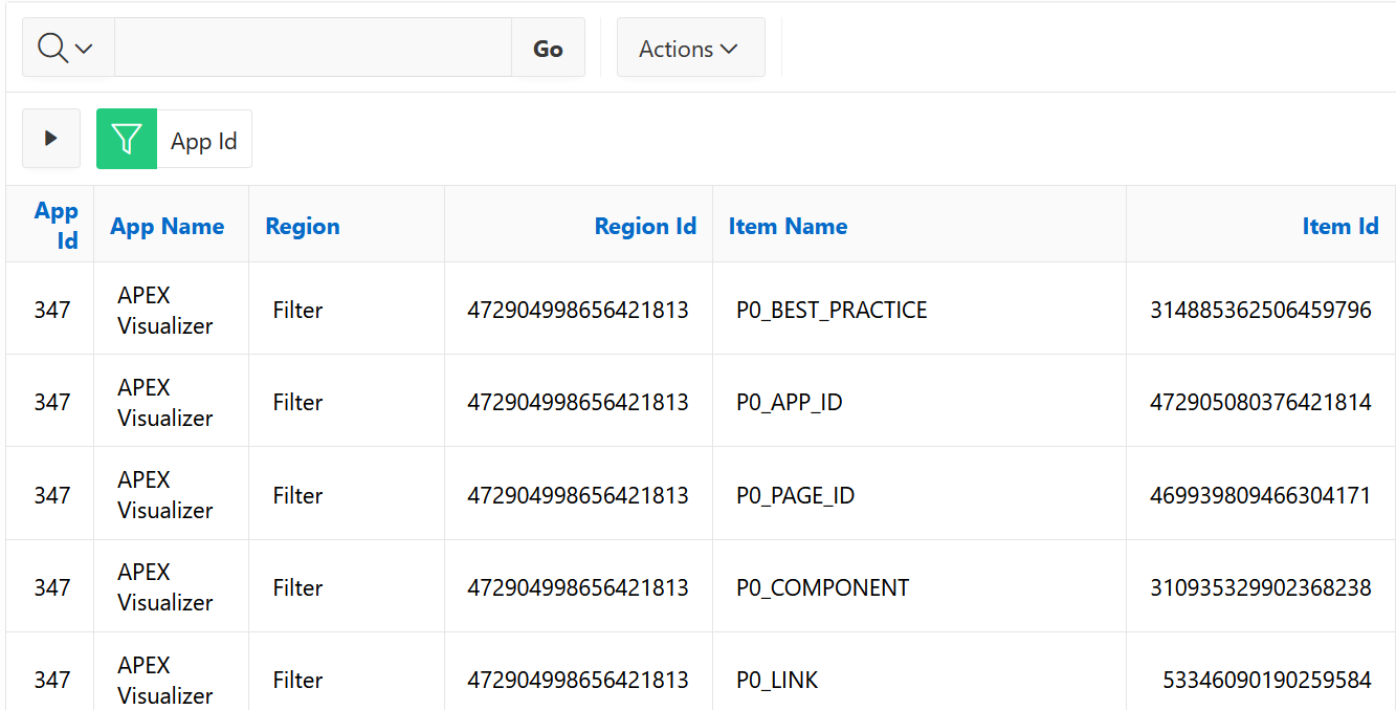


Interactive Report

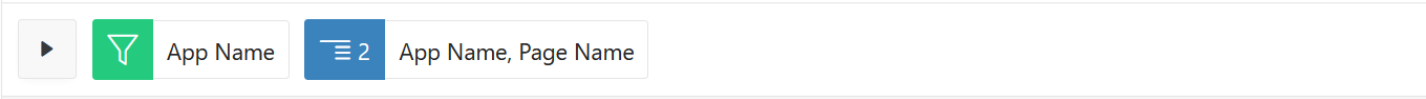


#3 Interactive Report

- First choice when read data in report
- Resolve Foreign Key references in Query
- Use Saved Reports
- Different Labels for Heading and Dialogs
- Define Sorting by Report not by SQL
- APEX Optimizer hints possible



App Id	App Name	Region	Region Id	Item Name	Item Id
347	APEX Visualizer	Filter	472904998656421813	P0_BEST_PRACTICE	314885362506459796
347	APEX Visualizer	Filter	472904998656421813	P0_APP_ID	472905080376421814
347	APEX Visualizer	Filter	472904998656421813	P0_PAGE_ID	469939809466304171
347	APEX Visualizer	Filter	472904998656421813	P0_COMPONENT	310935329902368238
347	APEX Visualizer	Filter	472904998656421813	P0_LINK	53346090190259584

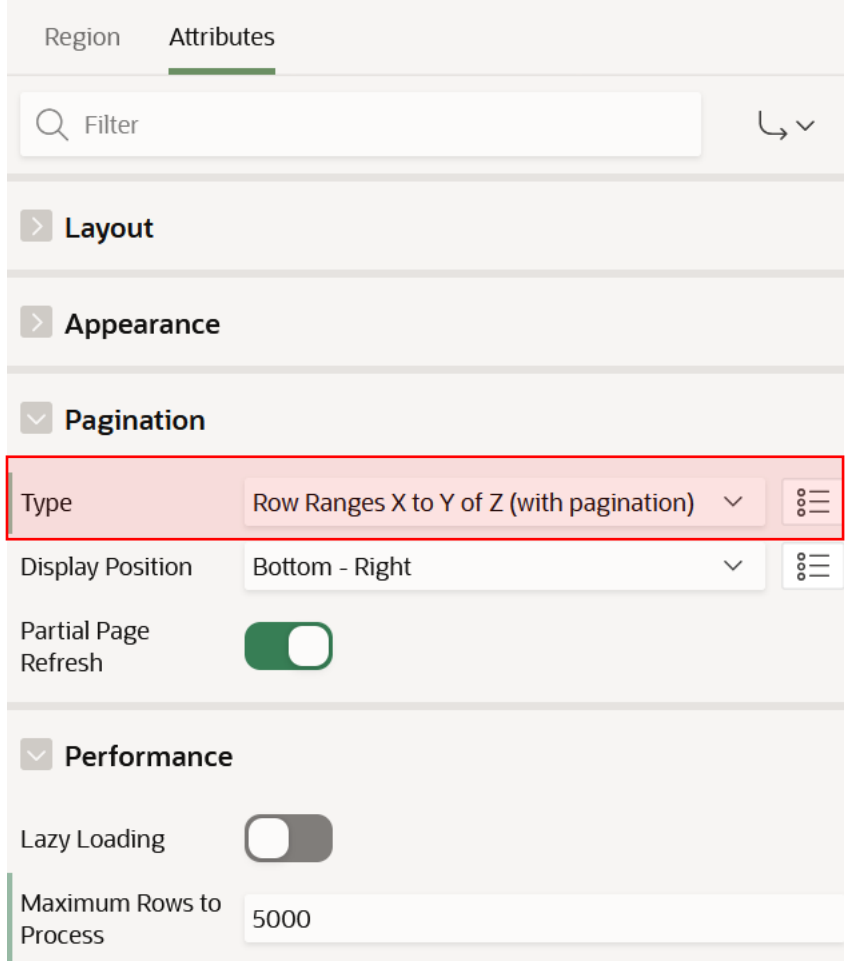


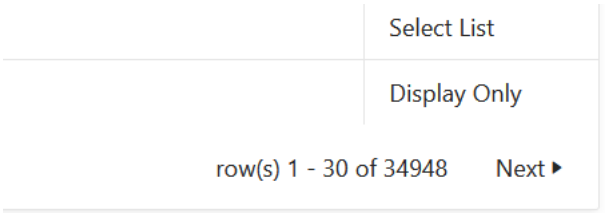
App Name: Oracle APEX Internal Administration, Page Name: &PRODUCT_NAME. Administration Services

Region	Item Name	Label	Display As
Administration Services	P3_UPGRADE_DATE		Hidden
Instance Tasks	P3_USER	Jump to User	Popup LOV
Instance Tasks	P3_APP	Jump to Application	Popup LOV
Instance Tasks	P3_WORKSPACE	Workspace	Popup LOV
			Count: 4

#4 Overall Count in Reports

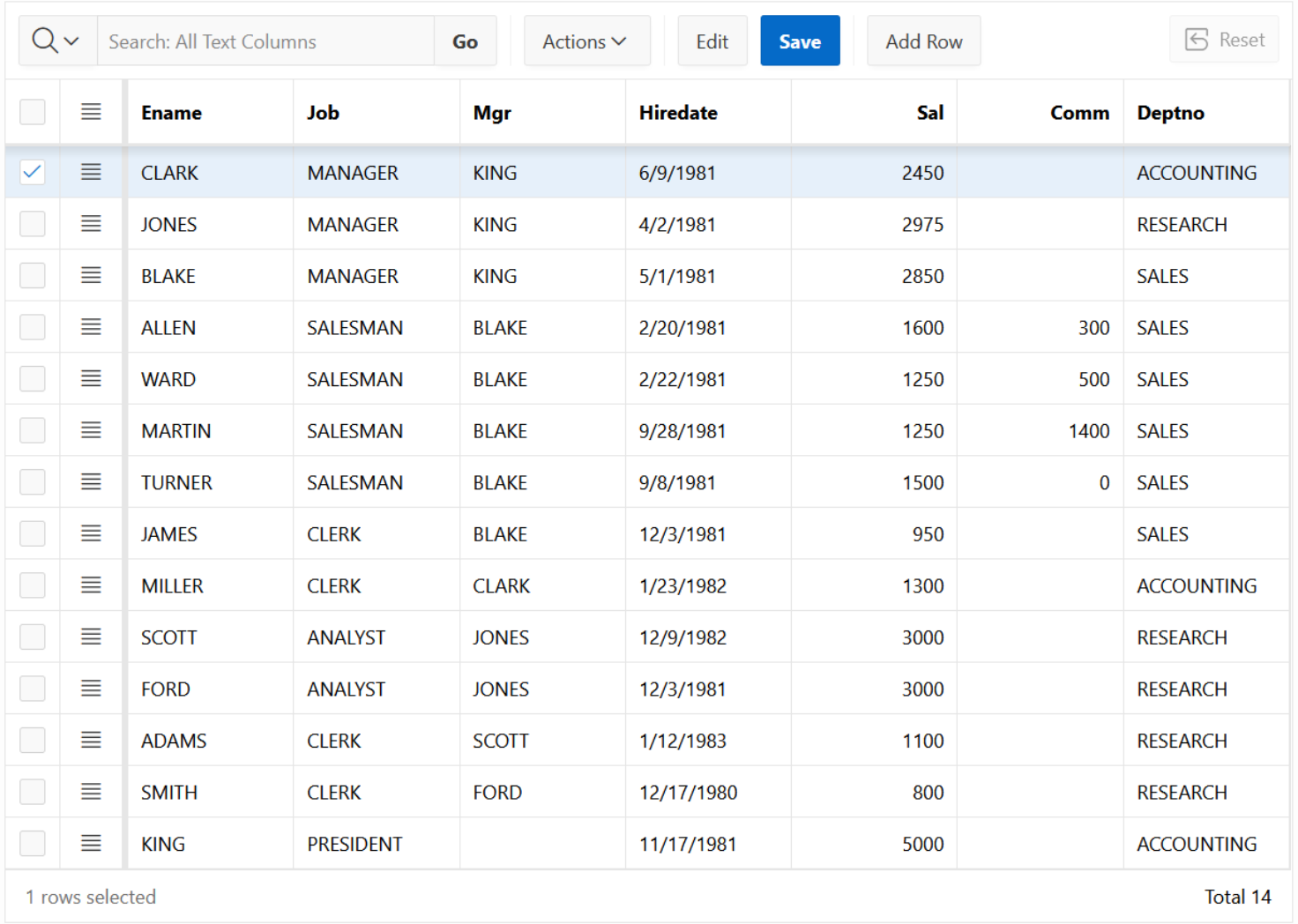
- avoid Pagination with “of Z”
- It costs performance
- What is your “added value”?
- Lazy Loading
- Maximum Rows





