

Timesaver Guide: SQL Developer

*A collection of tips on how you can save time using
SQL Developer*

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Timesaver Guide: SQL Developer

You likely spend a lot of time in your IDE. Any time you can save while using it is a good thing.

In this guide, you'll learn a few tips on how to save time using SQL Developer.

Here's the summary:

- Use Ctrl+Enter to run your statement.
- Use Alt+F10 (Windows) or Option+F10 (Mac) to quickly open a new worksheet.
- Set connection colours so you can see if you're in a specific environment.
- Use Block Selection to perform the same operations using multiple cursors on multiple lines.
- Set and use a keyboard shortcut for formatting your code.
- Enable line numbers to save time working with code.
- Use Ctrl + , (Windows) or Cmd + , (Mac) to open Preferences and search for settings.
- Use Ctrl + Space to open Completion Insight (aka Intellisense).
- Split your code editor side by side to make it easier to work with the same file or two files.
- Use Ctrl + Tab twice to switch tabs.
- Use Ctrl + Up/Down (Windows) or Cmd + Up/Down (Mac) to cycle through a history of SQL statements.
- Use Home and End to move to the top or bottom of the file.
- Consider enabling "Show query results in new tab" to preserve results of each query.
- You can filter results of a SELECT query in the results pane without re-running the query.
- Don't like the "open object on single click" feature? This can be changed to "open on double click".
- You can hide object types from the Connection Tree by using the Navigation Filter settings in Preferences.
- The Schema Browser is an alternative way to browse objects for a connection.
- You can write a script and have it run each time you connect to a database, if you like.
- Output hints make it easy to copy results into CSV, JSON, and other formats.
- You can disable unused features in SQL Developer to improve startup time.
- You can disable the welcome page from opening on startup.

Let's get into the details.

Run SQL Statements With Keyboard Shortcuts

Using the keyboard to perform tasks is faster than using the mouse. While you can click on either Run Statement or Run Script, there are keyboard shortcuts for these.

The keyboard shortcuts are:

Action	Windows	Mac
Run Statement	Ctrl + Enter, or F9	Ctrl + Enter, or F9
Run Script	F5	F5

Run Statement will run a single statement and display the results in a grid.

Run Script will run all statements in the file and display the results in a text output.

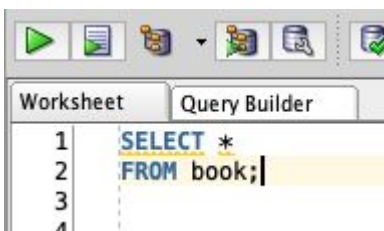
To select the statement to run with Run Statement, your cursor just needs to be either:

- inside the statement
- just after the closing semicolon

You don't have to select it.

You also don't have to move the cursor inside the statement to run it.

In this screenshot, you can see the cursor after the semicolon. Press Ctrl+Enter here, and the statement will run.



Save Time Opening a New Tab

In many IDEs, the default way to open a new tab is to use the New command. You're quickly given a new tab where you can enter code, and then either save it or close it.

However, in SQL Developer, when you use the New command, you need to:

1. Choose the type of item you want to create (which defaults to Database Connection) by clicking Database File.
2. Select a directory to save the file into.
3. Enter a filename

You have to save the file before writing any code.

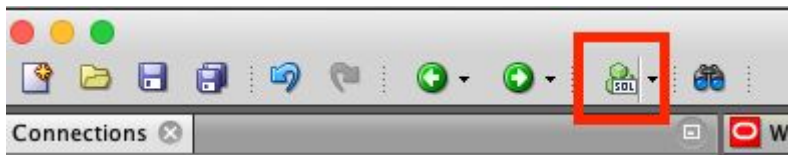
All of this takes valuable time if you just want to have a new tab.

There's a quicker way though.

Use the New SQL Worksheet command.

This will open a new tab immediately. You don't have to make any other selections or choose a location to save the file. If you want to save it later, you can.

To do this, click on the New Worksheet button on the toolbar (just to the right of the Forward button).

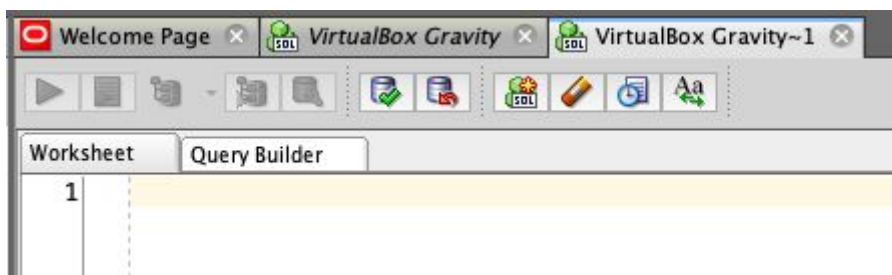


Or, even better, use the keyboard shortcuts:

Action	Windows	Mac
New SQL Worksheet	Alt + F10	Option + F10

You'll need to select the connection (which should default to your current connection), but it's much faster than creating a new file.

Here's what the new tab looks like:



You can save the file later if needed.

Set Connection Colours To Avoid Running Code In the Wrong Environment

If you access different environments of your database, it can be easy to forget which one you're on, or think you're on one environment but are actually on another.

This could mean running code in the wrong environment. Hopefully you don't run code in production accidentally!

