



SQL Developer Basics that increase your Performance

Corrected version
2018-09-12

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its-people GmbH

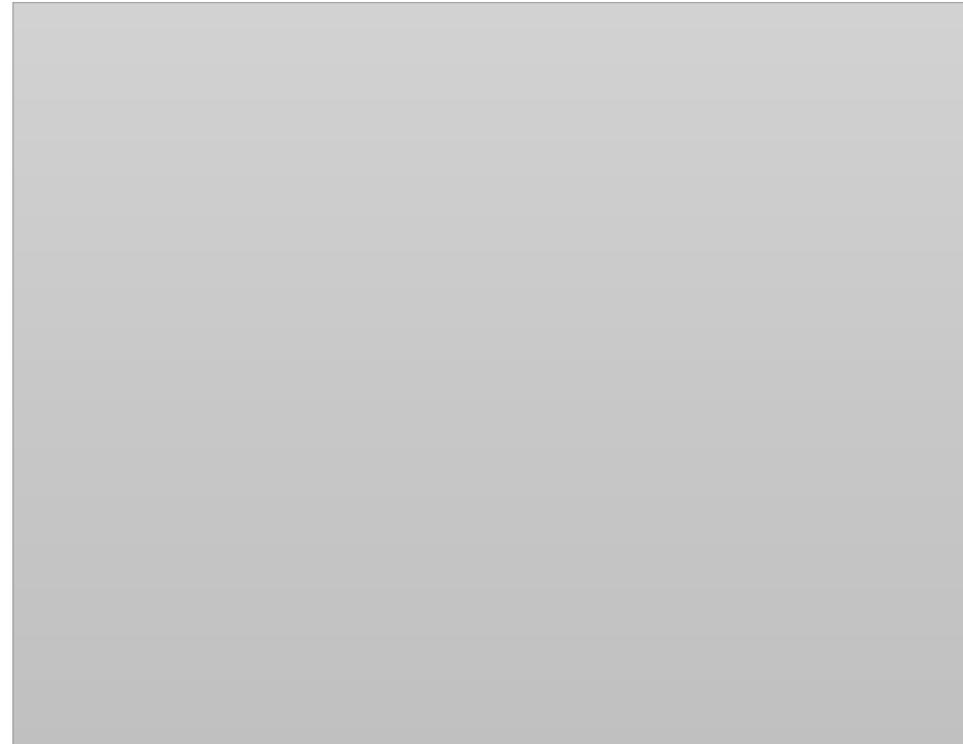




Sabine Heimsath (@oraesque)



- Working in IT since 1999
- Self-employed since 2004
- First Oracle version: 8.1.7
- With a soft spot for relational databases, Aardman Animations and Earl Grey tea
- Oracle ACE, DOAG



POUG



My Goals for today



- Everyone should take away 3 things (s)he didn't know before
 - Making you curious to research yourself



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SQL Developer Versions



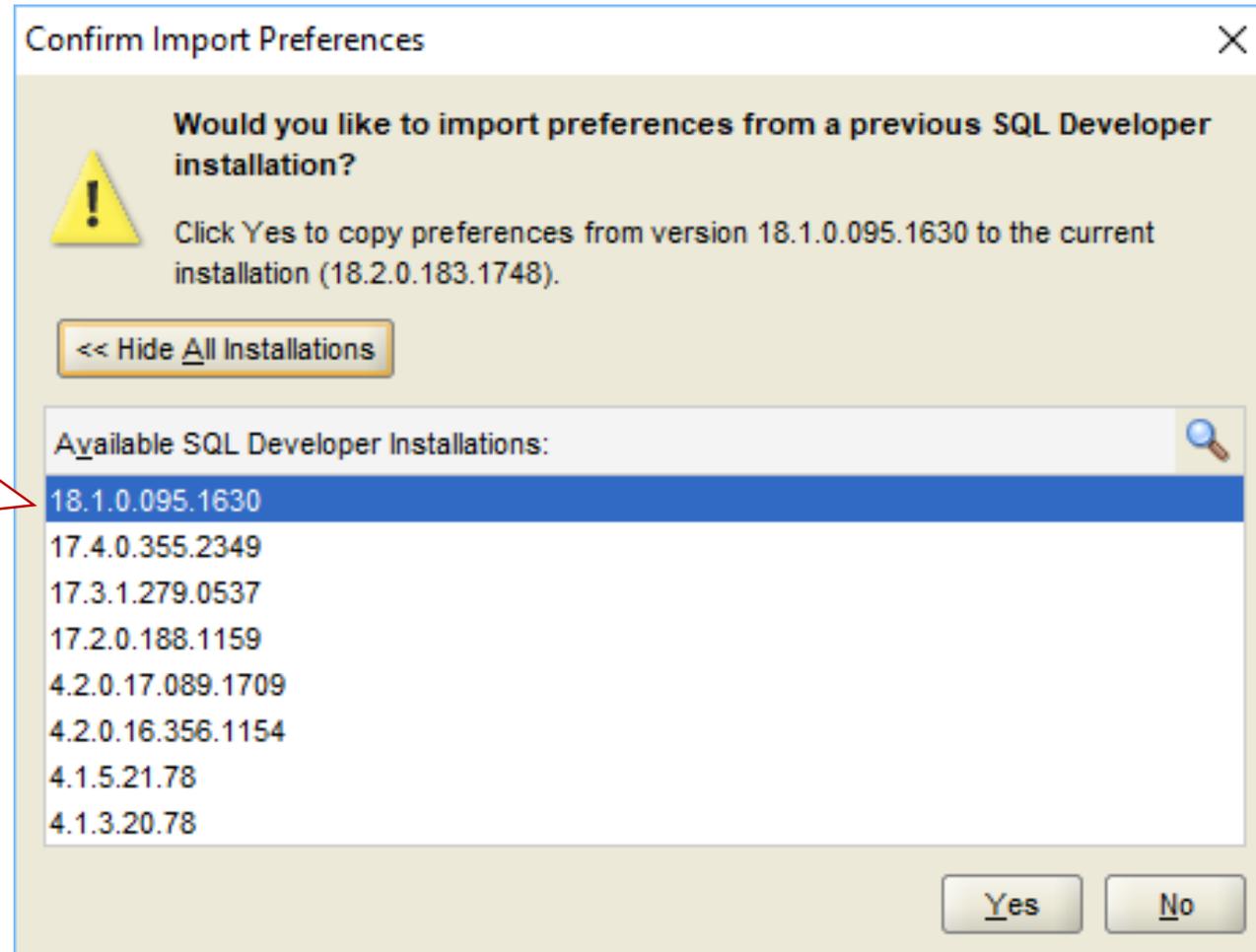
Personal Recommendation:

- Always get the newest download for test driving and giving feedback
- Keep an older version that works for you - just in case



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Multiple parallel installations



You can import your settings from previous versions.

So absolutely no excuse for not trying the newest version! 😊



Multiple parallel installations



↑ C:\Users\User\AppData\Roaming\SQL Developer

Name	Änderungsdatum	Typ
SqlHistory	17.11.2017 12:59	Dateiordner
system4.1.3.20.78	29.03.2017 01:47	Dateiordner
system4.1.5.21.78	08.03.2017 09:37	Dateiordner
system4.2.0.16.356.1154	06.03.2017 12:27	Dateiordner
system4.2.0.17.089.1709	23.04.2017 02:04	Dateiordner
system17.2.0.188.1159	16.11.2017 13:16	Dateiordner
system17.3.1.279.0537	18.11.2017 17:44	Dateiordner

Shared: SQL History, Reports, File History

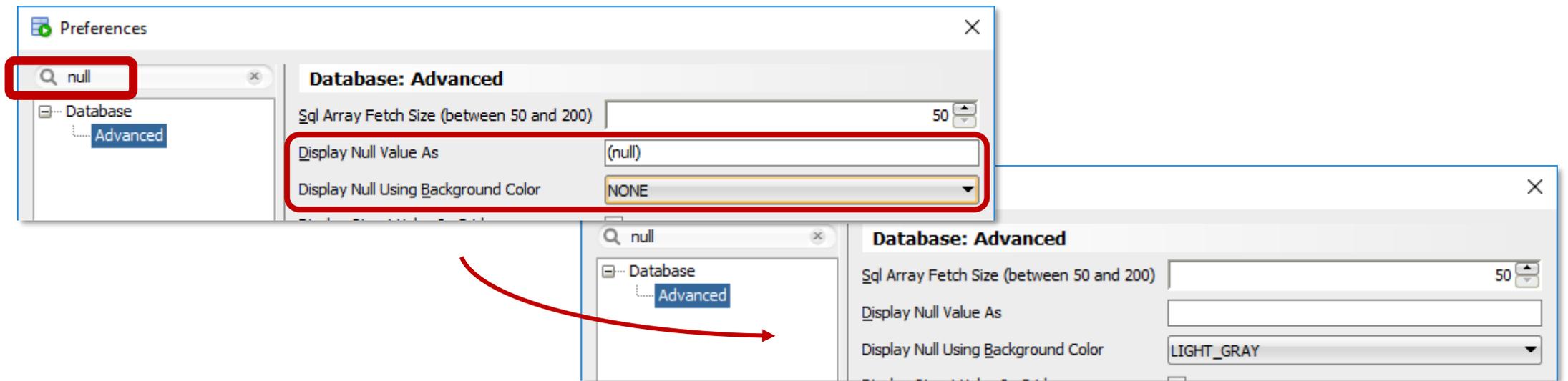


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Settings I tweak in a new environment