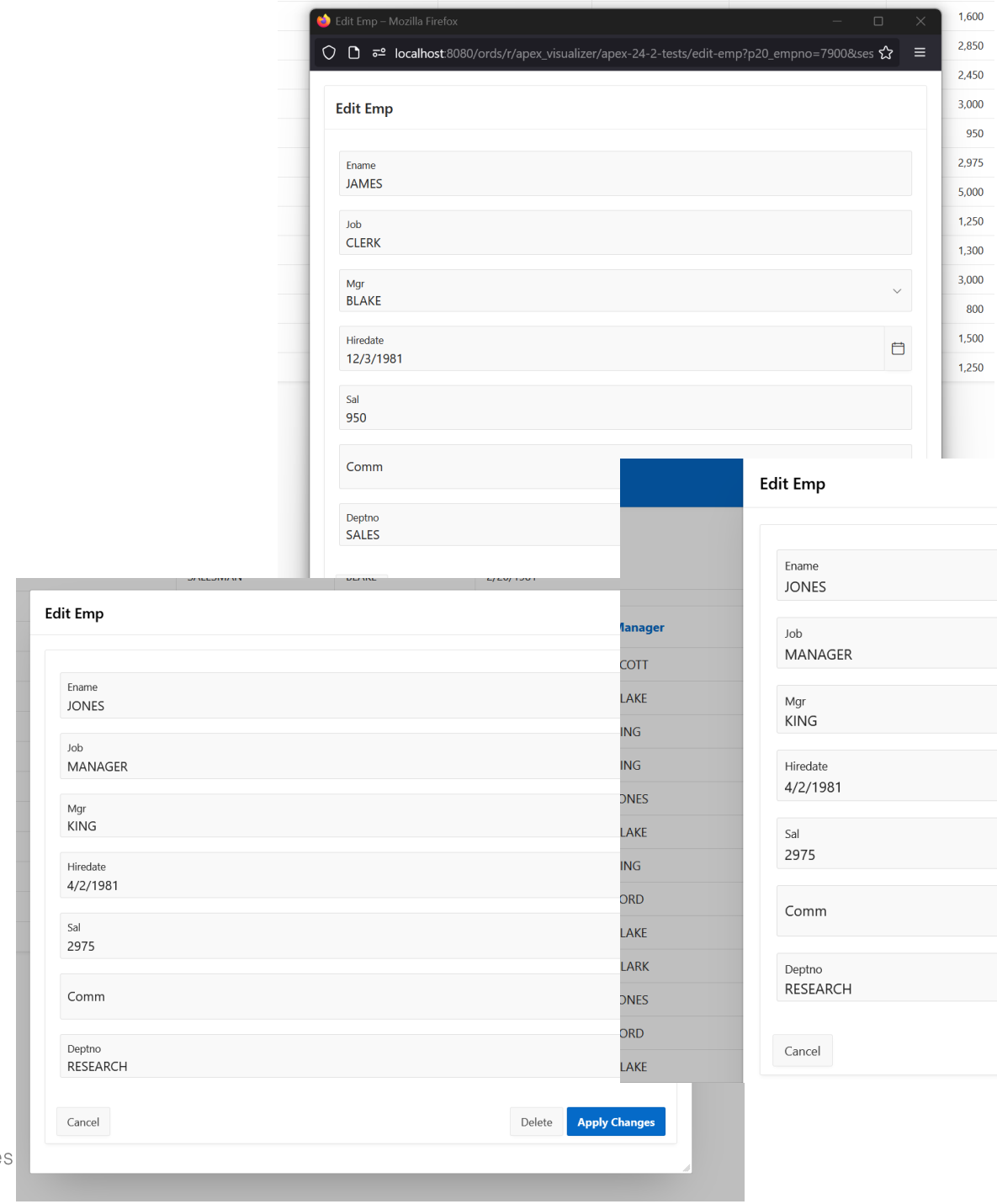
#5 Interactive Grid

- use only when
  - edit data is required
  - “Item Complexity” not to high
  - amount of validations not to high
- Avoid mixing standard form regions and interactive grid



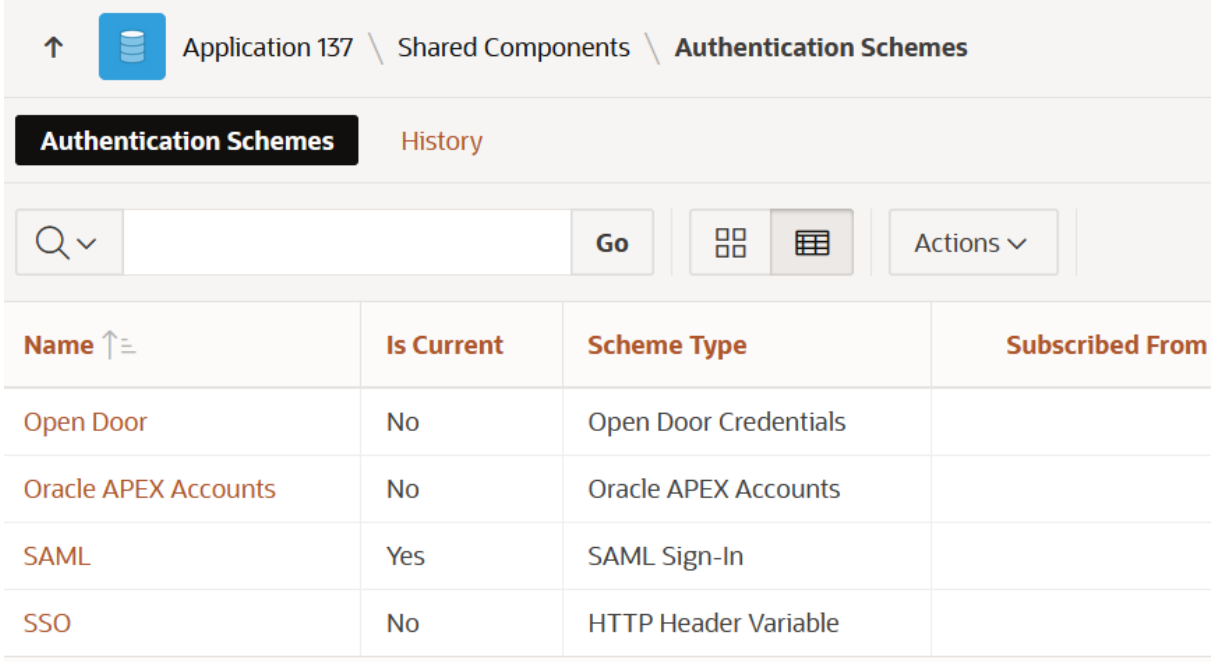
#6 Dialog & Drawer

- Make Dialogs not to “large”
- Modal Dialog for inline context
- Non Modal Dialog for flexible window
- “Non Modal” Drawer on right side



#7 Authentication Scheme

- SSO Schemes for End Users
- SSO Scheme for Developers
- Open Door for testing purposes
- Security Guidelines



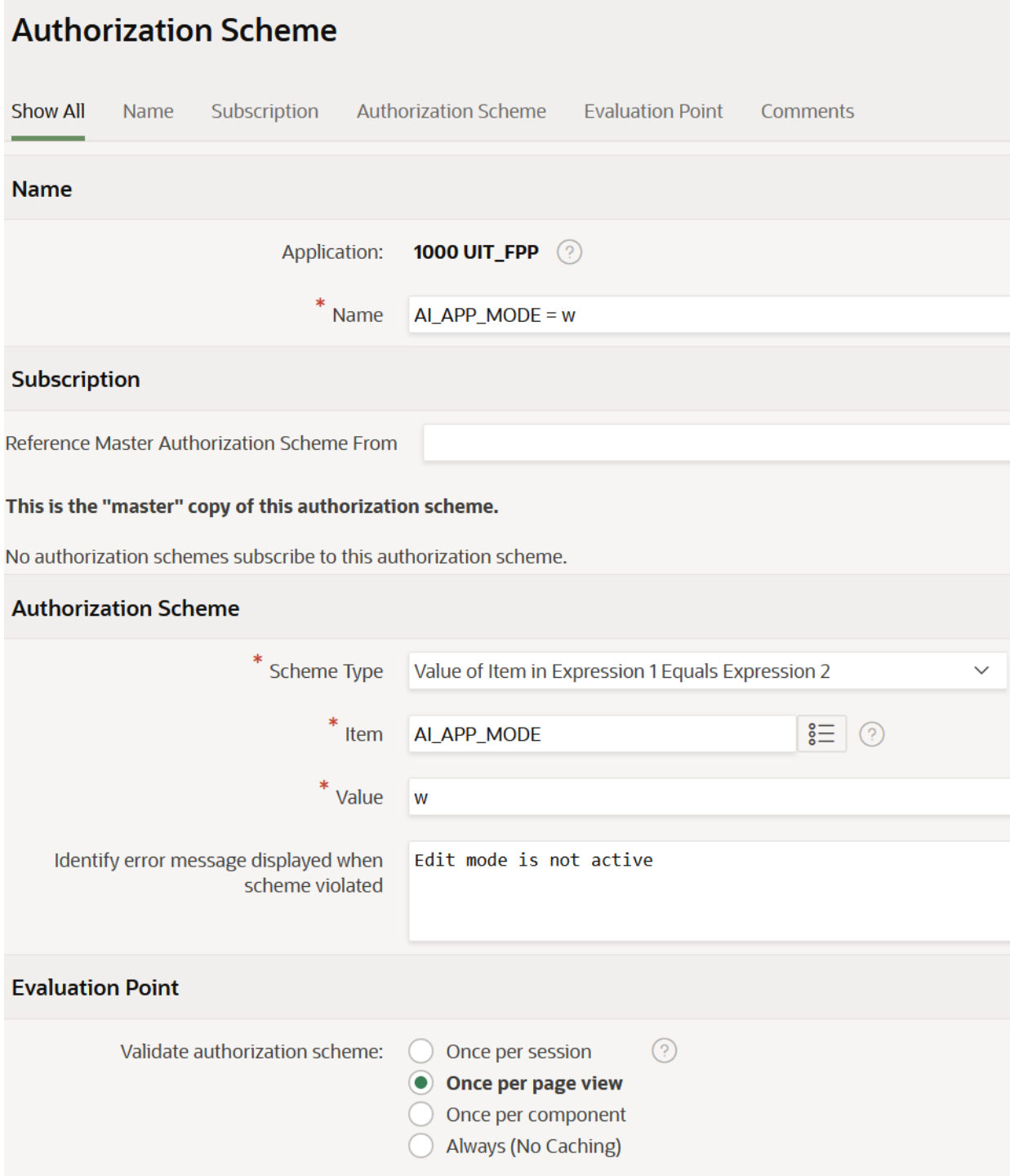
Name	Is Current	Scheme Type	Subscribed From
Open Door	No	Open Door Credentials	
Oracle APEX Accounts	No	Oracle APEX Accounts	
SAML	Yes	SAML Sign-In	
SSO	No	HTTP Header Variable	