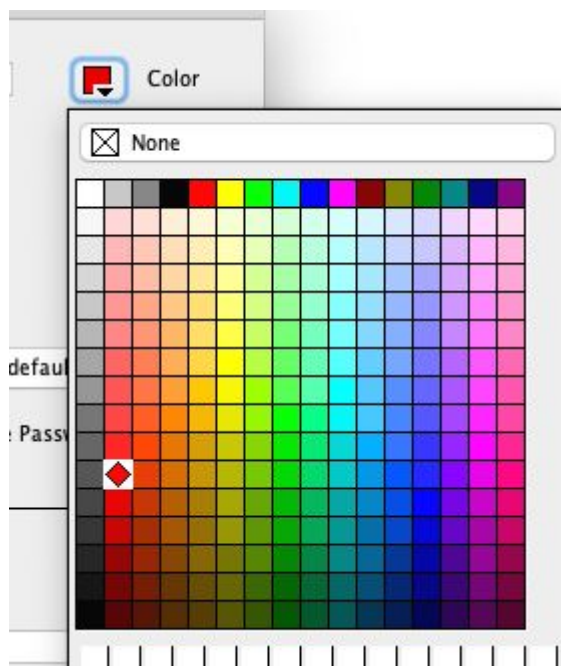
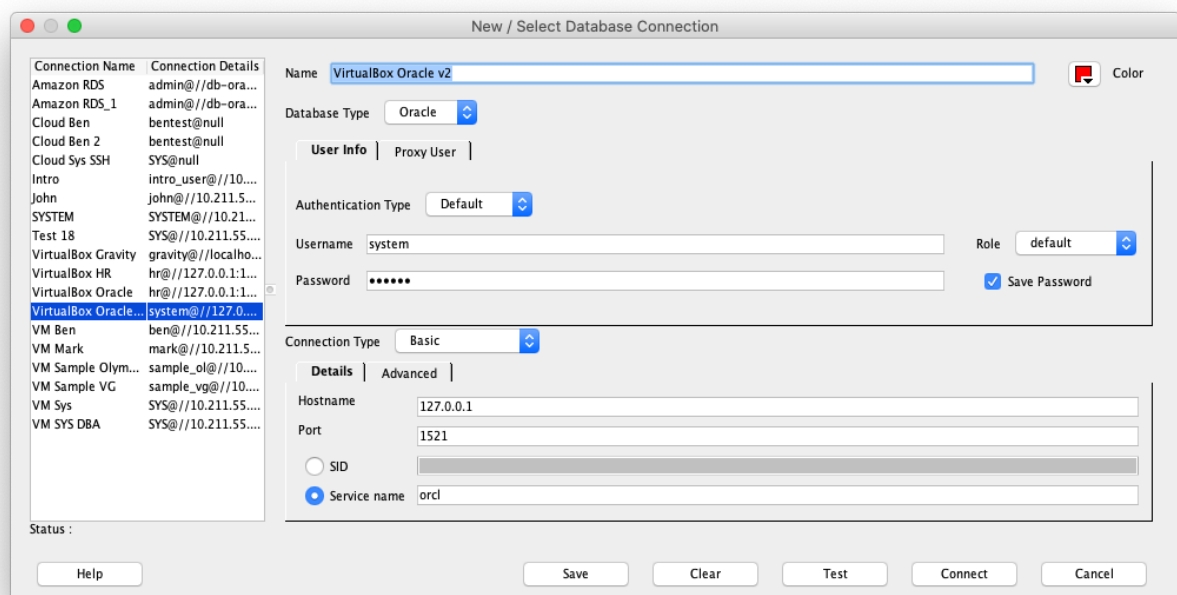
To make it easier to avoid this, you can set a colour for your connections in SQL Developer. This means:

- A coloured border is shown around the window in SQL Developer
- The connection name is coloured in the list

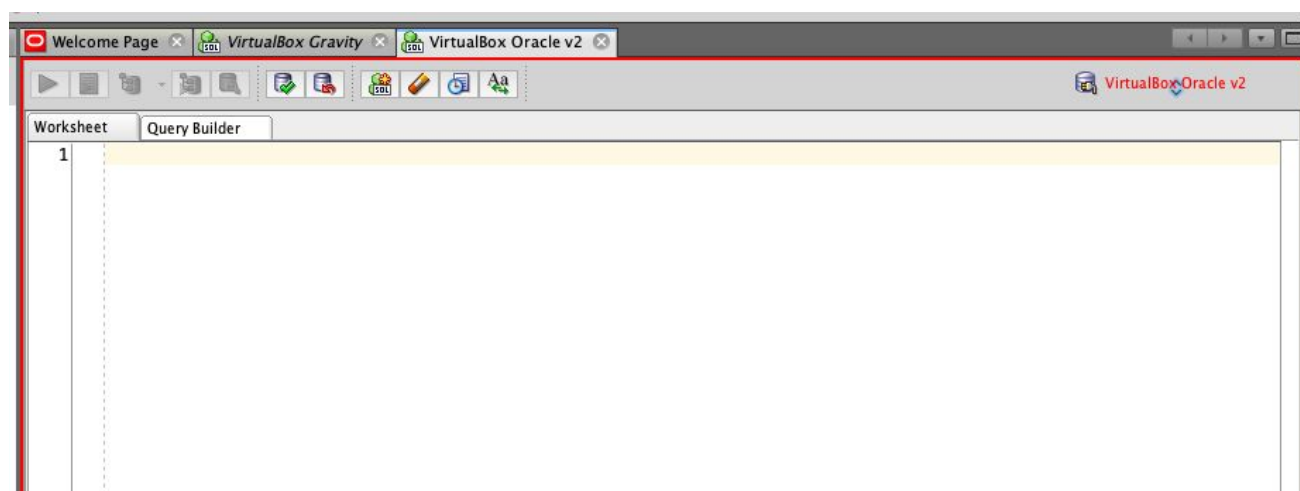
To set a connection colour:

1. Right click on the connection you want to change and select Properties.
2. In the Connection window, select a colour using the box on the top right of the window.

In this example, I've selected Red, because it's an account with DBA privileges:



This means whenever I am connected using this connection, the border is shown in red:



It makes me think twice about what I'm doing as I'm connected as an admin account.

How does this help you?

You can set the colour to Red for any production database connections, so it's clear you're on production.

You can set the colour for non-dev environments, such as pre-prod or test, so you know that changes may impact others.

You can set the colour to Green for your local dev environment so you know you're free to make changes without impacting anything else.

Those are just some ideas to help you save time thinking about the environment you're in and avoid fixing any issues.

Block Selection to Make The Same Change on Many Lines

A great feature of many IDEs and text editors is the ability to use multiple cursors.

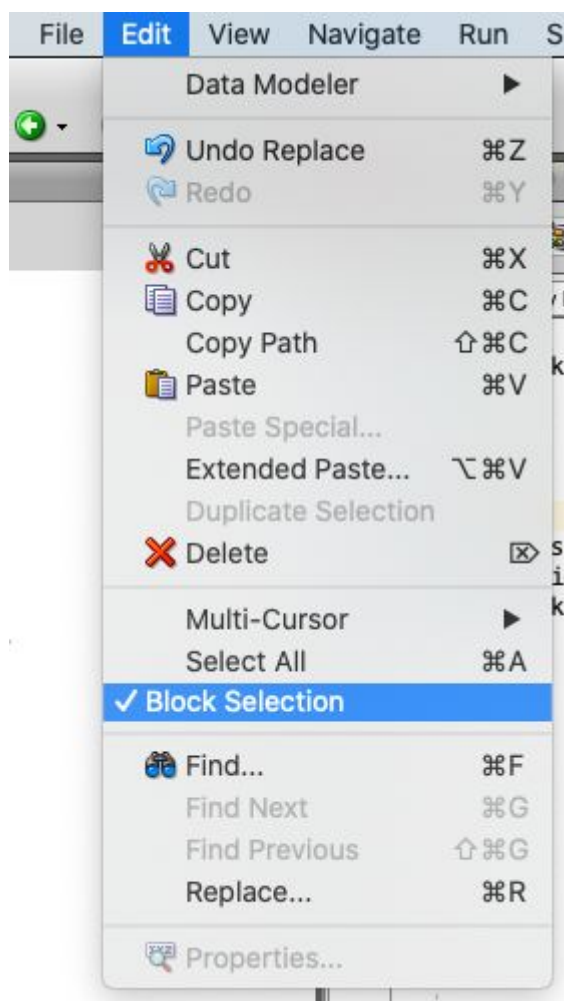
What does this mean?