How to display NULL values



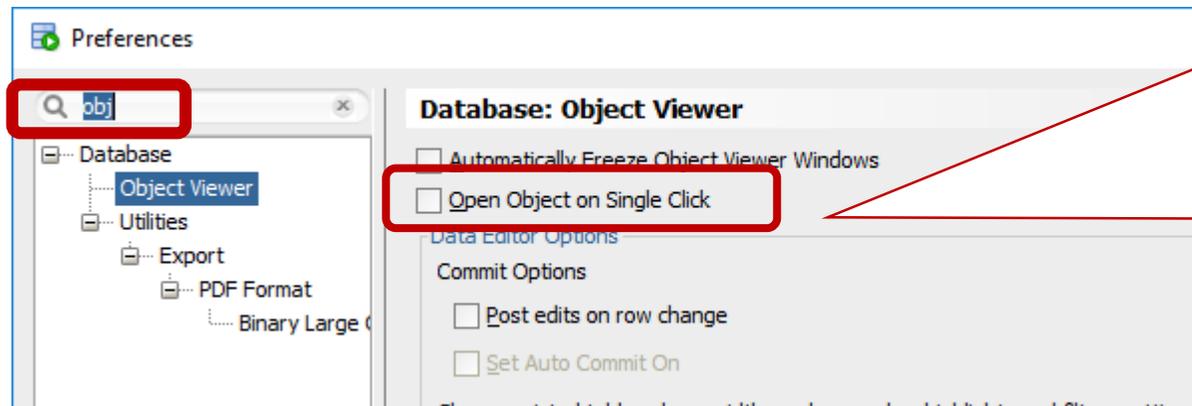
LOCATION_ID	STREET_ADDRESS	POSTAL_CODE	CITY	STATE_PROVINCE	COUNTRY_ID
1000	1297 Via Cola di Rie	00989	Roma		IT
1100	93091 Calle della Testa	10934	Venice		IT
1200	2017 Shinjuku-ku	1689	Tokyo	Tokyo Prefecture	JP
1300	9450 Kamiya-cho	6823	Hiroshima		JP
1400	2014 Jabberwocky Rd	26192	Southlake	Texas	US

Now the values are easy to spot *and* can be distinguished from whitespace

Settings I tweak in a new environment



Open Object on Single or Double Click



If this option is checked, any table or view in the connection tree is opened immediately in the object viewer.

If you don't like that (it's driving me nuts!) uncheck this.

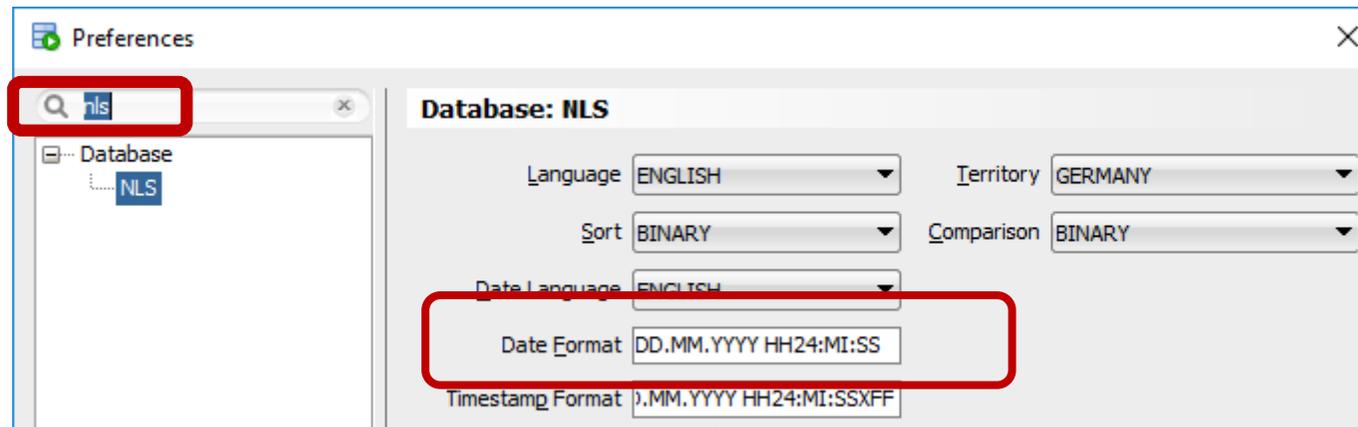


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Settings I tweak in a new environment



Display Dates



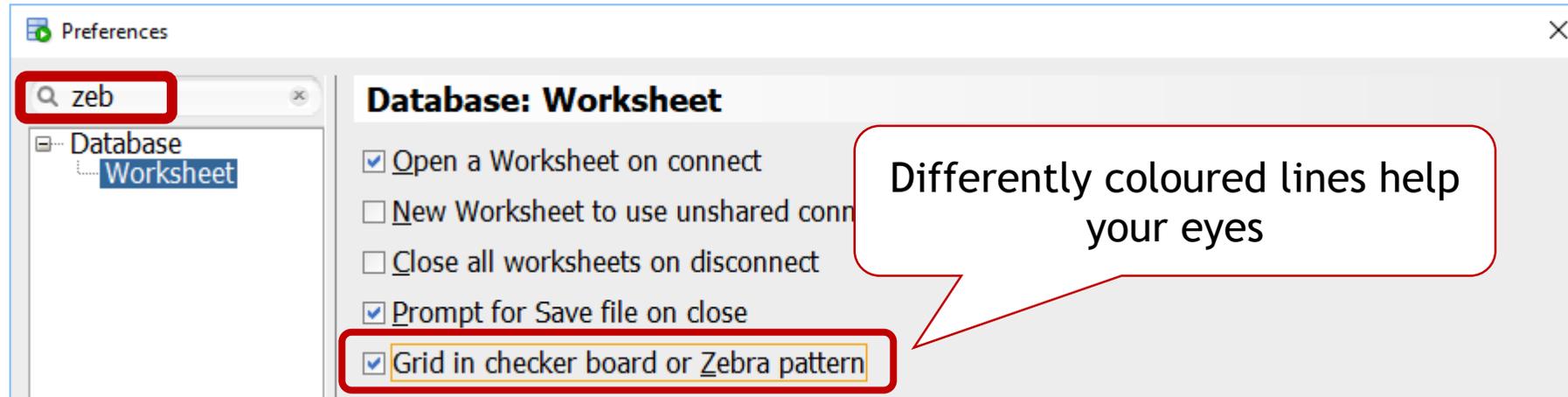
I don't like the standard setting DD.MM.RR for displaying dates.
You can choose you favourite format here.



Other Settings



Data Grid: Zebra Pattern

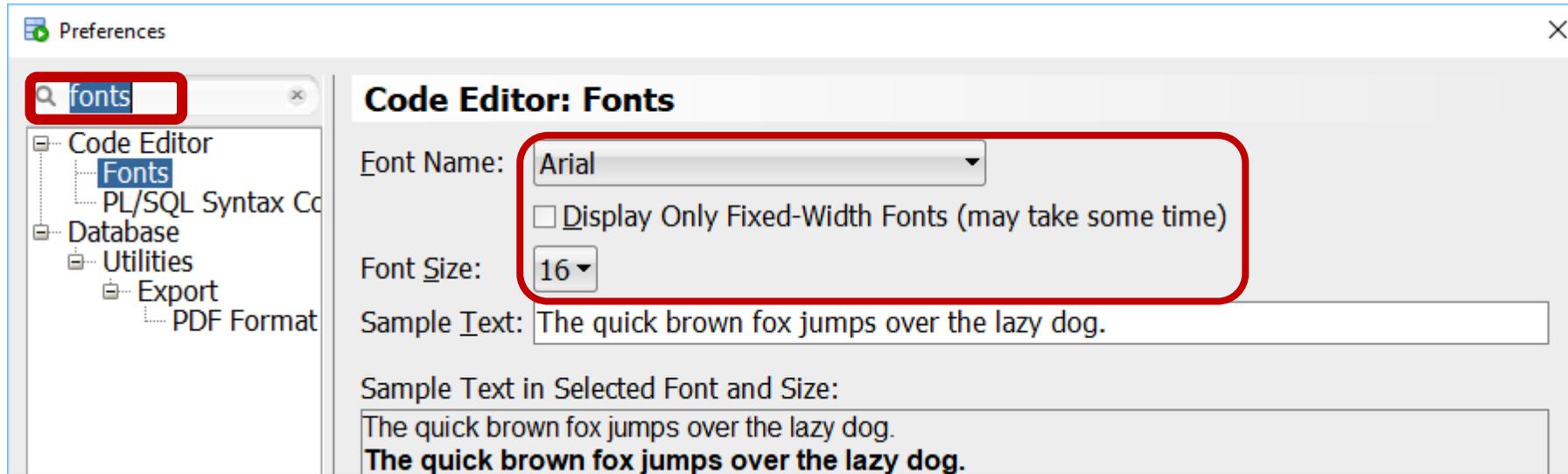


EMPLOYEE...	FIRST_NAME	LAST_NAME	EMAIL	PHONE_NUMBER
1	222 Han	Solo	HSOLO	515.123.8111
2	221 James P.	Sullivan	JSULLIVAN	515.123.4151
3	220 Curtis	Newton	CNEWTON	011.44.1346.729277
4	219 Andreas	von der Meden	AVONDERMEDE	515.123.5555

