



APEX ENHANCED LOV ITEM

APEX PLUGIN

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Changelog

VERSION	AUTHOR	COMMENT	DATE
1.0.0	Bartosz Ostrowski	First stable version – selecting values only from popup dialog	2012-08-15
2.0.0	Bartosz Ostrowski	Second stable version, popup dialog, autocomplete, customizable plugin attributes	2014-05-19
2.1.0	Bartosz Ostrowski	<ul style="list-style-type: none"> • New feature "Submit when ENTER pressed" • New feature "Show processing" • CSS/JS/PLSQL fixes • Fixed event bugs 	2014-07-28
2.2.0	Bartosz Ostrowski	PL/SQL / GUI / attributes changes Refer to section „What is new?” for details	2015-05-04



Overview

Intro

APEX Enhanced LOV item plugin was created to meet business needs for items that provide following features:

- ◀ Filter report data for multiple values.
- ◀ Fast autocomplete while typing.
- ◀ Pasting values from Excel spreadsheet.
- ◀ List of values based on predefined value dictionaries.

To make implementation of required functionality easier for APEX developer, the plugin provides configuration by its attributes.

The main approach and requirement is "One dictionary and many select possibilities".

Features at a Glance

- ◀ Customizable autocomplete
 - ON/OFF,
 - LIKE search cases,
 - autocomplete applicable to the selected column from dictionary query.
- ◀ Customizable popup dialog
 - ON/OFF,
 - multiple / single selection,
 - Customizable values separator,
 - Maximum computed length for multiple values.
- ◀ Optional displaying return value in autocomplete and popup dialog.
- ◀ Support for pasting multiple values.
- ◀ Customizable "column sequence" without changing the plugin query definition.
- ◀ Cross browser compatibility in 3 browsers: IE8+, Chrome, FireFox.
- ◀ Support for translating the plugin labels.
- ◀ Integration with APEX dynamic actions.
- ◀ Cascading LOV functionality.
- ◀ Support for big data (up to 30 000 rows and more).



What is new in 2.2.0 ?

Before updating from v.2.1.0. to v.2.2.0.!

Keep in mind that v.2.2.0. has no backward compatibility. Some plugin attributes in v.2.1.0. are removed for new attributes in v.2.2.0.. After updating to this version all plugin references must be checked and reconfigured if needed.

PL/SQL

- ◀ Dictionary values are transferred from database table into APEX COLLECTION.
- ◀ Substitution string #OWNER# in SQL query is supported.
- ◀ Semicolon at the end of SQL query is supported.
- ◀ Binding variables in SQL query is supported.

APEX integration

- ◀ Dynamic actions are supported (readonly, disable, hide, show, refresh).
- ◀ Translations are supported.
- ◀ New "Dynamic Action" event is available when plugin finishes retrieving "display value" for "return value" stored in APEX session.
- ◀ APEX cascading LOV functionality is supported

New plugin attributes:

- ◀ Customizable "search cases" in autocomplete (left-hand, right-hand, bilateral LIKE clause with optional support for special characters % and _)
- ◀ Reload dictionary data stored in collection when page loads.
- ◀ Maximum characters limit for multiple values is customizable.
- ◀ Customizable time in milliseconds to trigger searching in autocomplete.
- ◀ Separator of multiple values is customizable

Removed plugin attributes

Attributes below are removed in favor of Cascading APEX LOV functionality.

- ◀ Source type
- ◀ SQL query
- ◀ PL/SQL Function returning SQL Query
- ◀ APEX LOV name

GUI

- ◀ Debounce mechanism for autocomplete and searching in popup dialog.
- ◀ Support for showing "selected values only" in popup dialog.
- ◀ Scrolling autocomplete results with key down event.
- ◀ Retrieving data from database for autocomplete and popup dialog is faster.
- ◀ Rendering results in popup mode is faster - new render / search model.



Roadmap

- ◀ New appearance for autocomplete results.
- ◀ New attribute "Maximum number of rows to display" for autocomplete mode.
- ◀ Support for setting independent "order by" clause for autocomplete and popup dialog results.
- ◀ Switch from JS library Mustache to Hulk.
- ◀ Easily accessible clearing plugin value.
- ◀ Support for handling APEX requests from URL - e.g. clear/reload plugin data collection.
- ◀ New custom "dynamic action" events - e.g. after refreshing dictionary.

Feature Requests and Bugs

If you would like to see additional functionality in the plug-in or you have found a bug, please let us know: "apex@pretius.com"

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Installation and Configuration

Installation package

Installation package contains

- ◀ plug-in SQL installation file named `item_type_plugin_pretius_apex_enhanced_lov_item.sql`
- ◀ this documentation as a PDF file
- ◀ previous version of plugin
- ◀ MIT license

Installation guide

In selected application:

- ◀ navigate to Shared Components > Plug-ins,
- ◀ click Import button,
- ◀ select installation file and proceed with installation.

After installing the plugin, you will be redirected to the plugin edition screen. Plugin is ready to use.

Important note - update from 2.0.1.

Because of changes in plugin attributes it is strongly recommended to backup application. After updating the plugin, the plugin instances might need attributes reconfiguration. It is due to the fact, that version 2.2.0 contains number of new attributes replacing deprecated ones.

Configuration - plugin attributes

1.1. Autocomplete available

Type	Values	Default
Select list	Yes No	No

If this attribute is set to Yes, the plugin instance displays autocomplete results while typing



1.2. POPUP DIALOG available

Type	Values	Default
Select list	Yes No	No

If this attribute is set to Yes, the plugin instance enables selecting values in popup dialog.