It means you have multiple cursors in a file, and when you add or delete text, the changes are made at every cursor.

This makes it easy to make the same change to multiple lines (e.g. writing an INSERT or SELECT statement).

You can do this with the keyboard or with the mouse.

First, go to the Edit menu and click Block Selection to enable it.

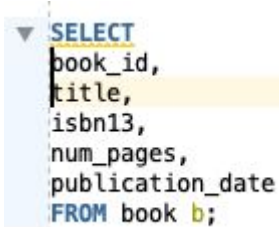


Then, once you have some SQL code, click where you want the first cursor to go.

For example, in this code, the table book has an alias of b, and I want to add the alias to the start of each column (e.g. "b.book_id" instead of "book_id").

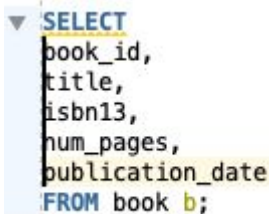
```
SELECT  
book_id,  
title,  
isbn13,  
num_pages,  
publication_date  
FROM book b;
```

Then, press Shift+Down Arrow to extend the cursor to the next line:



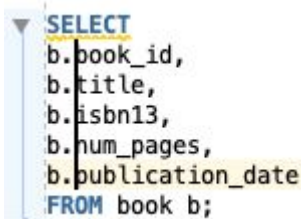
```
SELECT
book_id,
title,
isbn13,
num_pages,
publication_date
FROM book b;
```

Continue pressing Shift+Down Arrow until you have added a cursor to all lines.



```
SELECT
book_id,
title,
isbn13,
num_pages,
publication_date
FROM book b;
```

Now, enter in the code you want to add to all lines. For example, "b.":



```
SELECT
b.book_id,
b.title,
b.isbn13,
b.num_pages,
b.publication_date
FROM book b;
```

With just a few simple keystrokes, we've added the same text to multiple lines.

Also, with Block Selection enabled, you can click and drag your mouse over the text to add multiple cursors, and even highlight text on multiple lines.

How could you use this?

- Enter in table aliases for columns (as we did above)
- Enter a common value when you are inserting multiple records
- Change columns or functions on multiple rows
- Add or remove spaces before or after code on many lines

Instead of having to copy the query to Excel to make changes in bulk, you can do it in SQL Developer.

To return to the default editing mode, go back to the Edit menu and disable Block Selection.

Easily Format Code with a Keyboard Shortcut

SQL Developer has a good built-in code formatter. This is good if you are working with a messy query and want to clean it up to understand it better, or want to use the same formatting standards for many queries or within a team.

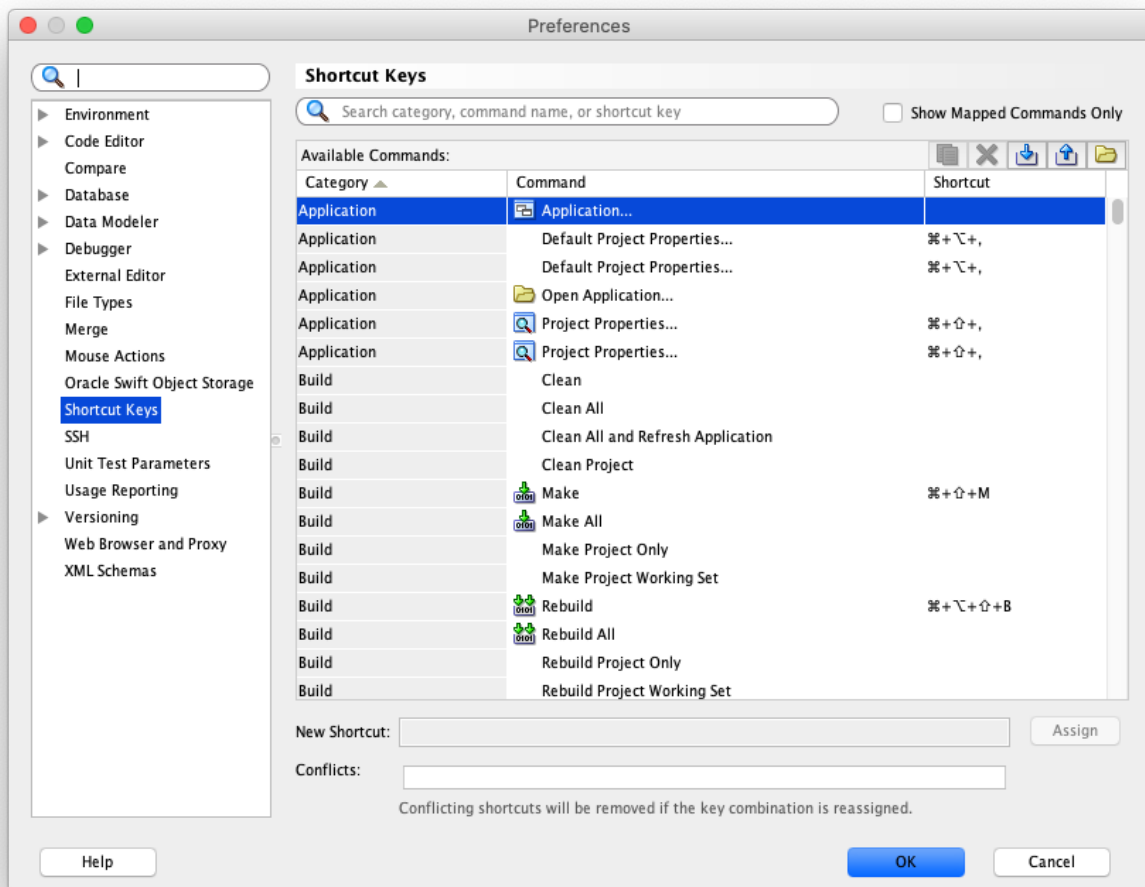
You can format your code by selecting the code, right clicking, and select Format.

There is the ability to use a keyboard shortcut, but it's not set by default.

To set one:

Go to the Preferences window.

Select Shortcut Keys in the left menu.



In the search bar at the top (under the Shortcut Keys heading), type "format".



In the Shortcut column, you can see it's empty.

On Windows, it may be set to Ctrl+F7, or it may be empty. We can set it to the same combination.

Click on the New Shortcut box at the bottom, and press Ctrl + F7 to set this as the shortcut.

Then click Assign.

The Format command now has a shortcut.

Return to your SQL query and press Ctrl + F7.

Before	After
<pre> 1 2 3 4 SELECT 5 b.book_id, 6 b.title, 7 b.isbn13, 8 b.num_pages, 9 b.publication_date 10 FROM book b; 11 </pre>	<pre> 1 SELECT 2 b.book_id, 3 b.title, 4 b.isbn13, 5 b.num_pages, 6 b.publication_date 7 FROM 8 book b; </pre>

The code is now formatted. In this example you can see empty lines were removed and indenting was added.