Other Settings



Font size and type



```
1 select *
2 from employees
```

Query Result x

SQL | Fetched 50 rows in 0.028 seconds

EMPLOYEE_ID	FIRST_NAME	LAST_NAME
1	220 Curtis	Newton
2	219 Andreas	von der Meden



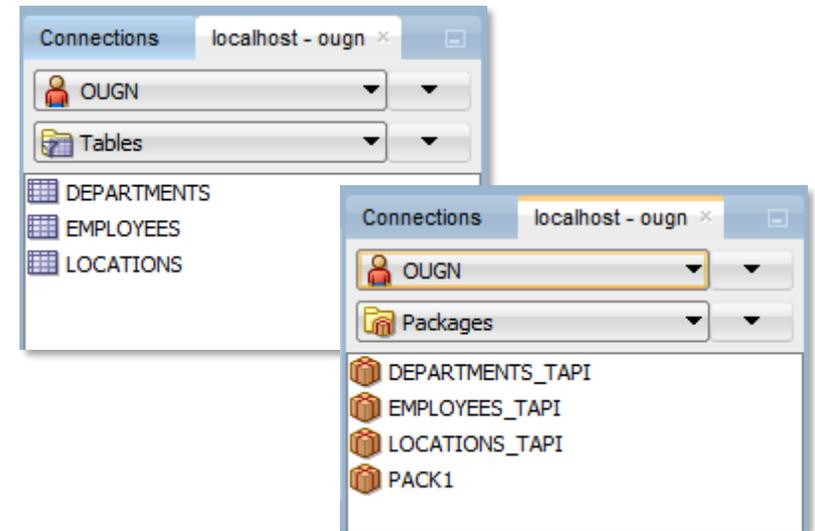
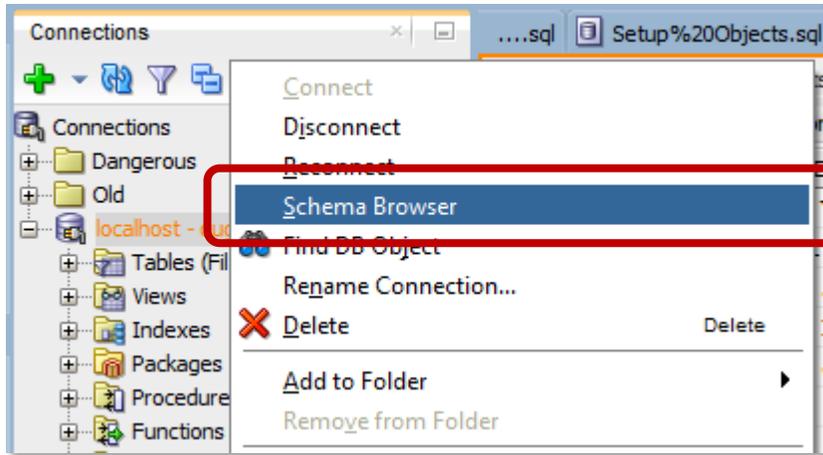
```
1 select *
2 from employees
```

Query Result x

SQL | Fetched 50 rows in 0.028 seconds

EMPLOYEE_ID	FIRST_NAME	LAST_NAME
1	220 Curtis	Newton
2	219 Andreas	von der Meden

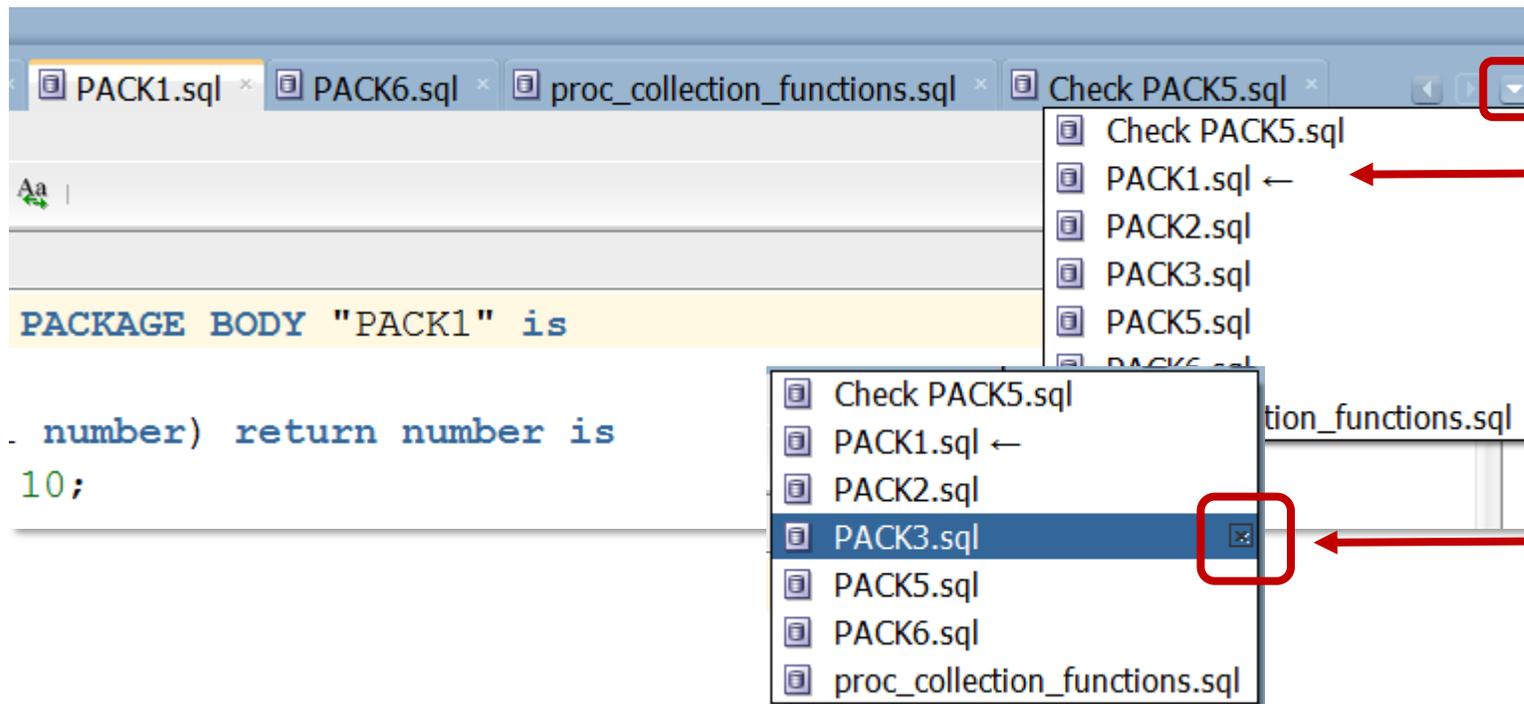
If you don't like the Connection Tree: Use the Schema Browser!



Window Management



You can use the left and right arrows to navigate the tabs but there is an alternative:



Unobtrusive, but very helpful:
List of Open Windows

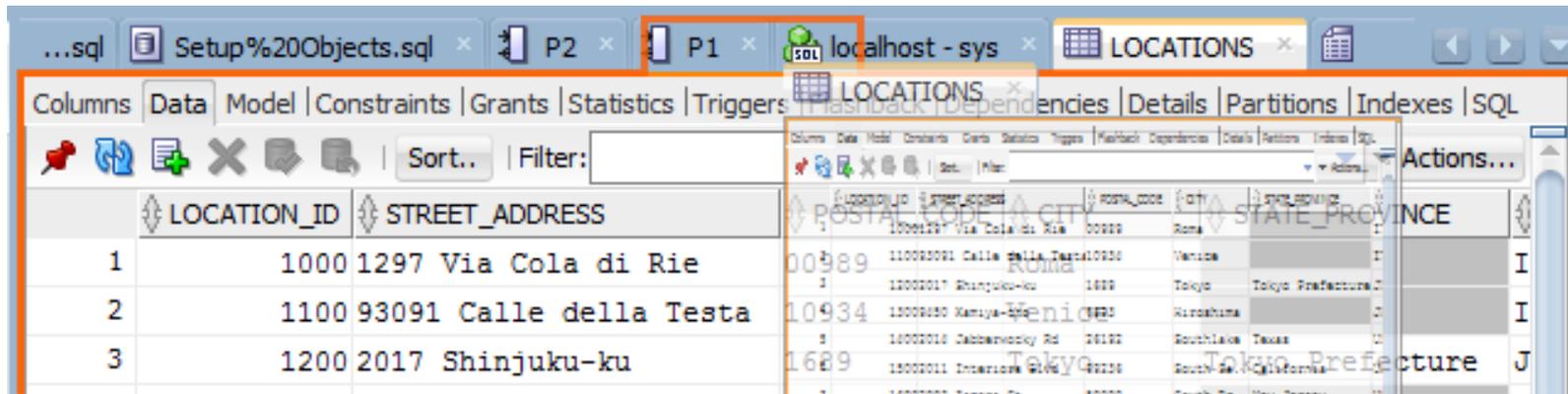
Current Window marked
by arrow

Windows can be closed
via
The little x
- faster than via tab!

Window Management



You can drag and drop windows.
The coloured border shows you where the window will be dropped.

