# **Software Engineering Lab**

# Oracle Developer 11g

### Lab Practice: List Of Values (LOV)

- A scrollable popup window that allows the user to pick an item value from a multi value dynamic list
- □ Advantages of LOV:
  - Displays more than one field
  - Displays data from multiple tables

#### List Of Values (LOV)

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### List of Values (LOV)

- Key Steps:
  - 1. Select: columns
  - Return: which column in the LOV to which item on the form
  - Assign: which item will be linked to the LOV (when we set focus on this item and we press F9, LOV appears)

# Lab Practice: List Of Values LOV (cont.)

- Select the LOVs node in the object navigator, click create icon '+'
- In the New LOV dialog, choose to build a new LOV using wizard
- Choose 'New record group based on a query'. A record group is an object used to store the array of values that are represented by LOV.
  - **Record Group:** internal oracle data structure that has a column/row framework structure similar to a database table



### LOV Wizard: Step 1

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#### List Of Values LOV: Step 1

- Click 'Build SQL query', Choose <u>DEPT</u> table, press include then close
- Select the **fields** you want to include in LOV (if all, double click title bar)
- The query is displayed. The order of columns in the select statement is the order in which they will appear the LOV

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### LOV Wizard: Step 1



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### LOV Wizard: Step 1

#### LOV Wizard

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#### Close the window (saving any changes that may have been made).

### List Of Values LOV: Step 2

- To set the return value:
- 1. focus on column
- 2. press **'Look up return items'**, it displays <u>items of</u> <u>EMP form</u>
- 3. choose EMP.deptno



## LOV Wizard: Step 2



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□ Change the **LOV title** into Department Info

Set Numbers of rows to be retrieved, or leave default value 0 so that Oracle automatically specifies the size of the record group to be fetched.

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What title would you like to display in your LOV window?	
<u>[itle:</u> Department Info	
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Refresh record group before display option means that the records displayed in LOV will be queried every time the LOV is involved

 Use filter before display option means which records are displayed when the LOV is invoked at runtime.
 The user can enter a value in Find item and press find button, then only records satisfying entered criteria are displayed.

If not checked, all records will be displayed in the LOV when it is invoked.

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Do you want to modify the advanced properties that affect the behavior of your LOV?

If you are not familiar with their usage, it is recommended that you accept the defaults as they appear below.

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rows at a time.

Refresh record group data before displaying LOV.

Let the user <u>filter</u> records before displaying them

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Department Info X Enter a partial value to limit the list, % to see all values. Warning: Entering % to see all values may take a very long time. Entering criteria that can be used to reduce the list may be significantly faster. Find % Deptno Dname Loc Cancel Find

If you checked let the user filter results

Then, the user will be forced when running the form to use find option to filter the search

### LOV Wizard: Step 3 Assigned Item

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To create the new LOV and any associated Record Group, click Finish. The Object Navigator will display an entry for your new LOV.

To modify the LOV in the future, you can recall the LOV Wizard. To do so, select the LOV in the Navigator, and choose LOV Wizard from the Tools Menu.

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### List Of Values LOV (cont.)



### LOV Properties (cont.)

To display the LOV in runtime, select item associated with the LOV, Menu => Edit => Display list

OR press F9

If you want the LOV to be automatically displayed,
 LOV property palette => Automatic display =>
 Yes

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<ul> <li>Automatic Skip</li> </ul>	No

Display LOV automatically on navigation into item to which LOV is attached?

## Lab Practice: Calculated Fields

#### □ They are read only.

#### Calculation modes:

- Formula: the calculated field is a result of a horizontal calculation of an equation involving one or more form items.
- Summary: the calculated field is a result of a vertical calculation involving the values of a single item over all the rows within a single block through a group function.

## Lab Practice: Formula Item (cont.)

#### Creating an item based on a formula:

- -- Create data block based on Emp table.
- -- In the layout editor, create a new display item,

in its property palette:

- Data type => number.
- Set the Database Item property to NO.
- Set the calculation mode property to Formula.
- In the Formula property, click more and enter the PL/SQL expression.

## Lab Practice: Formula Item (cont.)

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## Formula Item Properties

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## Lab Practice: Formula Item (cont.)

# Run the form. Note that the formula value changes for each emp record.

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## Lab Practice: Formula Item (cont.)

#### <u>Rules</u>:

- The formula must not execute any DML statements.
- □ **Do not terminate** the PL/SQL expression with a **semi-colon**.
- □ If the PL/SQL expression involves an **assignment operator**, do not write it.

Creating an item that calculates the maximum

salary:

Create a new **display** item.

Set Data type property to Number.

- Set the calculation mode to Summary.
- Select the required function 'MAX' from the summary function pop-up list.

# ■ From **Summarized Block property**, select the block over which rows will be summarized **`EMP'**.<sub>33</sub>

- From the Summarized Item property, select the item to be summarized 'SAL'.
- In the affected block (EMP), set the Query all records property to yes.
   (Database data block handles only the currently displayed record, but we want it to query all the records.)

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(cont.)

#### <u>Rules</u>:

The summary item must reside in the same block as the summarized item.

The summarized item must reside in a block whose query all records property is set to yes.

## Summary Item (cont.)

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	<ul> <li>Query Allowed</li> </ul>	Yes
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## Summary Item (cont.)

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### Data Blocks With Relationships Master-Detail

- A form module can contain one or more data blocks; each can be standalone or related to another data block.
- Master-Detail relationship equates to the one-to-many relationship.
- The master data block is based on the P.K table,

while the **detail data block** is based on the **F.K table**.

#### **Master-Detail Form**

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#### **Master-Detail Form**

#### To create a Master-Detail form:

1. Create the master block, based on **DEPT** table.

Note: The master data block **must** exist in the form module **before** creating detail block.

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# Lab Practice: Data Blocks with relationships

- 2. Create the detail block called employees, based on **EMP** table.
  - Select the `auto-join data blocks' check box.
  - click Create Relationship.

## **Creating Relationship**

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## Creating Relationship (cont.)



# Lab Practice: Data Blocks with relationships (cont.)

- Select the same canvas as the master data block.
- Display all columns from EMP block.
- Use tabular layout.
- Display **four** records from EMP block.
- Include a **scrollbar**.



#### **Data Blocks with relationships** (cont.)

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#### Layout Wizard

#### Layout Wizard

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# Lab Practice: Data Blocks with relationships (cont.)

- Before running the form, in the object navigator, switch between the two data blocks to let the dept data block is the top to let focus be on it for correct execute query.
- A relation object is automatically created under the master data block; the relation is given the default name MasterDataBlock\_DetailDataBlock.

#### Data Blocks with relationships (cont.)

You must switch two data blocks so that the focus is set on master block DEPT in run time.

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# Lab Practice: Data Blocks with relationships (cont.)

- Running a Master-Detail Form Module:
  - Querying the master data block retrieves the corresponding detail records.
  - Deleting a master record is prevented if detail records exist.
  - Inserting a detail record automatically associates it with the displayed master record.

# **Thank You**