If you don't like the formatting, you can change it in SQL Developer. There's a whole section in Preferences where you can adjust the settings.

However, for saving time, this single keyboard shortcut can save you a lot of time making your code look nicer and easier to understand.

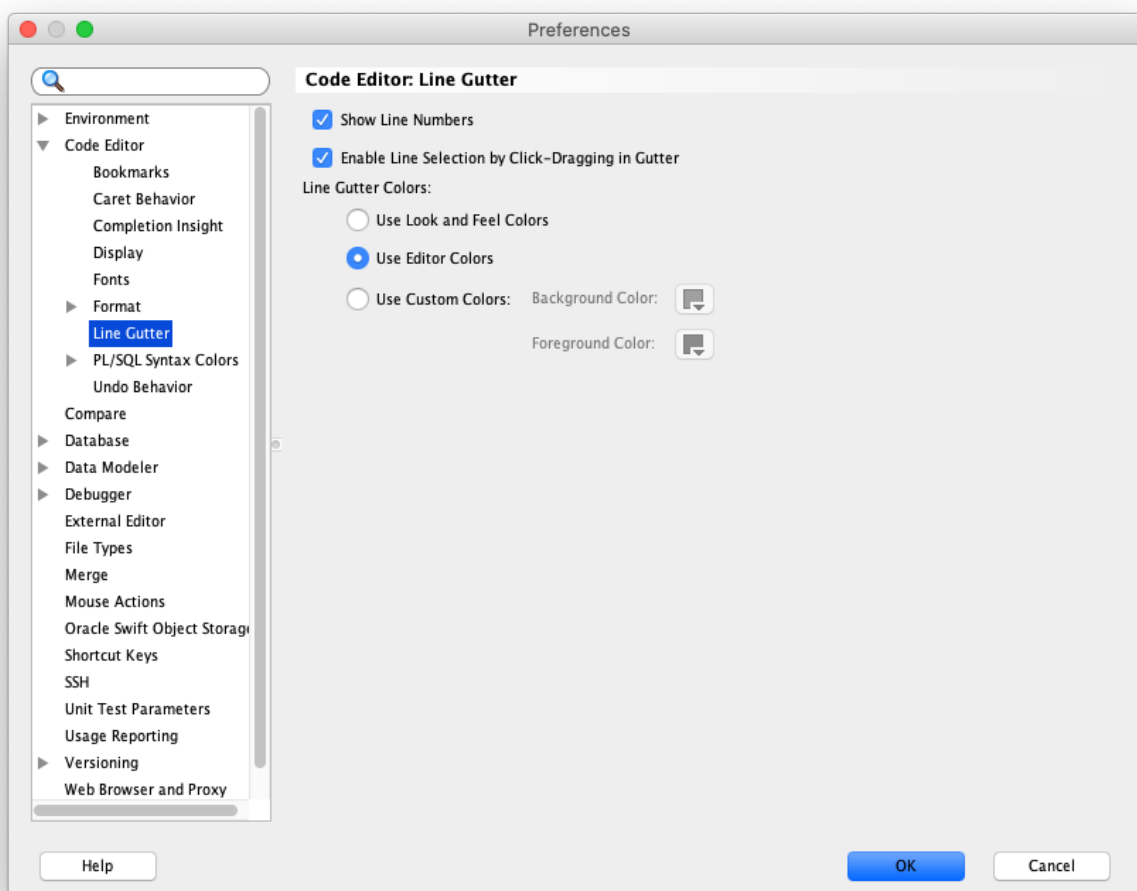
Enable Line Numbers

Line numbers are a helpful feature in IDEs. They can help you navigate to sections of the code when you get an error message so you know where the error is coming from. They can also help you communicate with others about your code.

By default, line numbers are disabled in SQL Developer. But it's easy to enable them.

Go to the Preferences window.

Expand Code Editor and go to Line Gutter.



Put a check in the box next to Show Line Numbers. This will enable the line numbers in your SQL code.

Keyboard Shortcut and Search in Preferences

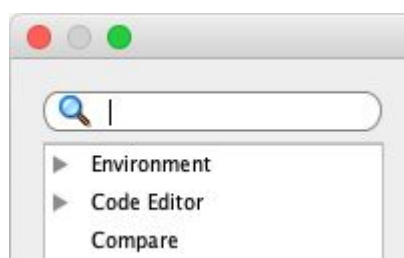
There are a lot of options you can change in the Preferences section.

Rather than expanding each section looking for the right option, you can search for it.

You can also open the Preferences window using a keyboard shortcut:

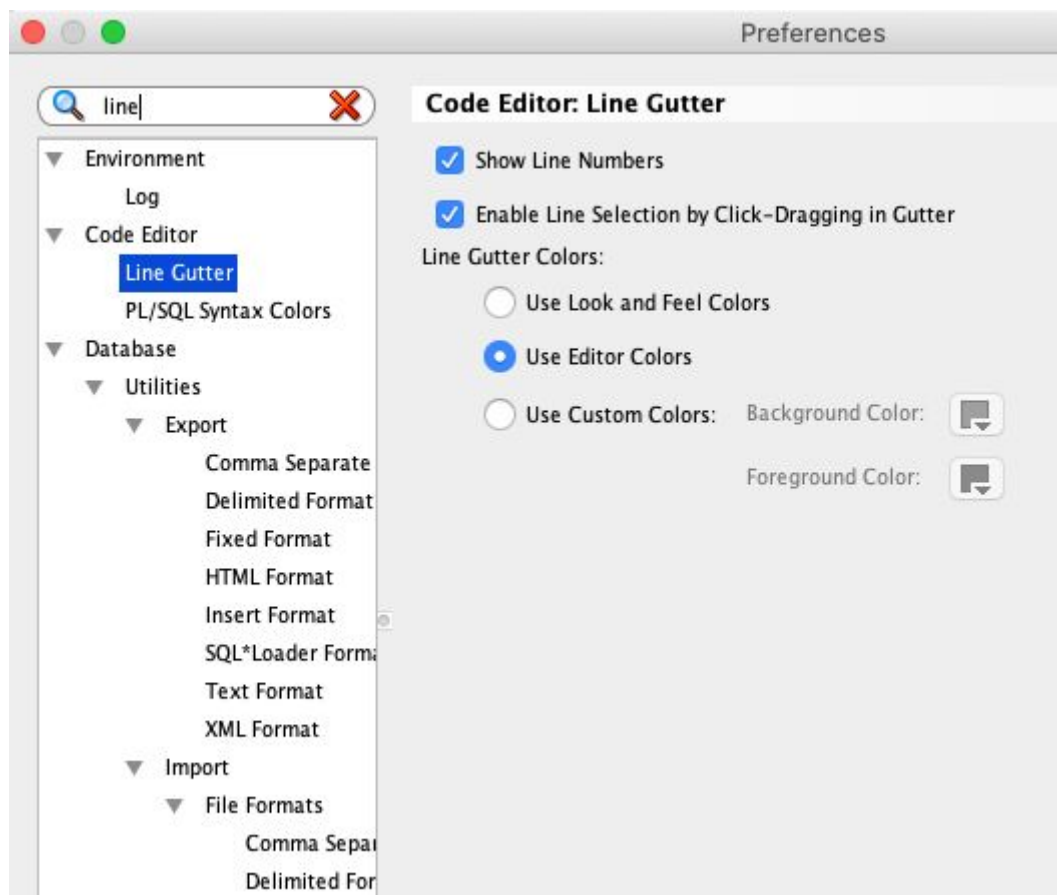
Action	Windows	Mac
Open Preferences	Ctrl + ,	Cmd + ,

Once you open the Preferences window, your cursor appears in a search box on the top left.