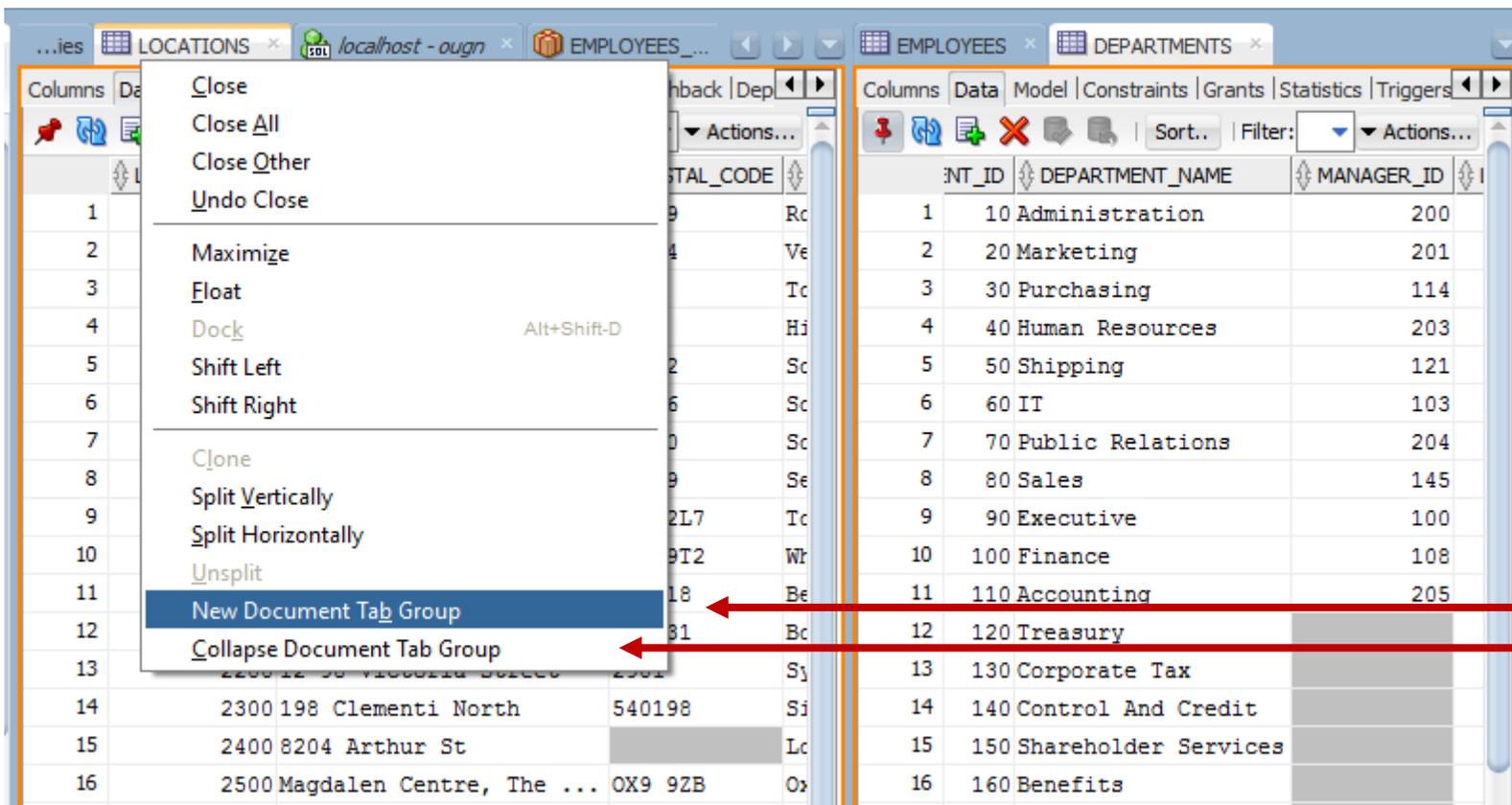


You can even undock them (float) and shift them around, maybe to a second screen?

Play around with dragging and dropping windows - if everything is messed up, you can always call Windows → Reset Windows To Factory Settings



Window Management



Display two (or more) windows next to each other

New Document Tab Group moves the current tab to a new panel

Collapse Document Tab Group moves all tabs back to the original panel

Window Management



You can split windows:

- worksheets and object viewers

Use these little thingies to split the window...

... or the context menu entries

The screenshot shows the SQL Developer interface with a context menu open over a code editor window. The menu includes options for window management: Close, Close All, Close Other, Undo Close, Maximize, Float, Dock (Alt+Shift-D), Shift Left, Shift Right, Clone, Split Vertically, Split Horizontally, Unsplit (highlighted), New Document Tab Group, and Collapse Document Tab Group. Red arrows point from the text above to the 'Unsplit' option and the window management icons in the top right corner of the code editor window.

When everything is messed up ,Unsplit' will save you!

Window Management



You can split windows:

- worksheets and object viewers

Display different types of information about your object (or different filters) next to each other

The screenshot shows the SQL Developer interface with four windows open for the 'EMPLOYEES' table:

- Data View:** Shows a list of employees with columns EMPLOYEE_ID, FIRST_NAME, and LAST_NAME.
- Column Properties View:** Shows the data types and constraints for each column.
- Constraints View:** Shows the list of constraints defined on the table.
- Statistics View:** Shows performance statistics for the table.

EMPLOYEE_ID	FIRST_NAME	LAST_NAME
1	220 Curtis	Newton
2	219 Andreas	von der Meden
3	218 Marcus	Brody
4	217 Samantha	Micelli
5	216 Sue	Charlton
6	215 Jason	Nesmith

COLUMN_NAME	DATA_TYPE	NULLABLE	DATA_DEF
1 EMPLOYEE_ID	NUMBER (6, 0)	Yes	
2 FIRST_NAME	VARCHAR2 (20 BYTE)	Yes	
3 LAST_NAME	VARCHAR2 (25 BYTE)	No	
4 EMAIL	VARCHAR2 (25 BYTE)	No	
5 PHONE_NUMBER	VARCHAR2 (20 BYTE)	Yes	
6 HIRE_DATE	DATE	No	
7 JOB_ID	VARCHAR2 (10 BYTE)	No	
8 SALARY	NUMBER (8, 2)	Yes	

CONSTRAINT_NAME	CONSTRAINT_TYPE	SEARCH
1 EMP_EMAIL_NN	Check	"EMAI
2 EMP_EMAIL_UK	Unique	
3 EMP_HIRE_DATE_NN	Check	"HIRE
4 EMP_JOB_NN	Check	"JOB_
5 EMP_LAST_NAME_NN	Check	"LAST
6 EMP_SALARY_MIN	Check	salar

Name	Value
1 NUM_ROWS	14
2 BLOCKS	5
3 AVG_ROW_LEN	70
4 SAMPLE_SIZE	14
5 LAST_ANALYZED	07.03.2017 17:00:50



Window Management

You can pin windows to prevent the contents from being replaced.

This works for

- data grids with worksheet results and
- objects viewers

EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL	PHONE_N
1	220 Curtis	Newton	CNEWTON	011.44.1346.629268
2	219 Andreas	von der Meden	AVONDERMEDEN	515.123.8131
3	218 Marcus	Brody	MBRODY	650.121.2014
4	217 Samantha	Micelli	SMICELLI	640.507.9824
5	216 Sue	Charlton	SCHARLTON	650.507.9813
6	215 Jason	Nesmith	JNESMITH	011.44.1346.629268
7	214 Chris	Lowe	CLOWE	515.123.8182
8	213 Katherine	Tanner	KTANNER	515.123.8131
9	212 Patrick	Doyle	PDOYLE	515.123.4181

```
1 select *
2 from departments;
3
4 select *
5 from employees;
6
7 select *
8 from locations;
```

EMPLOYEE_ID	FIRST_NAME	LAST_NAME
1	207 Ned	Ryerson
2	209 Ellis	Kaut
3	218 Marcus	Brody
4	220 Curtis	Newton
5	214 Chris	Lowe
6	213 Katherine	Tanner
7	212 Patrick	Doyle

BUT: Keep an eye on your computer's memory!



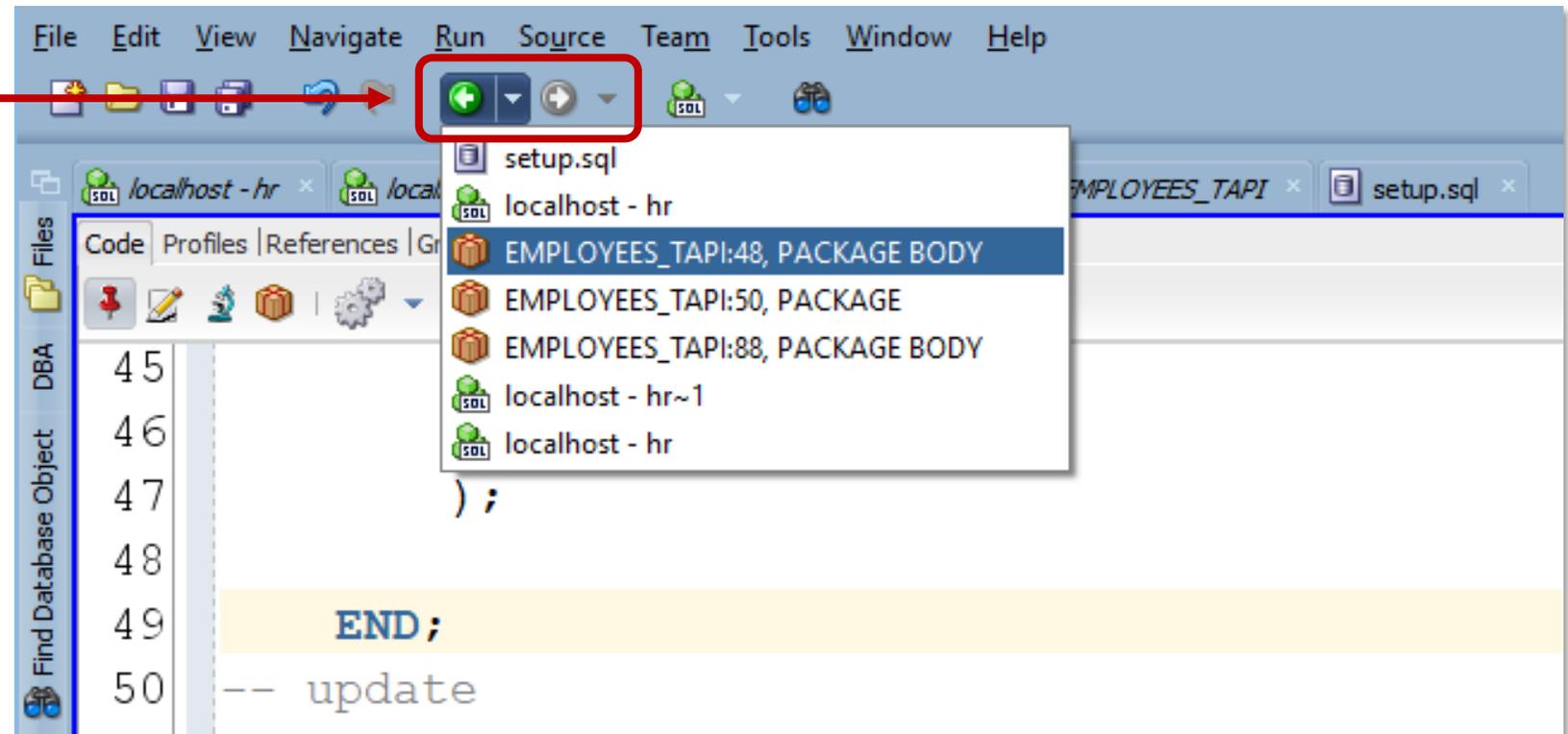
Window Management

SQL Developer knows where you've been ...