Development Environment Authentication Schemes

	Name	Description	Status
	Database Accounts	This scheme utilizes database credentials. The user name and password of the database account is used to authenticate the user.	Not Current
	HTTP Header Variable	This scheme relies on an HTTP header variable to contain the username and on an external login method to log in. Oracle APEX presents the available workspaces for the user.	Not Current
	LDAP Directory	This scheme checks credentials against an LDAP repository.	Not Current
	Oracle APEX Accounts	This is the default authentication scheme. It authenticates users against the workspace user repository.	Not Current
	SAML	This scheme uses SAML authentication. Oracle APEX presents the available workspaces for the user.	Current
	Social Sign-In	This scheme uses OAuth2 with a third party authentication provider such as Oracle Identity Cloud Service.	Not Current

#8 Authorization Scheme (declarative way)

- Meaningful name
- Declarative Scheme Type
- Evaluation Point at least as possible



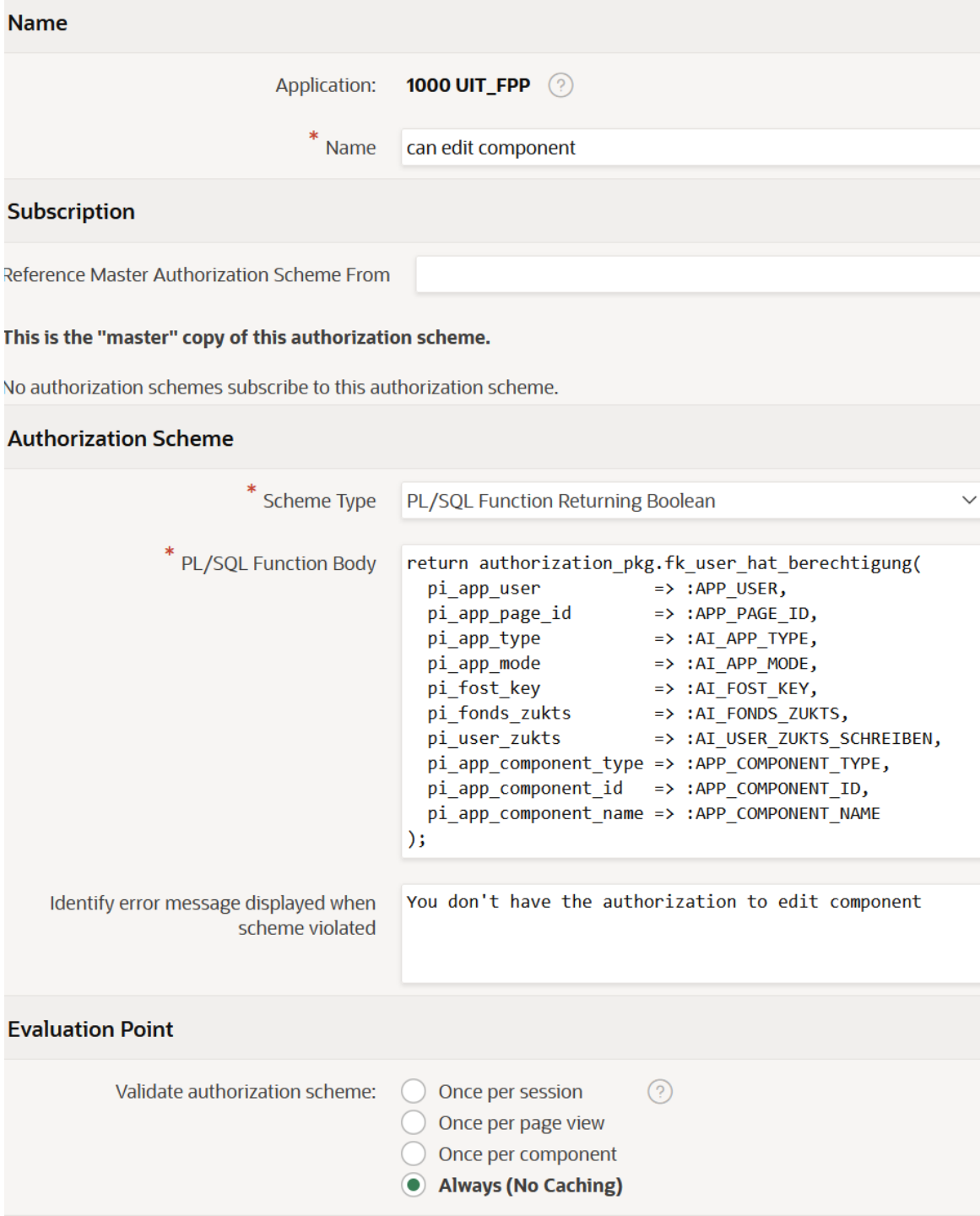
#9 Authorization Scheme (complex way)

- Define your dynamic Authorization Scheme
- Attributes

  APP_COMPONENT_TYPE

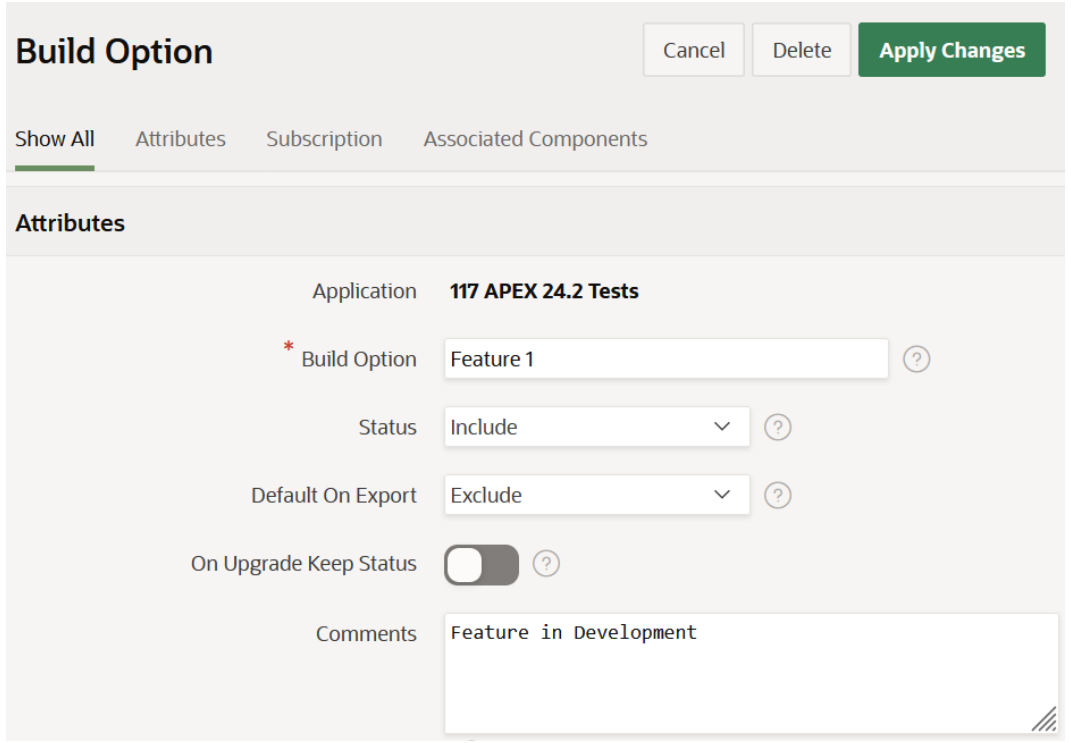
  APP_COMPONENT_ID

  APP_COMPONENT_NAME
- Evaluation Point “Always”



#10 Build Options

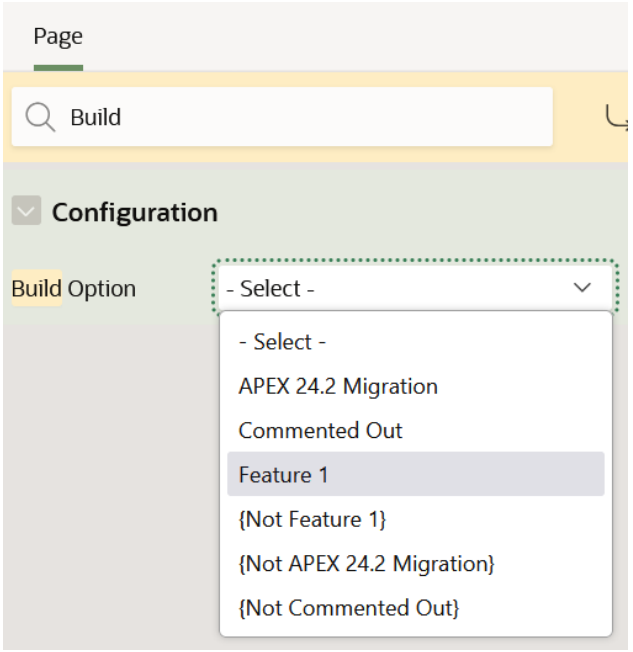
- Deactivate Code or functionality
- Use for Test purposes
- development in progress
- find your “deactivated” components
- No Never Condition



Associated Components — Remove Components

Component	Component Name	Build Option	Page Number	Is Subscribed?
Page Item	P1_NEW	Feature 1	1	
Page Region	apex_appl_page_ig_columns	Feature 1	2	
Page Region	apex_appl_plugin_settings	Feature 1	2	