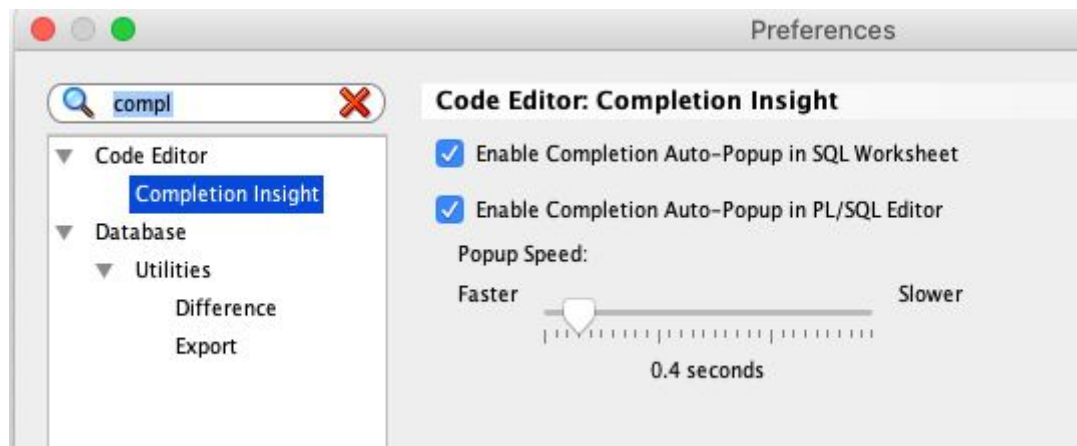
Enter in the setting you want to see or change, and the results are updated.

For example, to search for line numbers I may enter the word "line"



A lot of options are shown on the left, but they are only the ones that have settings for the word "line".

Or, to search for settings on completion insight, I could search for that:



Much easier than browsing the tree.

So, to search for settings easily, use either Ctrl + , or Cmd + , to open preferences, and search for a term. You'll see the options in no time.

Use Completion Insight (aka Intellisense)

SQL Developer comes with a feature called Completion Insight. It's similar to Intellisense or Auto Complete in other IDEs.

It allows you to select options from a list in your code, saving you time when writing queries.

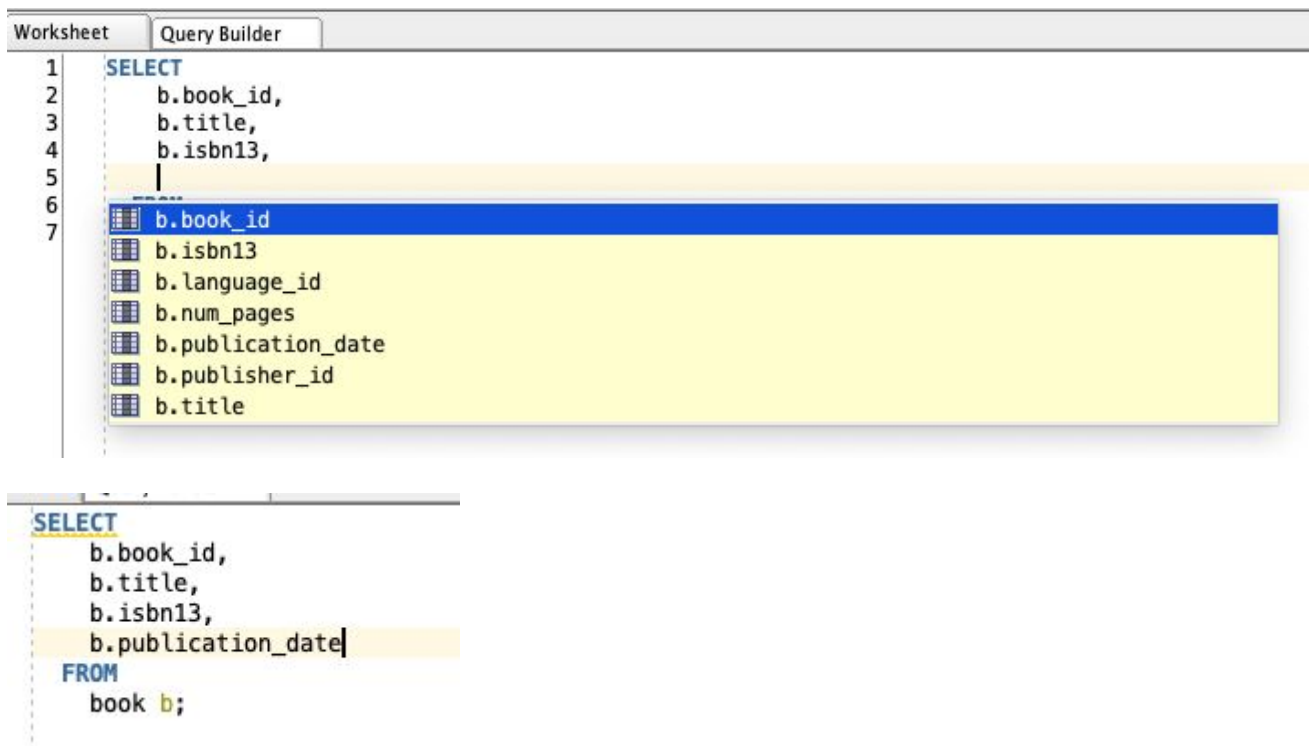
You can trigger it by pressing Ctrl + Space.

For example, we have this query here.

```
SELECT
  b.book_id,
  b.title,
  b.isbn13,
  |
FROM
  book b;
```

To add the next column, we could browse the object tree to see what else is needed.

Or we can just press Ctrl + Space to see what columns are available, and select the one we want.



This can be a real time saver when writing queries.

There are many other uses for Completion Insight. Just remember you can trigger it with Ctrl + Space.

Split Editors to See Two Windows at a Time

SQL Developer, like many IDEs, lets you split your code editor window. This allows you to either:

- See two positions in the same file at once (helpful if you have a long query or script)
- See two different files side by side

This can save you a lot of time with scrolling or switching tabs.