You can use the green buttons to go back and forward one step.

The arrow down shows the history of tabs (including worksheets, files, object viewers, package viewers). A simple click will take you there



Output Formats - CSV



- Use `/**/` comments to influence the format of the script output

Execute as script - F5

```
localhost - hr x
0.087 seconds
Worksheet Query Builder
1 select /**csv*/ employee_id, first_name, last_name, email
2 from employees
Script Output x
Task completed in 0.087 seconds
"EMPLOYEE_ID","FIRST_NAME","LAST_NAME","EMAIL"
222,"Han","Solo","HSOLO"
221,"James P.,"Sullivan","JSULLIVAN"
220,"Curtis","Newton","CNEWTON"
219,"Andreas","von der Meden","AVONDERMEDEN"
218,"Marcus","Brody","MBRODY"
```

NB:
No spaces inside the `/**/`!



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Output Formats - JSON



The screenshot shows the SQL Developer interface. The query editor contains the following SQL statement:

```
1 select /*json*/ employee_id, first_name, last_name, email
2 from employees
```

The output window shows the following JSON result:

```
{
  "results": {
    "columns": [
      { "name": "EMPLOYEE_ID", "type": "NUMBER" },
      { "name": "FIRST_NAME", "type": "VARCHAR2" },
      { "name": "LAST_NAME", "type": "VARCHAR2" }
    ],
    "rows": [
      {
        "employee_id": 222, "first_name": "Han", "last_name": "Solo", "email": "HSOLO"
      },
      {
        "employee_id": 221, "first_name": "James P.", "last_name": "Sullivan", "email": "JSULLIVAN"
      },
      {
        "employee_id": 220, "first_name": "Curtis", "last_name": "Newton", "email": "CNEWTON"
      },
      {
        "employee_id": 219, "first_name": "Andreas", "last_name": "von der Meden", "email": "AVONDERMEDEN"
      },
      {
        "employee_id": 218, "first_name": "Marcus", "last_name": "Brody", "email": "MBRODY"
      },
      {
        "employee_id": 217, "first_name": "Samantha", "last_name": "Micelli", "email": "SMICELLI"
      }
    ]
  }
}
```



Output Formats - XML



The screenshot shows the SQL Developer interface. The query editor contains the following SQL query:

```
1 select /*xml*/ employee_id, first_name, last_name, email
2 from employees
```

The output window shows the XML result:

```
<?xml version='1.0' encoding='UTF-8' ?>
<RESULTS>
  <ROW>
    <COLUMN NAME="EMPLOYEE_ID"><![CDATA[222]]></COLUMN>
    <COLUMN NAME="FIRST_NAME"><![CDATA[Han]]></COLUMN>
    <COLUMN NAME="LAST_NAME"><![CDATA[Solo]]></COLUMN>
    <COLUMN NAME="EMAIL"><![CDATA[HSOLO]]></COLUMN>
  </ROW>
  <ROW>
    <COLUMN NAME="EMPLOYEE_ID"><![CDATA[221]]></COLUMN>
    <COLUMN NAME="FIRST_NAME"><![CDATA[James P.]]></COLUMN>
    <COLUMN NAME="LAST_NAME"><![CDATA[Sullivan]]></COLUMN>
  </ROW>
</RESULTS>
```



Output Formats - HTML



The screenshot shows the SQL Developer interface. The query editor contains the following SQL query:

```

1 select /*html*/ employee_id, first_name, last_name, email
2 from employees
    
```

The output window shows the generated HTML, which includes a search form and a table of results:

```

<body>
<div><input type="text" size="30" maxlength="1000" value="" id="search" onkeyup="lsearch();" /><input type="button" value="Go" onclick="lsea
<table><thead><tr> <th>EMPLOYEE_ID</th>
  <th>FIRST_NAME</th>
  <th>LAST_NAME</th>
  <th>EMAIL</th>
</tr></thead>
<tbody id="data">
  <tr>
    <td align="right">222</td>
    <td>Han</td>
    <td>Solo</td>
    <td>HSOLO</td>
  </tr>
  <tr>
    <td align="right">221</td>
    <td>James P.</td>
    
```

The generated HTML contains a search field which lets you filter the result:

EMPLOYEE_ID	FIRST_NAME	LAST_NAME	EMAIL
207	Ned	Ryerson	NRYERSON
127	James	Landry	JLANDRY

Output Formats - Insert



The screenshot shows the SQL Developer interface. The query editor contains the following SQL code:

```
1 select /*insert*/ employee_id, first_name, last_name, email
2 from employees
```

The output window shows the following text:

```
REM INSERTING into EMPLOYEES
SET DEFINE OFF;
Insert into EMPLOYEES (EMPLOYEE_ID,FIRST_NAME, LAST_NAME,EMAIL) values ('222','Han','Solo','HSOLO');
Insert into EMPLOYEES (EMPLOYEE_ID,FIRST_NAME, LAST_NAME,EMAIL) values ('221','James P.','Sullivan','JSULLIVAN');
Insert into EMPLOYEES (EMPLOYEE_ID,FIRST_NAME, LAST_NAME,EMAIL) values ('220','Curtis','Newton','CNEWTON');
Insert into EMPLOYEES (EMPLOYEE_ID,FIRST_NAME, LAST_NAME,EMAIL) values ('219','Andreas','von der Meden','AVONDERMEDEN');
```



Output Formats - Delimited



```
Worksheet Query Builder
1 set sqlformat delimited
2 select * from employees
```

Query Result x Script Output x
Task completed in 0.089 seconds

```
"EMPLOYEE_ID","FIRST_NAME","LAST_NAME","EMAIL","PHONE_N  
220,"Curtis","Newton","CNEWTON","011.44.1346.729277",21  
219,"Andreas","von der Meden","AVONDERMEDEN","515.123.5  
218,"Marcus","Brody","MBRODY","650.121.28754",  
217,"Samantha","Micelli","SMICELLI","640.507.9
```

delimited allows a custom delimiter
(since version 18.1)

```
Worksheet Query Builder
1 set sqlformat delimited |
2 select * from employees
```

Query Result x Script Output x Script Output 1 x
Task completed in 0.089 seconds

```
"EMPLOYEE_ID"|"FIRST_NAME"|"LAST_NAME"|"EMAIL"|"PHONE_NUMBER"|"HIRE  
220|"Curtis"|"Newton"|"CNEWTON"|"011.44.1346.729277"|21.04.2002 00:  
219|"Andreas"|"von der Meden"|"AVONDERMEDEN"|"515.123.5555"|17.02.2  
218|"Marcus"|"Brody"|"MBRODY"|"650.121.28754"|17.03.2002 00:00:00|  
217|"Samantha"|"Micelli"|"SMICELLI"|"640.507.9824"|23.05.2006 00:00
```

Output Formats - Best Fit



Worksheet Query Builder

```
1 select * from all_objects
```

Script Output x

Task completed in 9.812 seconds

OUTLN
OUTLN
OWNER

OUTLN
OUTLN

Worksheet Query Builder

```
1 set sqlformat ansiconsole  
2 select * from all_objects
```

Script Output x

Task completed in 1.374 seconds

OWNER	OBJECT_NAME	SUBOBJECT_NAME	OBJECT_ID	DATA_OBJECT_ID	OBJECT_TYPE	CREATED
SYS	ORA\$BASE		133		EDITION	26.01.2017 13:5
SYS	DUAL		142	142	TABLE	26.01.2017 13:5
PUBLIC	DUAL		143		SYNONYM	26.01.2017 13:5

How to highlight important information



The screenshot shows the 'Sessions' window in Oracle SQL Developer. A data grid lists session details. A 'Find / Highlight' dialog box is open, with the search term 'active' and the 'Highlight' radio button selected. The 'Options' section is also visible, with 'Whole Word', 'Persist Highlight', and 'Highlight Row' checked. The dialog indicates 'Found 6 matches'.