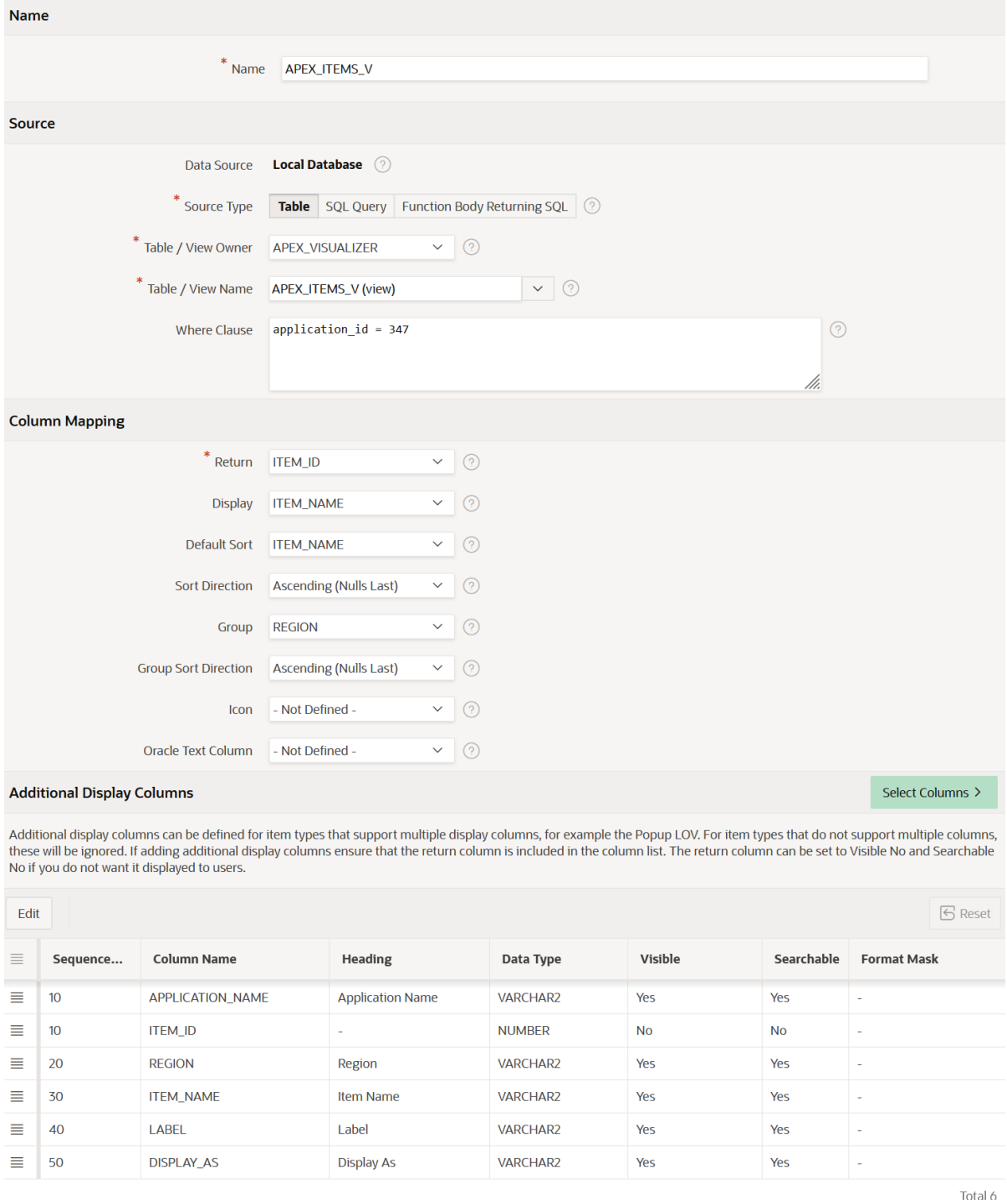
1 - 3



#11 List of Values

- Convert Legacy LOV
- No Static LOV
- Sorting by LOV
- Group
- Additional Display Columns

- Views from another Scheme
- Table Functions
- Complex SQL

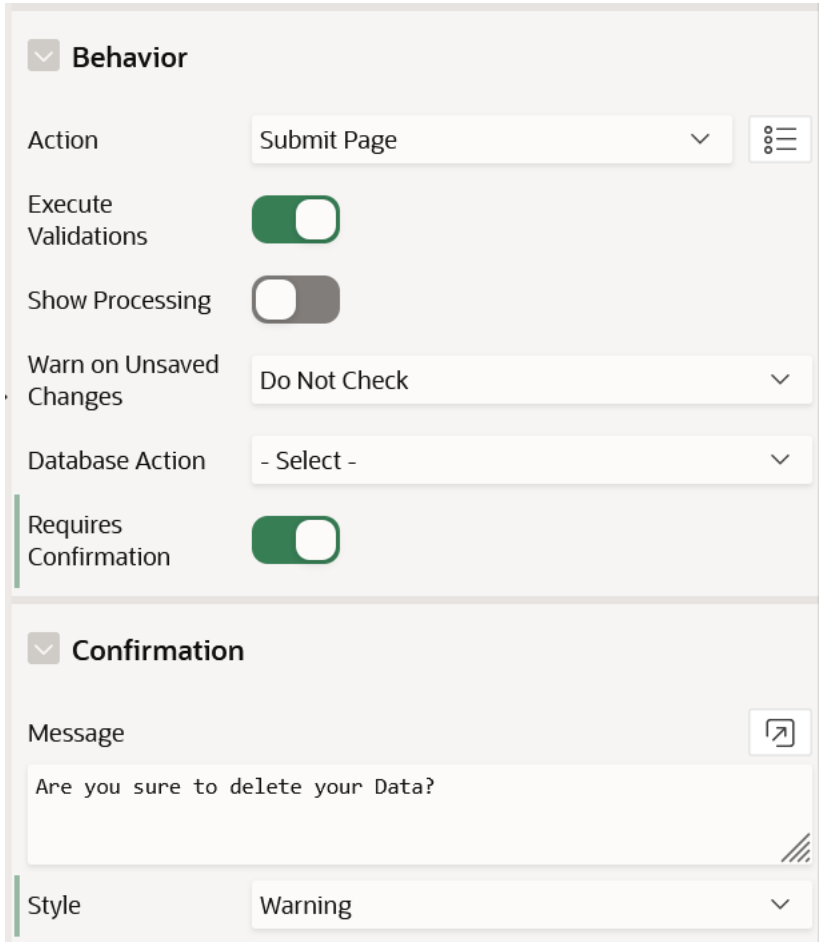


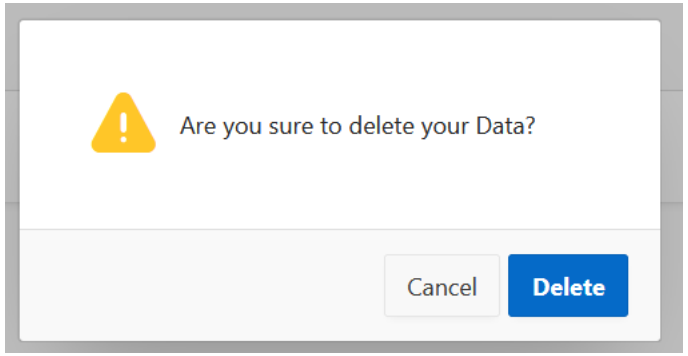
#12 Confirmation Messages

- Asking user for confirmation
- No Custom Code
- Replaces “old”

  var htmldb_delete_message=‘“DELETE_CONFIRM_MSG”’;

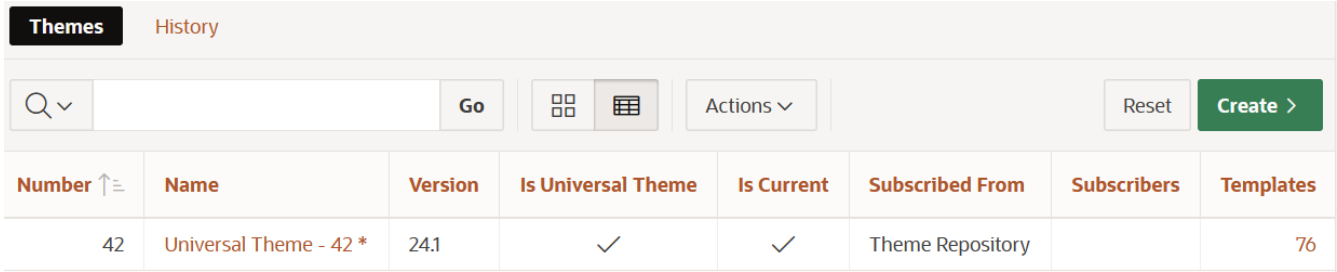
  javascript:apex.confirm(htmldb_delete_message,’DELETE’);

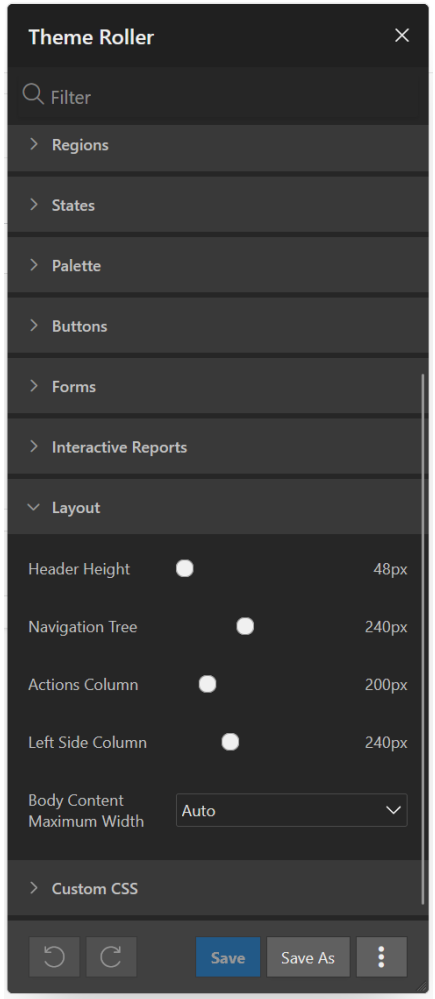


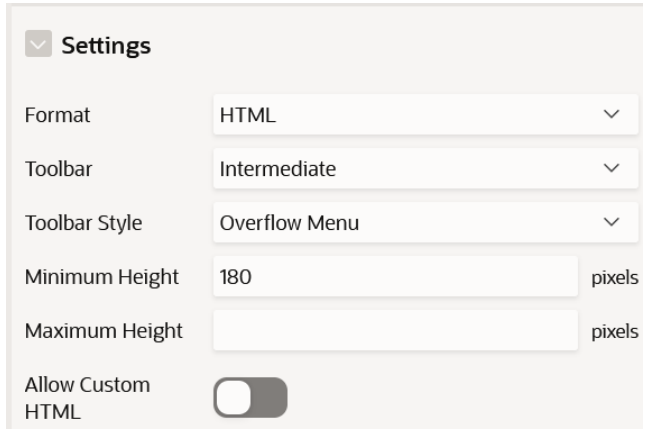


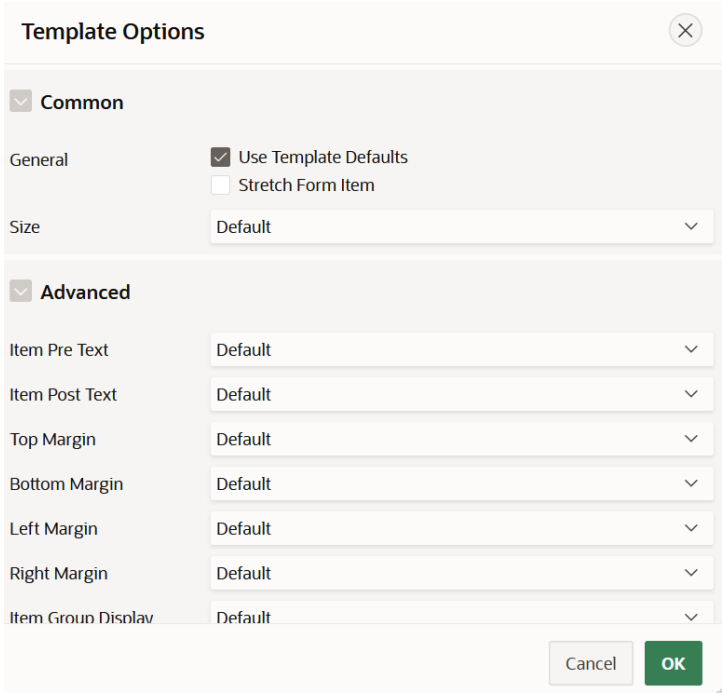
#13 UI Customization

1. Universal Theme
2. Theme Roller
3. Component Settings
4. Template Options
5. CSS Adjustments
6. JavaScript Enhancements
7. copy single Templates
8. use your own Theme