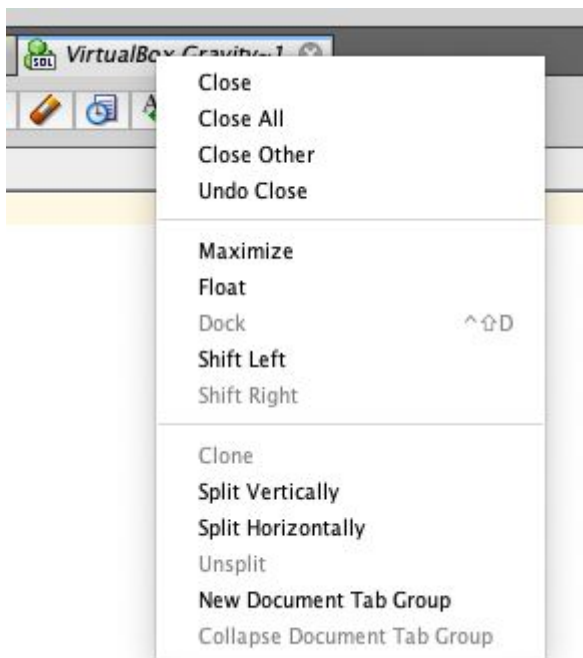
Let's see how to do this.

Split the Same Window

In SQL Developer, you may want to split the same window if your script is long and you want to see two views of it at once.

To do this:

Right click on the tab name at the top of the screen, and select Split Vertically. You can also select Split Horizontally, but I find Split Vertically easier to read.



You now have the same tab showing in two windows.

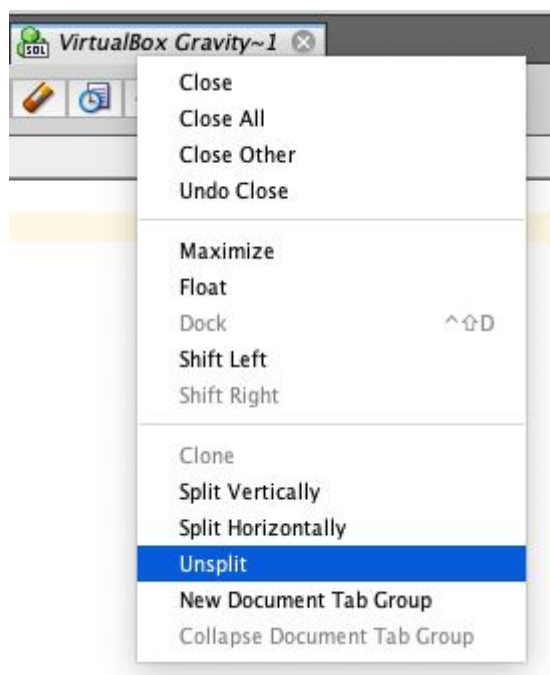


Any change you make to one side is automatically visible on the other.

You can scroll them independently.

This is most useful for longer scripts.

To return to a single window, right click on the tab header and select Unsplit.



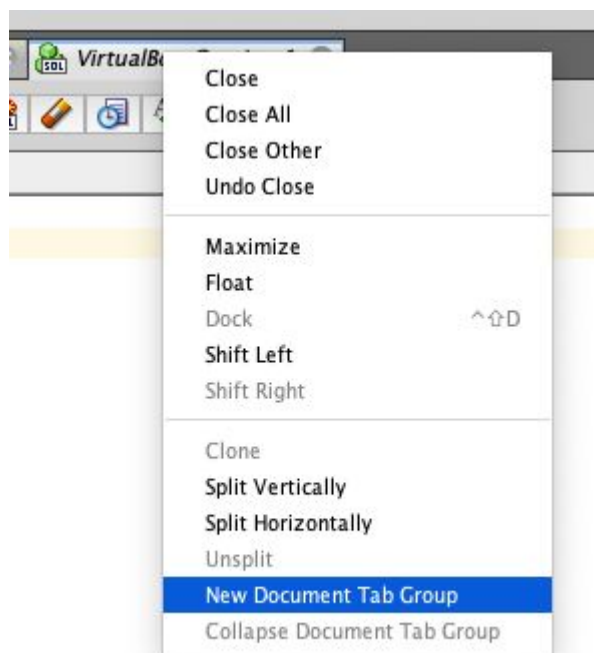
Split Two Separate Windows

If you want to see one file on the left and another file on the right, you create what's called a Document Tab Group.

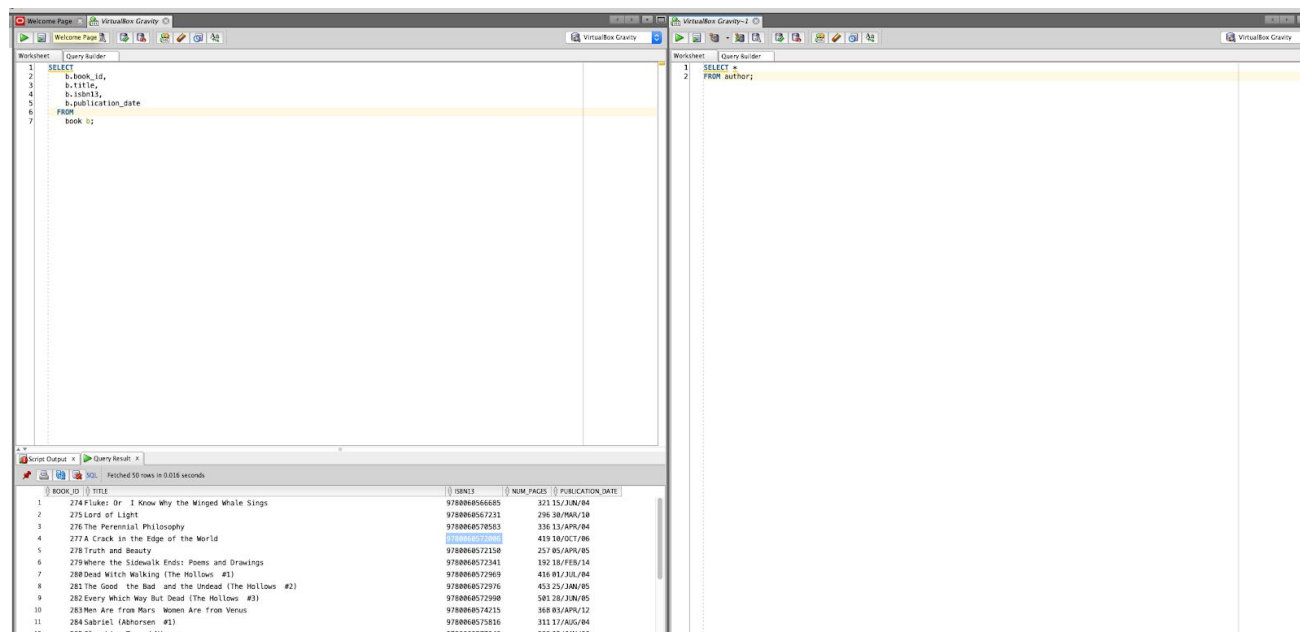
You can do this by using the right click menu or dragging the tab. I prefer the right click menu as dragging the tab can be a bit fiddly.