1.3. POPUP DIALOG Multiple selection

Type	Values	Default	Dependent
Select list	Yes No	No	POPUP DIALOG available = Yes

If this attribute is set to Yes, the plugin instance enables selecting multiple values in popup dialog.

1.4. Autocomplete search cases

Type	Values	Default
Select list	%search_string search_string% %search_string% %search_string [%] search_string% [%] %search_string% [%]	Column_1

This attribute defines the method of filtering data in autocomplete. Table below describes available values.

Option	Description	Special characters "%", " _"
%search_string	Left-hand LIKE	Works
search_string%	Right-hand LIKE	Works
%search_string%	bilateral LIKE	Works
%search_string [%]	Left-hand LIKE	No effect
search_string% [%]	Right-hand LIKE	No effect
%search_string% [%]	bilateral LIKE	No effect



1.5. Values separator

Type	Values	Default	Max length	Dependent
Text field	character	colon	1	POPUP DIALOG Multiple selection = Yes

This attribute specifies character used to separate multiple values.

1.6. Debounce time in ms

Type	Values	Default
Text field	Number	300

Time in milliseconds after which autocomplete is triggered.

1.7. Enable paste event

Type	Values	Default	Dependent
Select list	Yes No	No	POPUP DIALOG Multiple selection = Yes

If this attribute is set to YES, the plugin instance supports paste event.

Important note

After paste event, values are not matched automatically with collection data! Pasted values are set as the plugin instance value. Only after opening popup dialog and confirming matched values, proper values are set to item.



1.8. Autocomplete filter by column

Type	Values	Default
Select list	Column_1 Column_2 Both	Column_1

This attribute defines manner of data filtering. The condition to match is defined in "autocomplete search cases" attribute.

Value	Description
Column_1	autocomplete is performed on first column in plugin data source.
Column_2	autocomplete is performed on second column in plugin data source.
Both	autocomplete is performed on both columns in plugin data source

1.9. Column sequence

Type	Values	Default
Select list	described below	Column_1, Column_2

This attribute defines which column from given SQL query will be treated as display value, and which as return value.

Example SQL: select id, name from dual

Value	Description
Column_1, Column_2	<ul style="list-style-type: none"> id – return column name – display column
Column_2, Column_1	<ul style="list-style-type: none"> id – display column name – return column
Column_1, Column_1	<ul style="list-style-type: none"> id – display column id – return column
Column_2, Column_2	<ul style="list-style-type: none"> name – display column name – return column



1.10. Max length for multiple values

Type	Values	Default	Max length
text field	characters	32000	5

This attribute specifies amount of characters, that can be passed to the plugin instance value. If computed length of selected or pasted values exceeds limit, the plugin displays warning dialog.

Important note:

The length of pasted value might be different from computed length of returned string from popup dialog. It is due to possible difference in length of "return value" and "display value", depending on whether there were pasted values of "return column" or "display column".

1.11. Show return column

Type	Values	Default
Select list	Yes No	No

If this attribute is set to YES, the plugin instance displays "return value" in autocomplete and popup dialog.

1.12. Submit when enter pressed

Type	Values	Default
Select list	Yes No	No

If this attribute is set to YES, APEX form is submitted after pressing Enter key within the plugin instance.

1.13. Show processing when enter pressed

Type	Values	Default	Dependent
Select list	Yes No	No	Submit when enter pressed = Y

If this attribute is set to YES, then after submitting APEX form (with Enter key), APEX submit indicator is visible.



1.14. Recreate collection on page load

Type	Values	Default
Select list	Yes No	No

If this attribute is set to YES, data source is reloaded into collection after page loads.

1.15. Translation

To translate plugin in application scope, one decides how to do it:

Plugin PL/SQL definition

1. Change translation in the plugin PL/SQL definitions and save plugin
2. Change translation and save plugin

Translation text messages

1. Go to Application > Shared Components > Text messages
2. Create "Text Message" where Name is one of the JSON attributes one wants to translate
3. Set "g_translation_dict := true" in plugin PL/SQL

Plugin default translations are listed below:

Substitution string	Value displayed at GUI
PAELI_AUTOFILTER_NDF	No data found for:
PAELI_PASTED_LENGTH	Pasted content exceeds maximum length of #limit# characters for this input.
PAELI_POPUP_LENGTH	Length of selected values exceeds #limit# characters. Please select less values.
PAELI_BTN_SELECT	Select
PAELI_POPUP_NDF_AUTOFILTER	No records found for given string "#SEARCH_STRING#".
PAELI_POPUP_NDF	Dictionary has no values.
PAELI_POPUP_NDF_SELECTED	Within selected rows there is no result for "#SEARCH_STRING#". If you wanted to search in all values, please deselect "Select all" checkbox.
PAELI_POPUP_SELECT_ALL	Select all
PAELI_POPUP_SHOW_SELECTED	Show selected



PAELI_SELECT_ALL_WARNING

You want to select values that exceeds limit of #LIMIT# characters. Inserting to many values may result with error. Would you like to proceed?



About Pretius and the Authors

About Pretius

We use Oracle Apex for our data-intensive solutions. Our expertise in working with this platform allows us to quickly and efficiently deliver interactive applications which support key business processes in organizations.

Main competence areas:

- ◀ Software integration and development
 - ◀ custom-built solutions
 - ◀ open-source systems customization and deployment
 - ◀ Pretius proprietary solutions
- ◀ Oracle Application Express
 - ◀ Custom built solutions
 - ◀ Forms and Access conversion
- ◀ IT advisory:
 - ◀ Expert IT and Business process knowledge
 - ◀ Managing IT projects
 - ◀ Selecting the technologies supporting business solutions
 - ◀ Designing solution architecture
 - ◀ Optimization of business processes
 - ◀ IT systems security audits

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