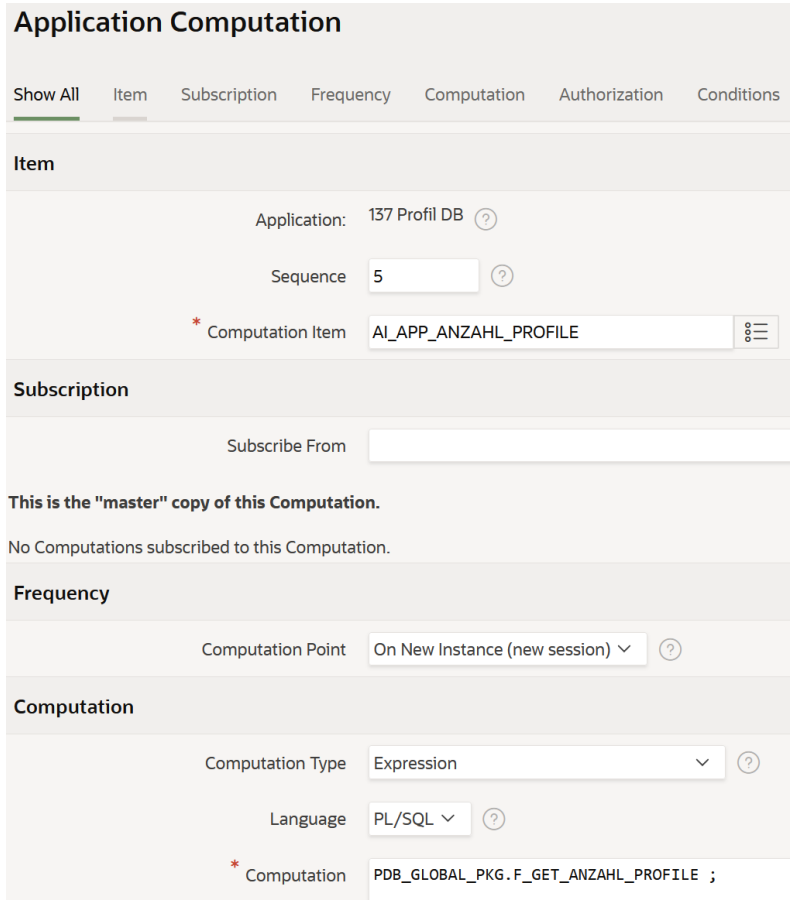


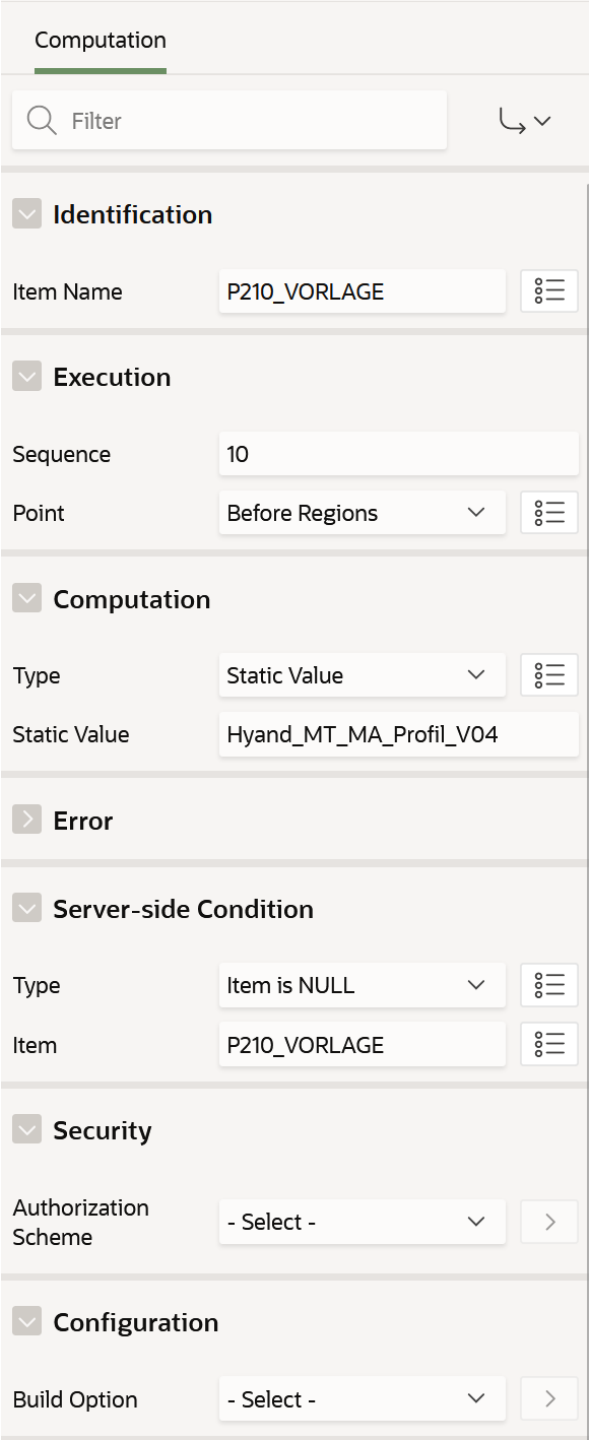




#14 Computation

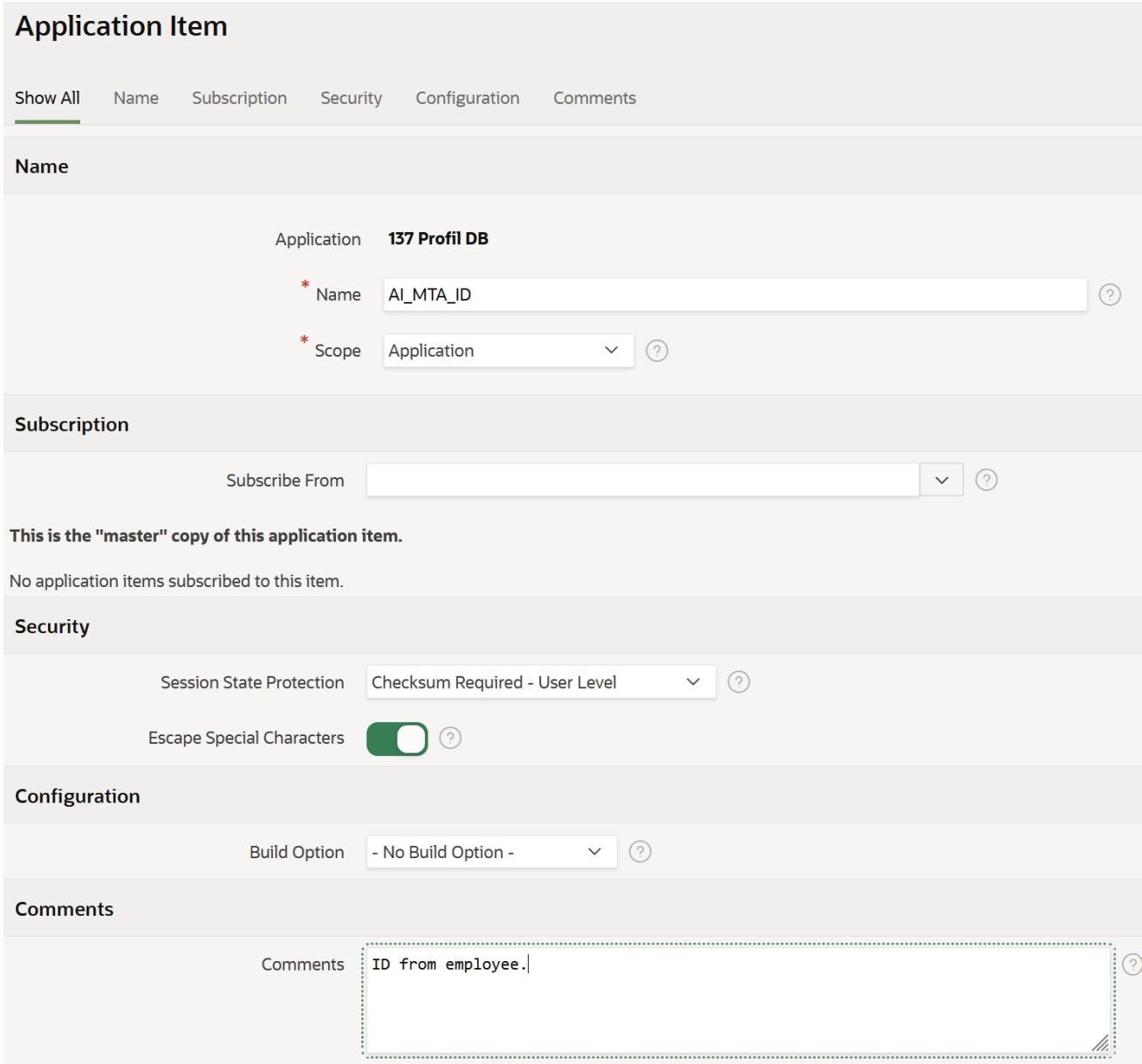
- set Single Items
  - easier visible
  - use instead of defaults
- Application Level
  - “On New Instance (new Session)”
  - “After Authentication” set Single Items
- Page Level
  - Condition ITEM IS NULL
  - Security Authorization





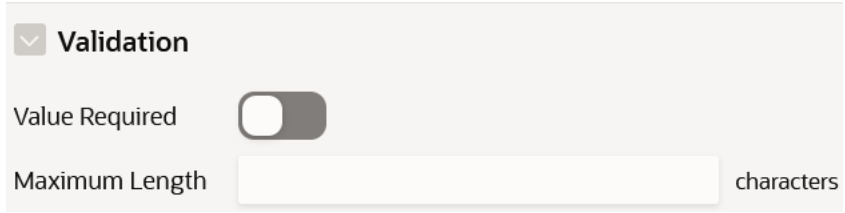
#15 Application Items

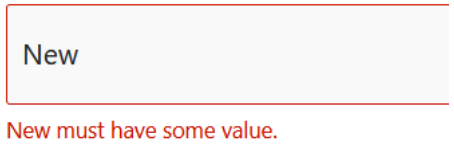
- Attribute for the whole Application
- Use on all/different pages
- Use prefix like AI for “Application Item”
- Scope “Global” for multiple apps
- Application Items = “Serverside Items”