To do this:

Right click on the tab heading you want to see on another side, and select New Document Tab Group.

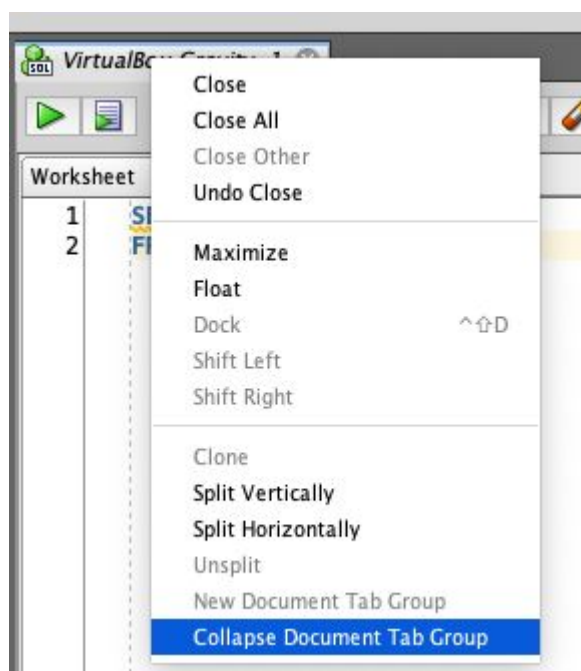


The tab you selected is now moved to the right. The left side and right side are now independent and have their own toolbars and results panels.



This is useful if you want to view two files at once. It saves you time by not having to switch tabs.

To return to a single window, right click on the tab and select Collapse Document Tab Group.



Switch Tabs Using the Keyboard

SQL Developer supports multiple tabs, as you probably now.

Switching between the tabs can be done by clicking on the tab. But you can also do it with the keyboard.

To switch tabs, press Ctrl + Tab twice.

However, I've noticed that it's a bit slower than in other IDEs. So, to make it easier, **press Ctrl + Tab twice, and hold the Ctrl key for a moment** until a small menu appears.



Press Tab until you get to the tab you want to show, and release the Ctrl key. The selected tab will then be shown.

Cycle Through Statement History

You can return to a previous statement in SQL Developer pretty easily. This is helpful if you make changes to your query and want to return to a query you ran earlier.

To do this, press Ctrl + Up (Windows) or Cmd + Up (Mac). Keep pressing this combination to cycle or scroll through previous statements. Use Down instead to go forward through the statement history.

Action	Windows	Mac
Previous Statement	Ctrl + Up	Cmd + Up
Next Statement	Ctrl + Down	Cmd + Down

This can save you time when making changes to queries.

Use Home and End to Move to Top and Bottom of File

If you want to move the cursor to the top or the bottom of the editor, you might be tempted to press Ctrl + Up or Cmd + Up like in other editors.

If you do this, then the previous statement will be shown, as mentioned in the previous tip.

To move to the top of the file, or the bottom of the file, simply use the Home and End keys. They will go to the start and the end of the whole file, not the start or end of the line.

You can go to the start and end of the line using Ctrl or Cmd and the left and right arrows.

Action	Windows	Mac
Start of file	Home	Home
End of file	End	End
Start of line	Ctrl + Left	Cmd + Left
End of line	Ctrl + Right	Cmd + Right

Show Query Results in New Tab

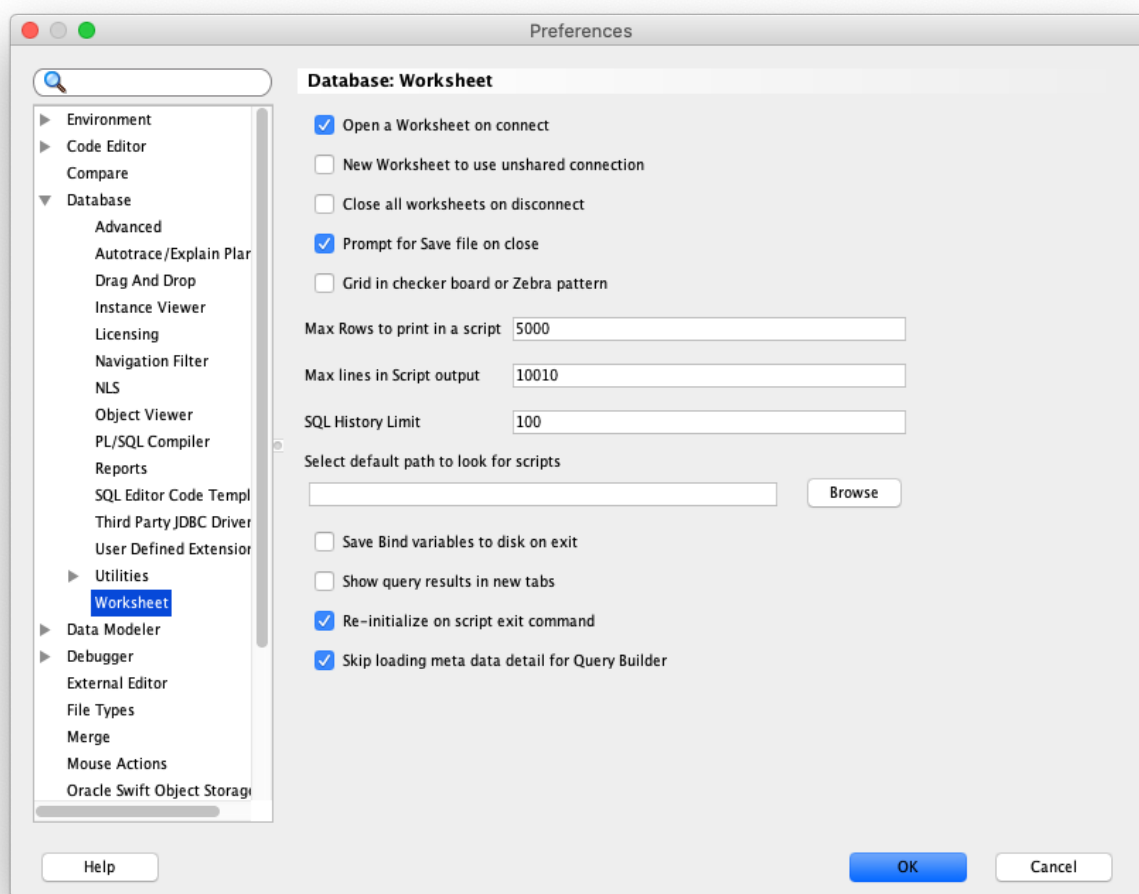
Whenever you run a SELECT query, the results of the query are shown. Results of previous queries are removed.

If you want to keep the results of previous queries, you can pin the results tab manually.