INST_ID	SID	SERIAL	SQL_ID	Username	Seconds in Wait	Command	Machine	OS User	Status	Module	Acti
1	1	34	29338 1uf8n1vwkcyu2	SYSTEM		0 SELECT	MUMIN	bine	active	SQL Developer	(null)
2	1	59	16512 59p1yadp2g6mb	SYS			generic	oracle	active	DBMS_SCHEDULER	AQ\$_PI
3	1	60	23003 (null)	APEX_PUBLIC			localhost	oracle	inactive	APEX Listener	(null)
4	1	69	32319 59p1yadp2g6mb	SYS			vbgeneric	oracle	active	DBMS_SCHEDULER	AQ\$_PI
5	1	76	1228 (null)	HR			MUMIN	bine	inactive	SQL Developer	(null)
6	1	90	24992 59p1yadp2g6mb	SYS			vbgeneric	oracle	active	DBMS_SCHEDULER	AQ\$_PI
7	1	104	7205 59p1yadp2g6mb	SYS			generic	oracle	active	DBMS_SCHEDULER	AQ\$_PI

When the focus is within a data grid
Ctrl-F
opens the search/highlight dialog

When you are finished defining
your search press Enter while the
cursor is in the search field

About the Data Grid Search and Highlight



- The magnifier in the upper left hand corner allows you to limit your search to a certain column
- If you choose 'Persist Highlight' the settings are stored for this *object or report* and the current connection (not for *result tabs* of a worksheet)

Keep in mind when searching for dates and numbers:

- The search behaves like the 'LIKE' operator, so what you get is a plain text comparison
- You cannot specify < or > comparisons
- When searching for number values, check if comma or dot is used for decimal places



Naming Worksheets and Data Grids



Type
`set worksheetname`
 and execute to rename your
 unsaved worksheet

Right click the result tab you
 want to rename to open the
 rename dialog

The screenshot shows the SQL Developer interface. At the top, there are tabs for 'base_queries', 'DEPARTMENTS', 'EMPLOYEES_TAPI Body', 'EMPLOYEES', and 'LOCATIONS'. Below the tabs is a toolbar with various icons. The main window is split into two panes. The top pane is the 'Worksheet' pane, which contains the following SQL code:

```

1 set worksheetname base_queries
2
3 select *
4 from departments;
  
```

The bottom pane is the 'Query Builder' pane, which displays a data grid with the following columns: LOCATION_ID, STREET, POSTAL_CODE, and CITY. The data grid contains three rows of data:

LOCATION_ID	STREET	POSTAL_CODE	CITY
1	1000 1295 Vi	00989	Roma
2	1100 93091 Calle della Testa	10934	Venice
3	1200 2017 Shinjuku-ku	1689	Tokyo

A context menu is open over the data grid, with the 'Rename' option highlighted. A red box is drawn around the 'Rename' option in the context menu. A red arrow points from the text 'Right click the result tab you want to rename to open the rename dialog' to the 'Rename' option in the context menu. Another red arrow points from the text 'Type set worksheetname and execute to rename your unsaved worksheet' to the SQL code in the worksheet pane.

Renaming a tab
 will pin it
 automatically



Copying Data



localhost - ougn x

Worksheet Query Builder

```
18 select *
19 from employees;
20
```

Query Result x

SQL | All Rows Fetched: 14 in 0.015 seconds

	EMPLOYEE_ID	FIRST_NAME	LAST_NAME
1	220	Curtis	Newton
2	219	Andreas	von der Meden
3	218	Marcus	Brody

Worksheet Query Builder

```
1 220 Curtis Newton
2 219 Andreas von der Meden
3
4
5
6
7
8
9
10
11
```

Ctrl-C copies the plain data



POUG

Copying Data



The screenshot shows two windows from SQL Developer. The left window displays a query result table with columns EMPLOYEE_ID, FIRST_NAME, and LAST_NAME. The right window shows a worksheet with the same data copied into it, including the column headers. A red arrow points from the table in the left window to the worksheet in the right window.

EMPLOYEE_ID	FIRST_NAME	LAST_NAME
1	220 Curtis	Newton
2	219 Andreas	von der Meden
3	218 Marcus	Brody
4	217 Samantha	Micelli
5	216 Sue	Charlton
6	215 Jason	Nesmith

Ctrl-Shift-C copies the data with headings



Copying Column Names



Copy Selected Column Header(s)
copies a comma-separated list of column names to the clipboard

The screenshot shows two instances of the SQL Developer interface. The left instance has a query window with the following SQL code:

```
19 select *
20 from employees;
21
```

Below the query window is a 'Query Result' window showing a table with 9 rows. The first row is the header, and the following rows contain employee data. A context menu is open over the table, with the option 'Copy Selected Column Header(s)' highlighted. A red arrow points from the text on the left to this menu option. Another red arrow points from the menu to the right instance of the interface.

The right instance of the interface shows a 'Query Builder' window with the following SQL code:

```
1 FIRST_NAME, LAST_NAME
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
```

One of many way to replace the * in your select statement!



Copy & Paste extended



Ctrl-Shift-V
shows the clipboard's memory

Choose an entry
from the upper
window.

You can see the
complete entry in
the lower window

Clipboard Items:

- with eins as
EMPLOYEE_ID
FIRST_NAME, LAST_NAME, EMAIL, HIRE_DATE
select *
delimited

Item Content:

```
with eins as
(select *
from employees
)
, zwei as
(select *
from employees_backup
)
, diff as
```

Help OK Cancel

Double click in upper
window/press OK
if you want to insert at
cursor position

Histories in SQL Developer

SQL History



With these buttons you can replace the current text in the worksheet with the selected statement or insert the selected statement at cursor position

You can filter for any string!

Time of execution

Number of executions

Duration

SQL	Connection	TimeStamp	Type	Executed	Duration(seconds)
SELECT object_name, type, name, line FROM user_identifiers ai WH...	localhost - o...	12.03.2017 23:56	SQL	1	0.159
with one_obj_name as (select 'EMPLOYEES_TAPI' object_name, 'PACK...	localhost - o...	12.03.2017 23:55	SQL	1	0.384
WITH param AS (SELECT 'P1' object_name FROM DUAL) SELECT plsc...	localhost - o...	12.03.2017 23:54	SQL	1	0.283
select object_name, signature, sql_id, text from user_statements w...	localhost - o...	12.03.2017 23:53	SQL	2	0.208
with param as (select 'EMPLOYEES_TAPI' object_name, 'PACKAGE BODY...	localhost - o...	12.03.2017 23:47	SQL	4	0.176
set sqlformat ansiconsole;alter session set plscope_settings='STATEME...	localhost - o...	12.03.2017 22:57	Script	1	0.441
select 'Lines in IDENTIFIERS' name, count(*) valuefrom user_identifiers...	localhost - o...	12.03.2017 22:56	SQL	3	0.034
select NAME, TYPE, PLSCOPE_SETTINGS from user_plsql_object_settin...	localhost - o...	12.03.2017 22:56	SQL	2	0.029
set sqlformat ansiconsole;alter session set plscope_settings='STATEME...	localhost - o...	12.03.2017 22:56	Script	2	0.595





Histories in SQL Developer Statements Log

Great for inquisitive people! 😊



This log contains *everything* that's sent to the database. So you see your own statements as well as the metadata queries that SQL Developer uses to display the database objects

You can filter for any string!

Duration

Parameters

Double click opens a window with the complete text

Seq...	Connection Name	Elapsed	SQL	Parameters
311	localhost - ougn	304	begindbms_utility.expand_sql_text(input_sql_text => :sql,output_sql_text => :x);end;	1="select object_name, signature,
310	localhost - ougn	63	select 1 from sys.obj\$ where 1=0	
309	localhost - ougn	2	/* + NO_PARALLEL */SELECT ROWID "ROWID", ORA_ROWSCN "ORA_ROWSCN", EMPLOYEE_ID EM...	
308	localhost - ougn	3	SELECT 'COLUMN' type, owner, table_name object_name, column_name, column_id, data_type FRO...	1="OUGN", 2="EMPLOYEES"
307	localhost - ougn	4	select NULLIF((select count(1) from all_external_tables where owner = 'OUGN' and table_name = 'E...	
306	localhost - ougn	3	select column_name from all_tab_cols A where TABLE_NAME = :OBJECT_NAME and owner = :OBJEC...	"OBJECT_NAME"="EMPLOYEES", "C
305	localhost - ougn	4	select column_name from all_tab_cols A where TABLE_NAME = :OBJECT_NAME and owner = :OBJEC...	"OBJECT_NAME"="EMPLOYEES", "C
304	localhost - ougn	2	select NULLIF((select count(1) from all_external_tables where owner = 'OUGN' and table_name = 'E...	
303	localhost - ougn	7	/* + NO_PARALLEL */SELECT ROWID "ROWID", ORA_ROWSCN "ORA_ROWSCN", DEPARTMENT_ID ...	

Histories in SQL Developer

File History



The important tab!