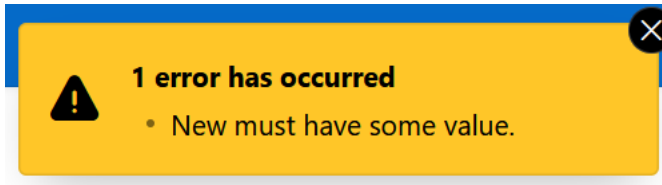


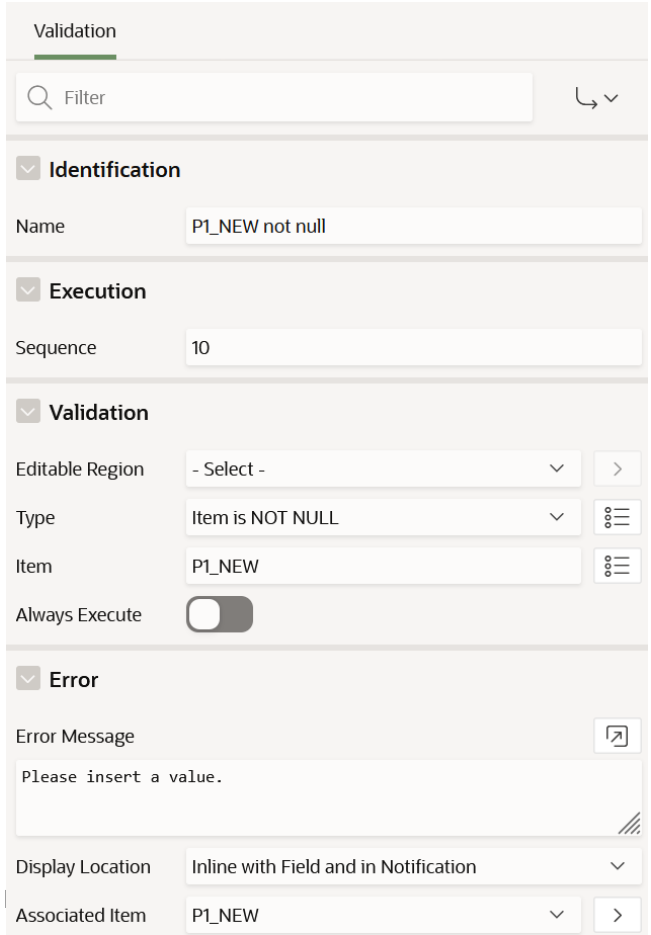
#16 Validations

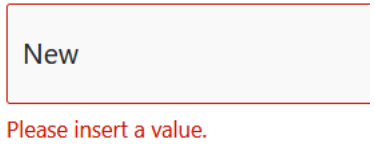
- Prevent errors > Validations
- Client-side
- Server-side
- Combination of client- & server-side
- Reuse your validations

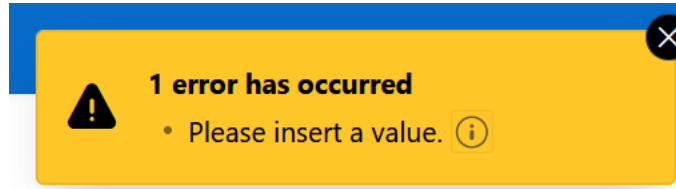










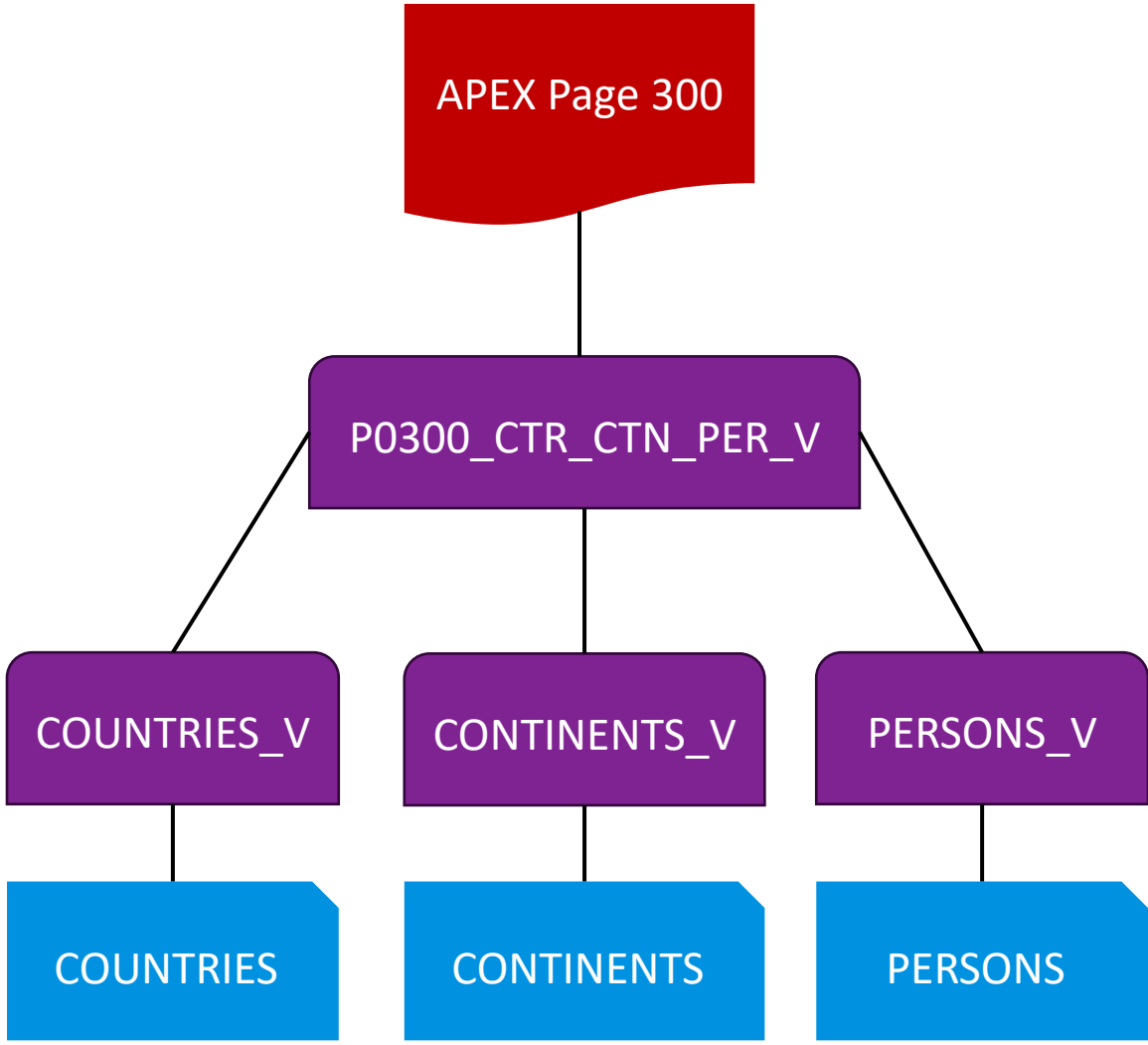


#17 View Layer

- Tables
- View Layer for each table
- View Layer for referencing APEX page

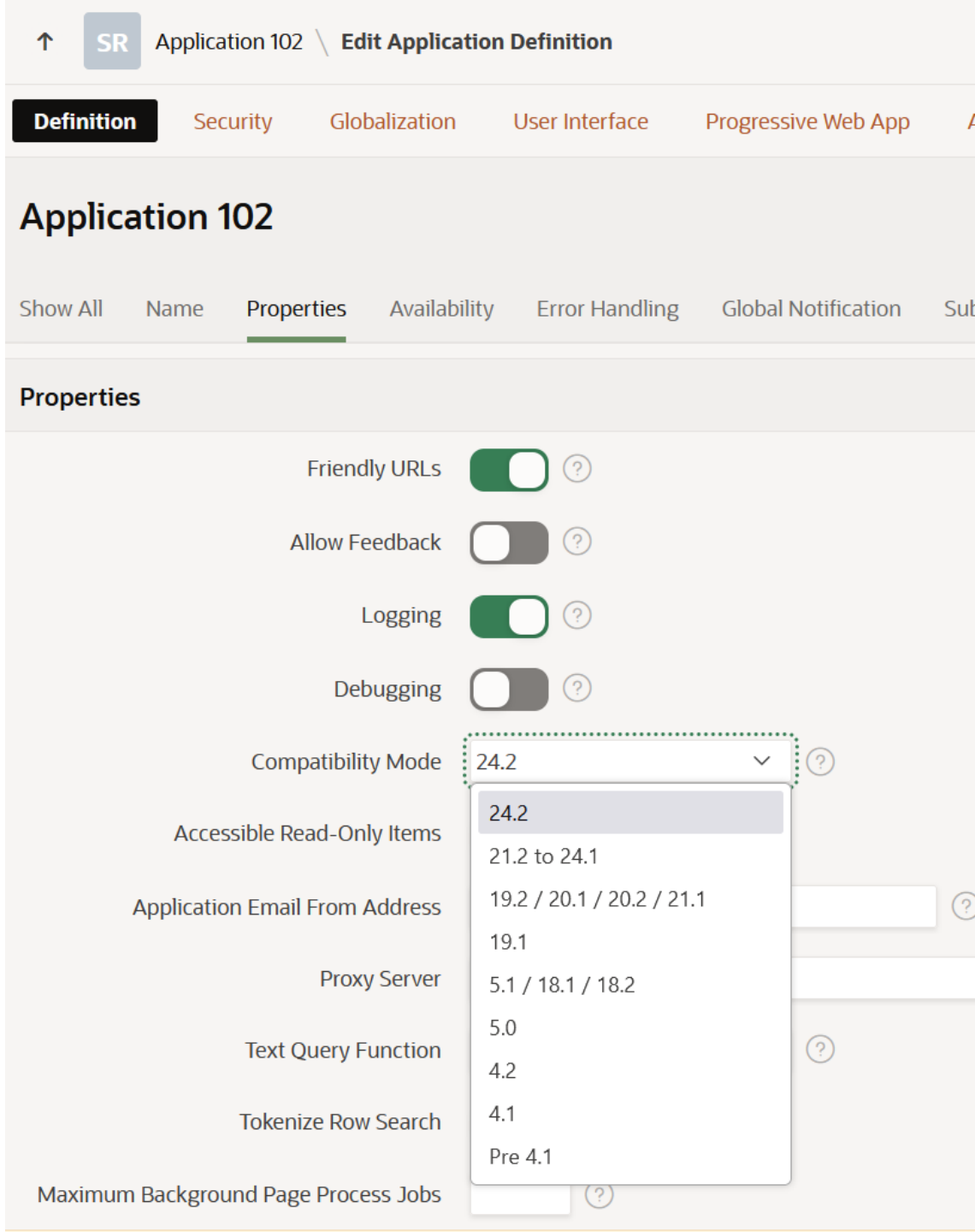
- Datamodel decoupled from APEX
- Views by page document reference
- Invalid DB objects will show up

- Same approach for packages



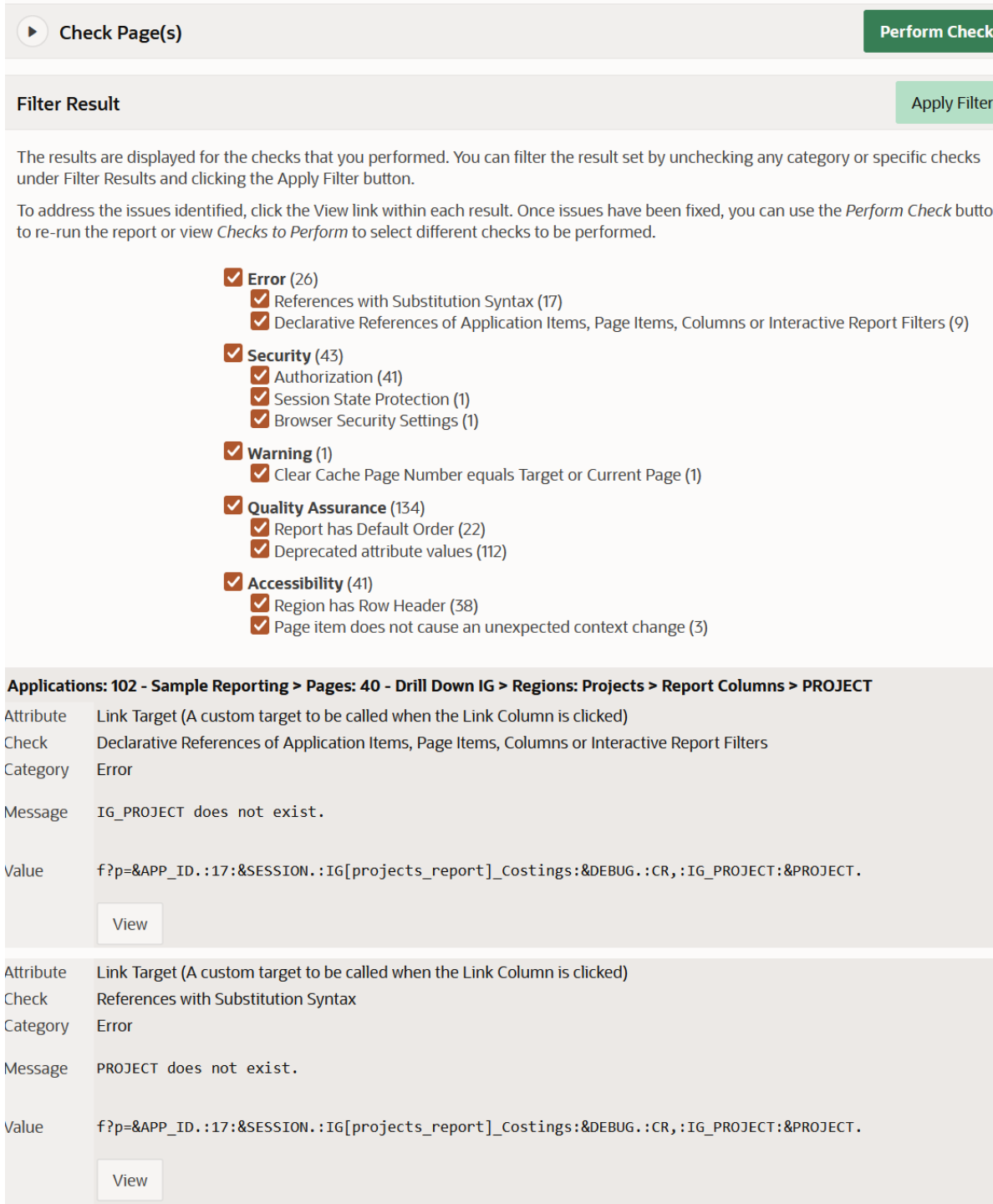
#18 Compatibility Mode

- Use the latest mode
- Universal Theme dependency
- APEX 5 – Login, Session Timeout, Session State
- APEX 5.1 – Client-Side Validations, DA „Wait for Result“
- Synchronous -> Asynchronous AJAX (DA)
- APEX 19.1 – Rich text Editor max length
- APEX 19.2 – Classic Report empty columns
- APEX 21.2 – APEX_ERROR.ADD_ERROR change
- APEX 24.2 – Extended Substitution Syntax support



#19 APEX Advisor

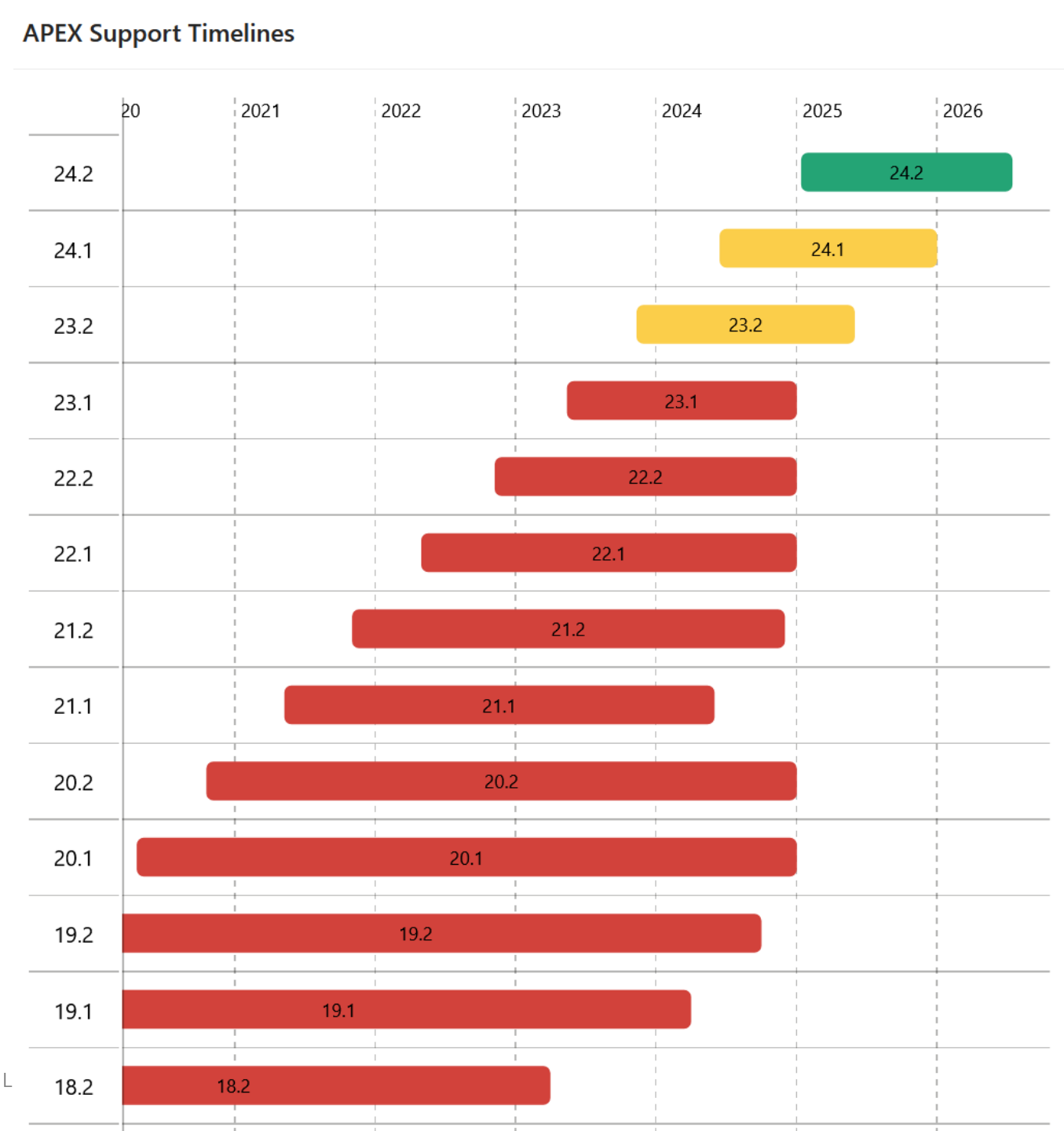
- Always check “Errors”
- Security, Warning, QA and Accessibility based on your requirements
- select checks you need
- check by Page or Application
- false – positive messages!



#20 Latest APEX Release

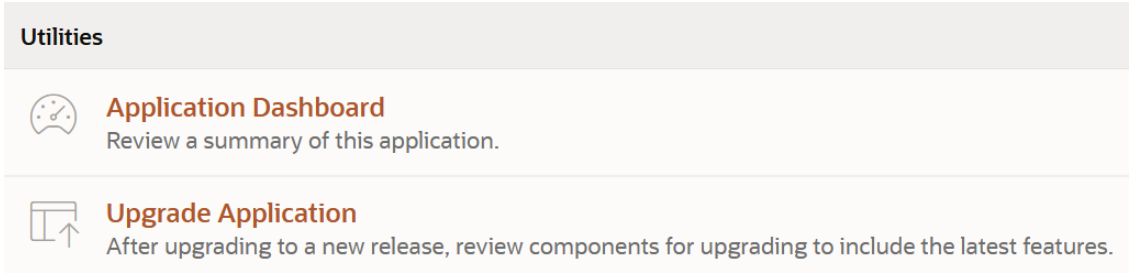
- Stick to the latest Release
- Upgrade Test first, afterwards Prod and Dev
- Upgrade with first Hotfix => 24.2.1+
- at least upgrade once a year
- the more often your upgrade, less effort to do

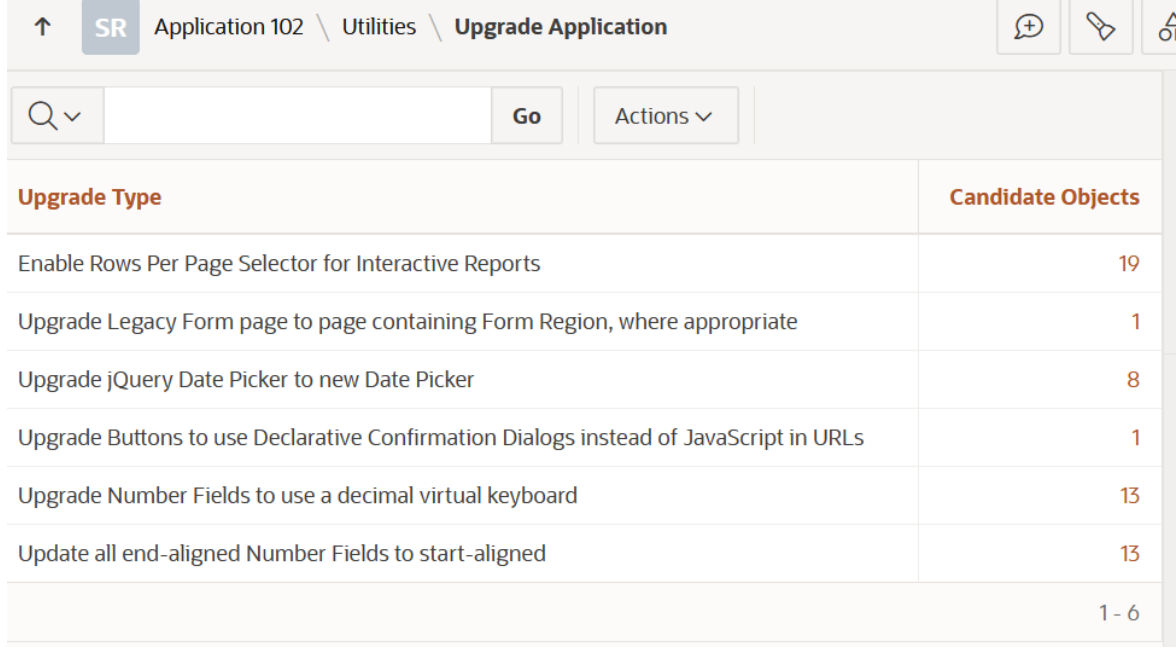
- https://apex.hyand.com/supporttimelines