Navigate

Saved versions of your file

Diff with current version

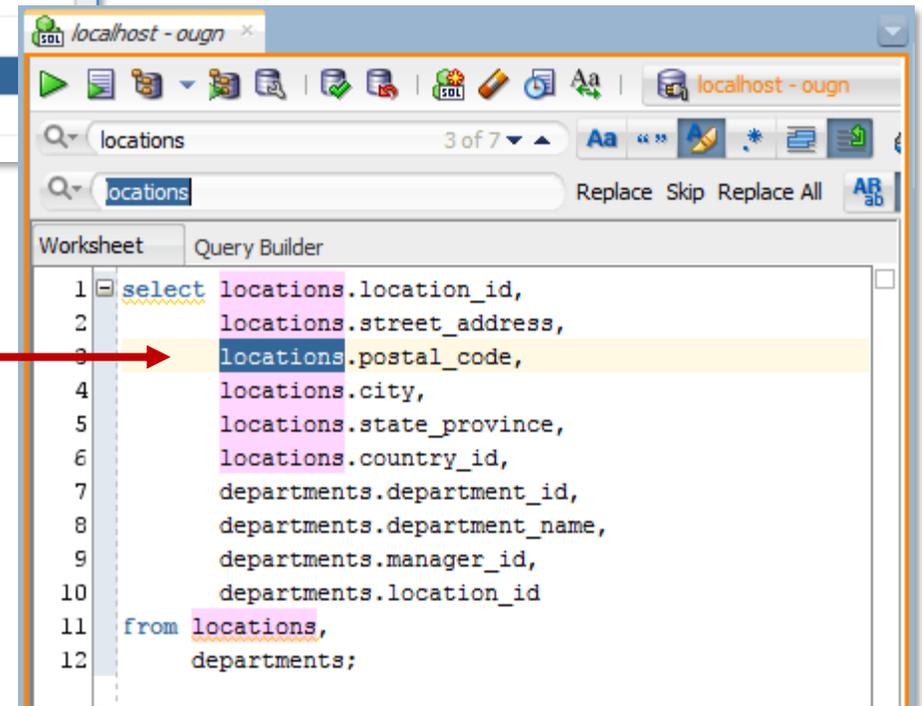
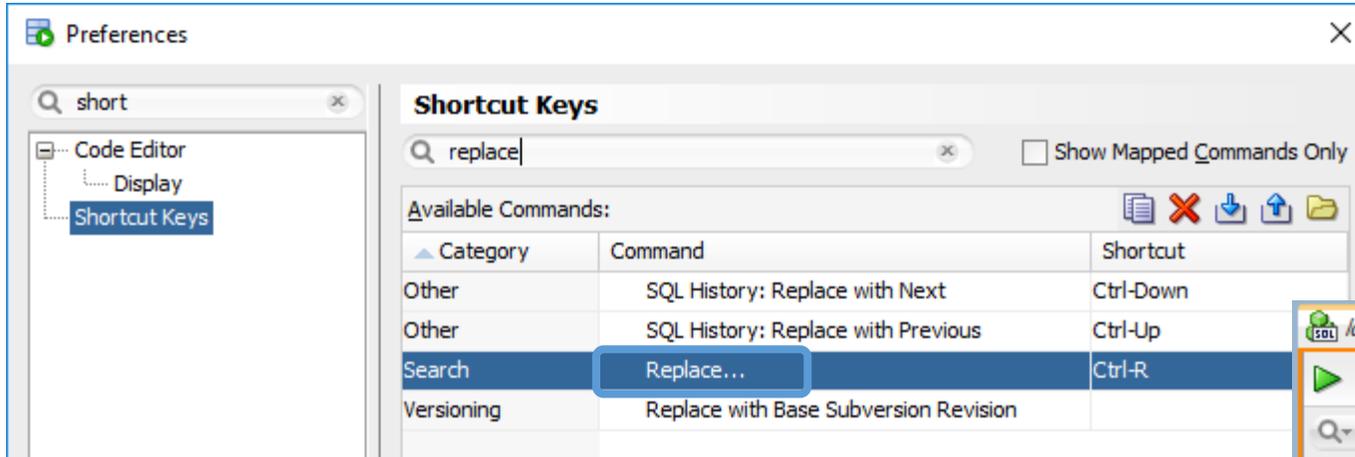
Choose which changes you want to apply to your file

Date	Revision	Description
Mar 12, 2017 11:51:38 PM	Local	Save
Mar 12, 2017 10:33:31 PM	Local	Save
Mar 12, 2017 10:33:31 PM	Local	Load External State

```
and object_name = 'EMPLOYEES_TAPI'
and object_type = 'PACKAGE BODY'
)
select  lpad (' ', 3 * (level - 1))
|| type || ' ' || name || ' (' || usage || ')
from plsscope_hierarchy
```

Replacing text

Shortcut CTRL-R



- Mark the string you want to replace and press Ctrl-R
- All occurrences are highlighted
 - The focus is in the 'Replace' field
 - You can start replacing right ahead 😊

Replacing text

Challenge:
Keep upper case/lower case/init cap

Solution:
Press this button

```
1 create or replace PACKAGE BODY employees_tapi IS
2
3 /**
4 * This procedure inserts data into table EMPLOYEES.
5 *
6 * Text for demo purposes: Employees
7 *
8 * Params:
9 * p_employee_id integer, may be empty
10 *
11 */
12 PROCEDURE ins (
13     p_job_id          IN employees.job_id%type,
14     p_employee_id    IN employees.employee_id%type DEFAULT NULL,
```

Preserve Case: The case of the replacement text will adjust to the case of the found text. e.g. "found" -> "replace", "FOUND" -> "REPLACE", "Found"->"Replace".



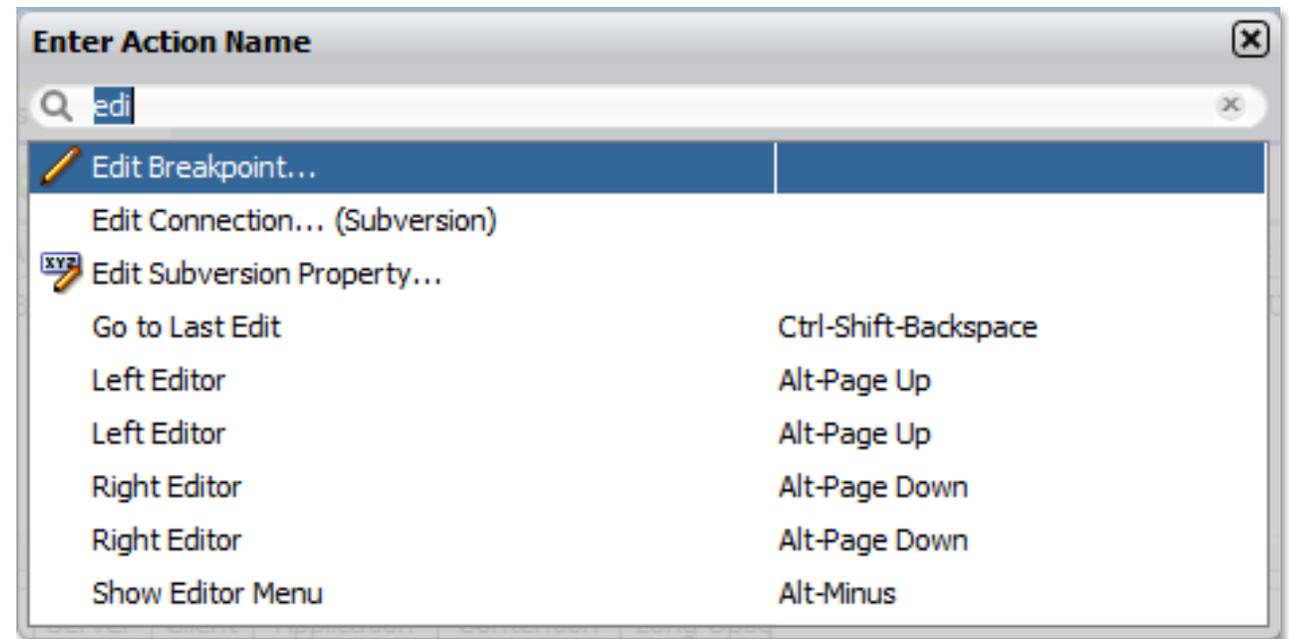
Result

```
1 create or replace PACKAGE BODY emp_tapi IS
2
3 /**
4 * This procedure inserts data into table EMP.
5 *
6 * Text for demo purposes: Emp
7 *
8 * Params:
9 * p_employee_id integer, may be empty
10 *
11 */
```

Shortcuts



- Change or create your own:
Menu: Tools → Preferences → Shortcut Keys
- Forgot Shortcut?
Ctrl-Alt-A reminds you:



Define your own Shortcuts



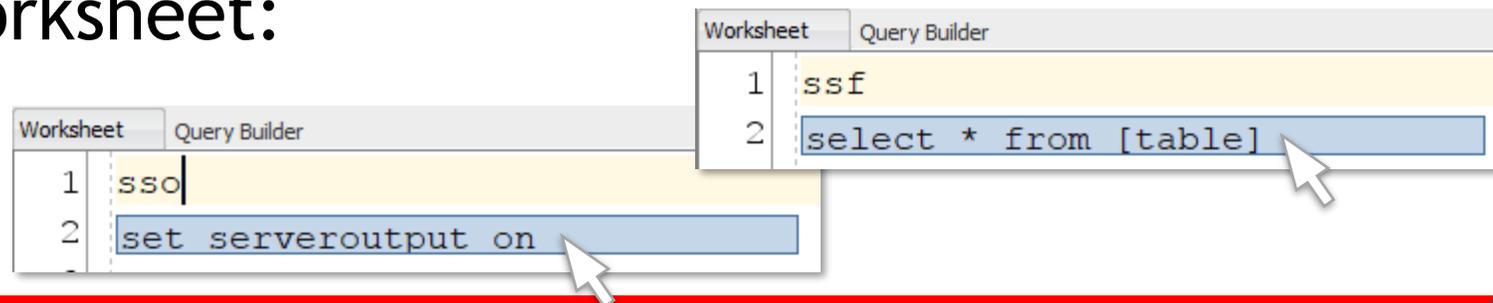
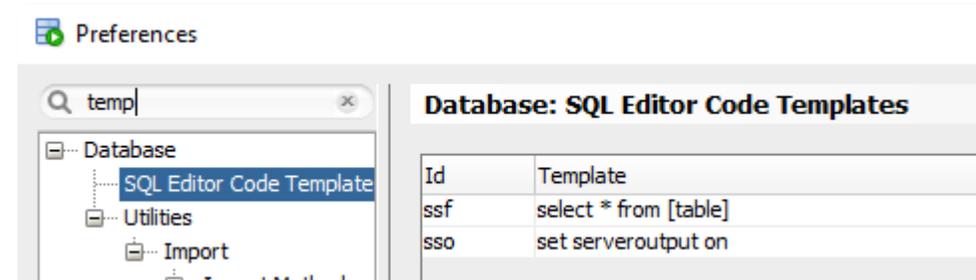
- Depending on your keyboard layout you can't use all predefined shortcuts, so just make your own
- Some ideas...
 - Upper case/Lower case: Ctrl-U, Ctrl-L
 - Multiple cursors on/off: Alt-.
 - Toggle Line Comments: Ctrl- -
 - Open Preferences Window Ctrl-P
 - Open New SQL Worksheet Ctrl-T



SQL Editor Code Templates



- Go to Preferences
- Navigate to tree entry 'Database' (not 'Code Editor')
(alternatively type 'temp' into search field)
- Define your Templates
- After that, you can use them in the worksheet:





SQL Editor Code Templates



- For some reason, the templates don't work if there's no connection open `_(ツ)_/`
- Location:
C:\Users\\AppData\Roaming\SQL Developer
\CodeTemplate.xml

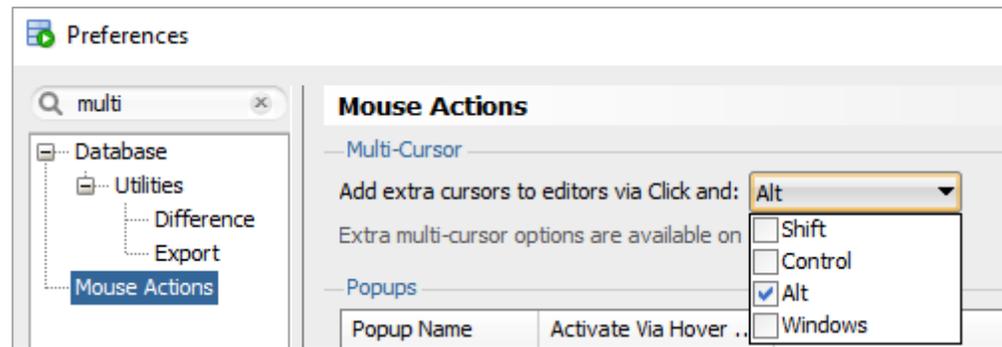


POUG

Multi-Cursor Editing



- Preparation:
Choose your favourite key/key combination for adding extra cursors:



Multi-Cursor Editing



Worksheet Query Builder

```
1 select
2     employee_id,
3     first_name, last_n
4     email,
5     phone_number,
6     hire_date,
7     job_id
8 from
9     employees
```

Worksheet Query Builder

```
1 select
2     employee_id,
3     first_name, last_name
4     email,
5     phone_number,
6     hire_date,
7     job_id
8 from
9     employees
```

Worksheet Query Builder

```
1 select
2     e.employee_id,
3     e.first_name, e.last_name,
4     e.email,
5     e.phone_number,
6     e.hire_date,
7     e.job_id
8 from
9     employees
```

Keep the Alt key pressed while placing the cursors in the worksheet

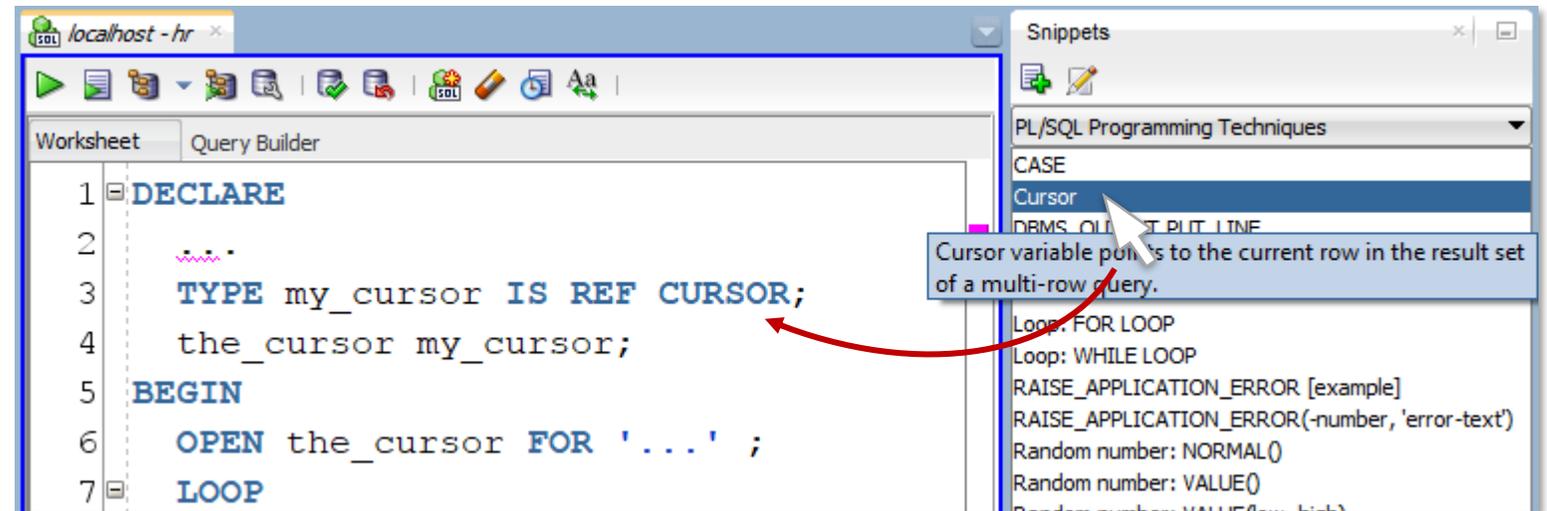
Start typing to add text at the cursor positions

Snippets



- Menu: View → Snippets
- You can add your own!

Usage:
Drag (from Snippets window) and
Drop (into your worksheet)





Reports with 'Go To'



- If you use column aliases
 `sdev_link_owner, sdev_link_name, sdev_link_type`
the columns will not be shown in your report,
but you get an extra context menu entry 'Go To <Object>'
which opens the corresponding Object Viewer
- Location:
 C:\Users\<User>\AppData\Roaming\SQL Developer
 \UserReports.xml

22	HR	Materialized View	EMPLOYEES_MV	valid 09.09.2017	17:09:2
23	HR	Package	EMPLOYEES_TAPI		17:44:2
24	HR	Package Body	EMPLOYEES_TAPI		17:17:44:2
25	HR	Procedure	ADD_JOB_HISTORY		17:16:48:1
26	HR	Procedure	MY_JAVA_SLEEP		17:05:25:4
27	HR	Procedure	SECURE_DML		17:16:48:1
28	HR	Procedure	SELECT_SOMETHING		17:05:53:4

A context menu is open over the row for 'EMPLOYEES_MV'. The menu items are: 'Go To EMPLOYEES_MV...', 'Save Grid as Report...', 'Single Record View...', 'Count Rows...', 'Find/Highlight...', and 'Export...'. The 'Go To EMPLOYEES_MV...' option is highlighted with a red box.

Reports with Hyperlinks



- A little more code is required when using hyperlinks, but it's mainly copy, paste, adjust
- Example:

```
select  initcap(object_type) "Type",
        owner                "Schema",
        'SQLDEV:LINK:'
        ||owner
        ||':'
        ||object_type
        ||':'
        ||object_name
        ||':oracle.dbtools.raptor.controls.grid.DefaultDrillLink' "Name"
from    all_objects
```

Just double click in the link to open the corresponding Object Viewer

Type	Schema	Name
1 Table	CONTROL	FLOWCONTROL
2 Table	DBMT	flyway schema history
3 Table	HR	TECH LOG
4 Table	LOGGER	LOGGER_PREFS
5 View	LOGGER	LOGGER_LOGS_5_MIN
6 View	LOGGER	LOGGER_LOGS_60_MIN



Deactivate Extensions



- Deactivate the features you don't need and ... **save a lot of time at SQL Dev startup!**
Menu: Tools → Features

- Location:
C:\Users\User\AppData\Roaming\SQL Developer\system<Build number>\ide-extension-prefs.xml





Finding More Information



The most comprehensive Source: Jeff Smith's blog

<http://www.thatjeffsmith.com/>

Jeff's Cheat Sheet

<https://www.cheatography.com/thatjeffsmith/cheat-sheets/oracle-sql-developer/>

SQL Developer Exchange - Enhancement Requests

<http://sqldeveloper.oracle.com>



POUG



Finding More Information



Community - ODC/OTN Forum

https://community.oracle.com/community/database/developer-tools/sql_developer/

Twitter - Users to follow

@thatjeffsmith @HeliFromFinland @krisrice
@OracleSQLDev, @OracleSQLcl

Twitter - Hashtags

#SQLDev #SQLDeveloper #SQLcl





My Wish List (please vote for it!)



- Save/Restore Workspace:
https://apex.oracle.com/pls/apex/f?p=43135:7:::NO:RP,7:P7_ID:361
- Open saved SQL file in an unshared connection worksheet
https://apex.oracle.com/pls/apex/f?p=43135:7:::NO:RP,7:P7_ID:30523



My Wish List (please vote!)

The screenshot shows a file explorer window with the following files:

Name	Änderungsdatum	Typ
00 call generate.sql	04.05.2016 21:51 ...	SQL-Datei
01 generate_statements_into_spool.sql	04.05.2016 21:13 ...	SQL-Datei
01.01 stmt.sql	03.05.2016 23:33 ...	SQL-Datei
02 exec_test.sql	04.05.2016 21:14 ...	SQL-Datei
exec_test.sql	03.05.2016 23:33 ...	SQL-Datei
test.sql	03.05.2016 23:33 ...	SQL-Datei

The SQL Developer window shows the following table:

ID	DEPARTMENT_NAME	MANAGER_ID	LOCATION
10	Administration	200	170
20	Marketing	201	180
30	Purchasing	114	170
40	Human Resources	203	240
50	Shipping	121	150
50	IT	103	140
70	Public Relations	204	270
30	Sales	145	250
90	Executive	100	170
00	Finance	108	170
10	Accounting	205	170
20	Treasury		170

- Drap & Drop everywhere (not restricted to worksheet!)
https://apex.oracle.com/pls/apex/f?p=43135:7:::NO::P7_ID:42761



Any more Questions?



- Mail: sabine.heimsath@its-people.de
- Twitter: <https://twitter.com/oraesque>



500+ Technical Experts Helping Peers Globally



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ORACLE
ACE



ORACLE
ACE Associate

3 Membership Tiers

- Oracle ACE Director
- Oracle ACE
- Oracle ACE Associate

bit.ly/OracleACEProgram

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Nominate yourself or someone you know: acenomination.oracle.com