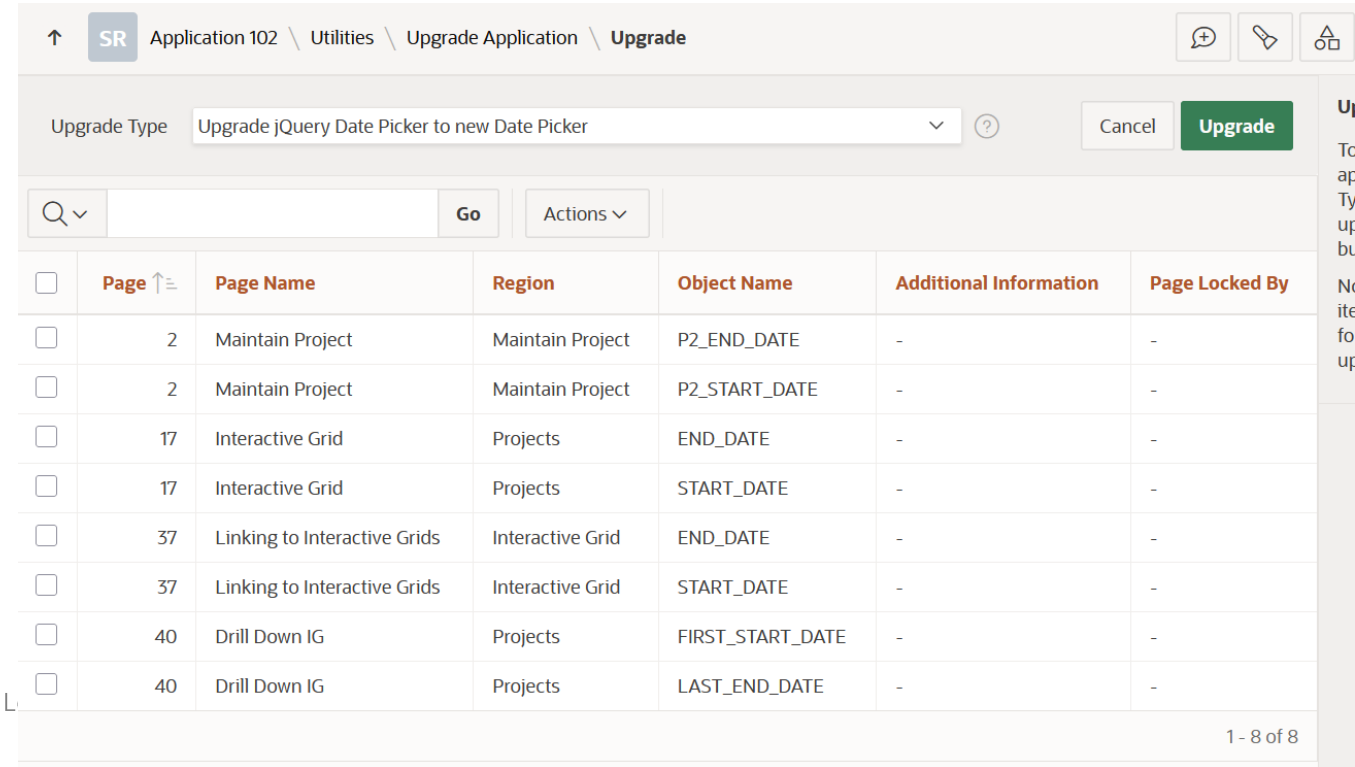


#21 Upgrade Application

- Easy support to upgrade to latest version
- Which changes are out there?
- Which components are affected?

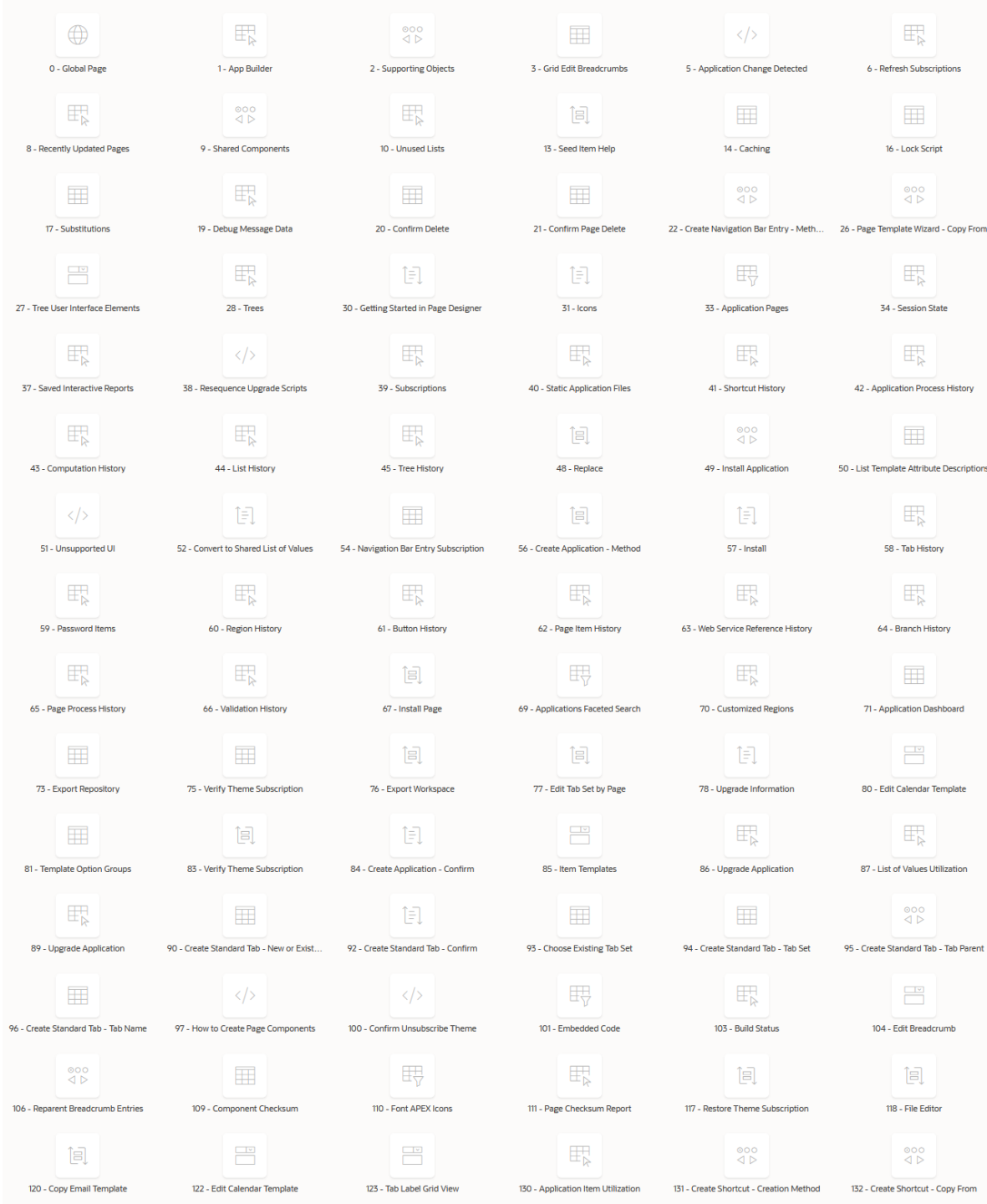






#22 avoid big monolithic Apps

- more than 100 Pages, try to split
- 1 App – 1 Workspace
- advantages
  - deploy separated
  - higher Security
  - easier to develop
- disadvantages
  - redundant shared objects
  - more Apps



#23 Version Control

- Save the original status
- Make changes transparent

  Change User

  Change Date
- Comment an Issue

#24 Automate Deployment

- SQLcl
- Jenkins
- GitLab
- Azure DevOps

GitLab

Azure DevOps

#25 Testing on Copy of Production Environment

- Test your Release with Data from production
- Check Bugs with Data from production
- 50% of Bugs are related to complex data

Stage View

	PREPARE - Checkout Pipeline Parameter Files	PREPARE - Checkout Project SVN Directory	PROD - Datapump Export	Organize Dumps	PROD - Export App(s)	TEST - Delete Old DB Objects	TEST - Datapump Import from PROD	TEST - Recompiling Schema	TEST - Import App(s)
Average stage times:	1s	1s	19s	649ms	7s	4s	23s	4s	7s
#537 Mar 11 13:12 No Changes	1s	959ms	16s	606ms	7s	3s	17s	5s	6s
#536 Mar 11 12:13 No Changes	1s	990ms	16s	672ms	7s	1s	17s	4s	6s
#535 Mar 11 12:12 1 commit	6s	1s	15s	610ms	7s	3s failed	78ms failed	62ms failed	78ms failed
#534 Mar 11 11:57 No Changes	1s	958ms	15s	641ms	7s	3s	18s	5s	5s

#26 Use the Community

- Forums

  forums.oracle.com

- Twitter / X / Bluesky

  x.com / bsky.app

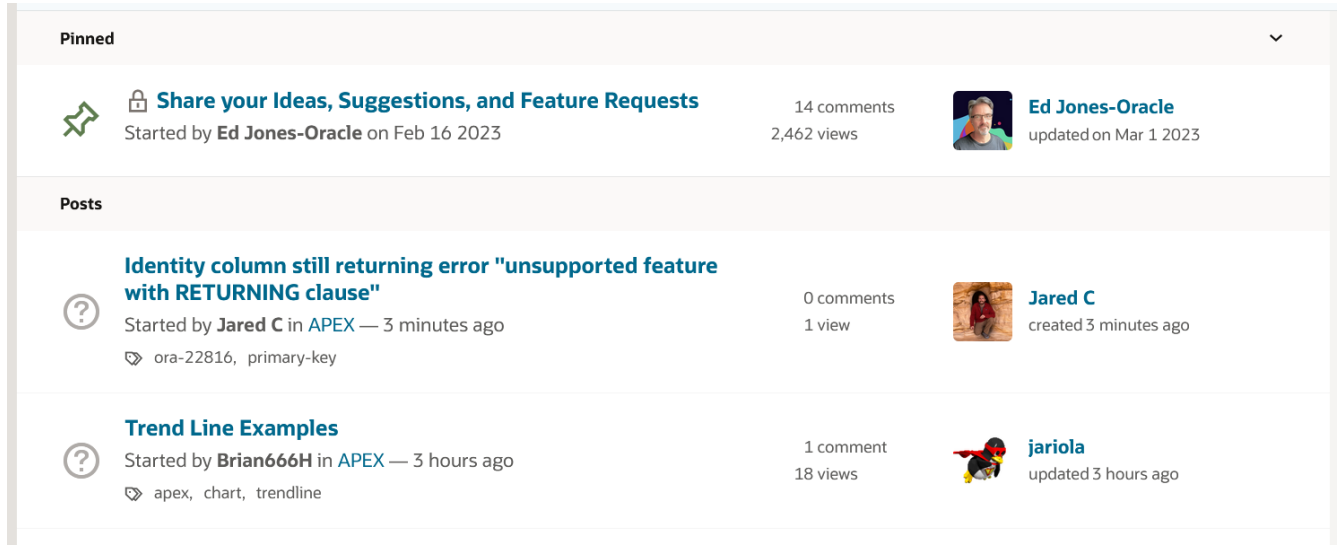
- APEX Office Hours

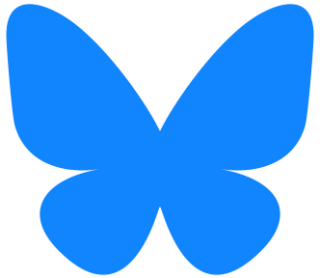
  apex.oracle.com/officehours

- Conferences

- Linklist

  apex.oracle.com/shortcuts





Say Hy_

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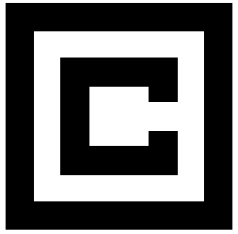

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