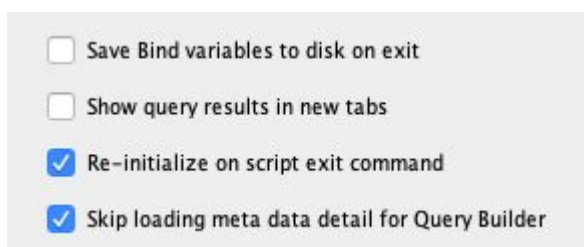
However, if you want to make this happen all the time, you can set SQL Developer to show any new query results in a new tab. This allows you to see the results of old queries and recent queries.

To do this, open Preferences.

Navigate to Database > Worksheet.



Enable "Show query results in new tabs", which is near the bottom of this list.



This will show each new set of results in a new tab, which can save you time if you need to refer to old results.

Search and Filter Results Without Re-Running the Query

When you run a SELECT query, you see a results tab at the bottom.

If you want to search for specific results, you often add a WHERE clause to the query. But this means you'll have to run the query again.

You can filter results in the results tab without doing this.

To do this, hover your mouse over the column header you want to filter. A Filter icon appears on the right.

ISBN13	NUM_PAGES	PUBLICATION_DATE
9780060741877	323	05/JUL/05
9780060742362	40	28/MAR/06
9780060744878	320	24/OCT/06
9780060745905	409	02/MAR/04
9780060746872	256	03/AUG/04
9780060747330	353	26/SEP/06

Click the Filter button. A menu appears where you can select an existing value or enter a value.

NUM_PAGES
Filter: NUM_PA [X]
1072
116
128
14
147
160
176
187
188
189

Enter or select a value. You can do exact match:

NUM_PAGES
Filter: NUM_PA [X]
= 160
160

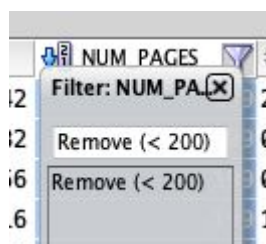
Or other kinds of matching (such as less than):

NUM_PAGES
Filter: NUM_PA [X]
< 200

Press Enter, and the results are updated.

BOOK_ID	TITLE	ISBN13	NUM_PAGES	PUBLICATION_DATE
1	257 My Invented Country: A Nostalgic Journey Through Chile	9780060545642		199 27/MAY/03
2	10523 A Framework for Understanding Poverty	9781929229482		199 09/FEB/06
3	1951 Plato's Symposium	9780226042756		199 01/FEB/01
4	2653 Story of O (Story of O #1)	9780345301116		199 12/MAY/81
5	5382 Happily Ever After (Sweet Valley High #134)	9780553570687		199 11/AUG/97
6	5504 Even Cowgirls Get the Blues and My Own Private Idaho	9780571169207		199 21/FEB/94

To remove a criteria, click on the Filter icon.



Then, double click on the Remove in the grey section.

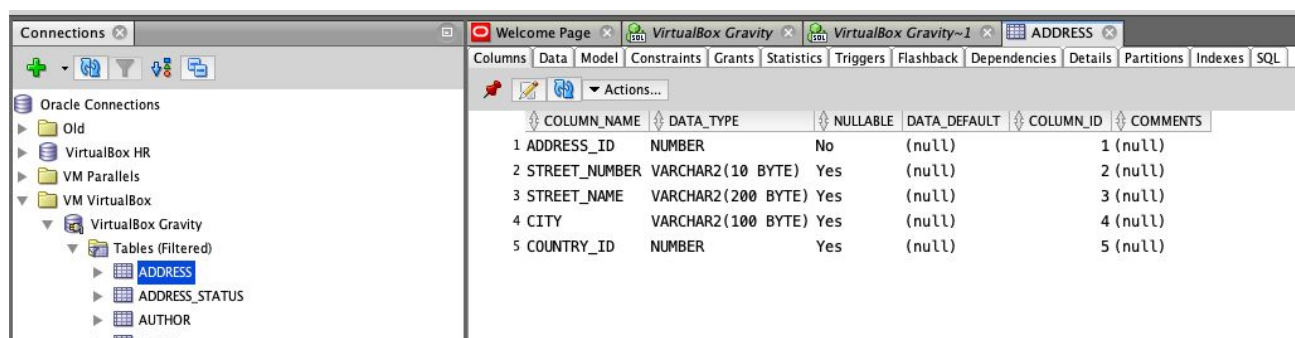
The results will return to normal.

This is helpful if you want to filter results but don't want to re-run the query again.

Enable or Disable Opening Objects on Single Click

By default, when you click on an object in the Object Browser, a new tab opens that describes the object.

For example, clicking on the Address table opens the Address tab on the right.



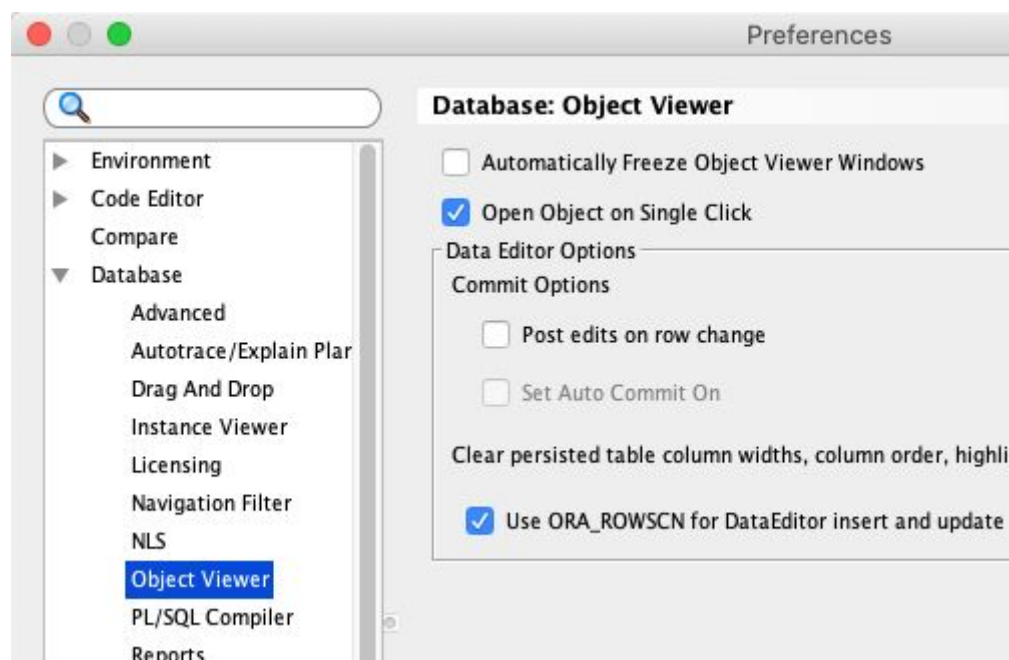
This can be annoying if you're not used to it.

It can be disabled, which means the information tab is only shown when you double click on the object.

To do this:

Open Preferences and navigate to Database > Object Viewer.

Deselect the option labelled "Open Object on Single Click".

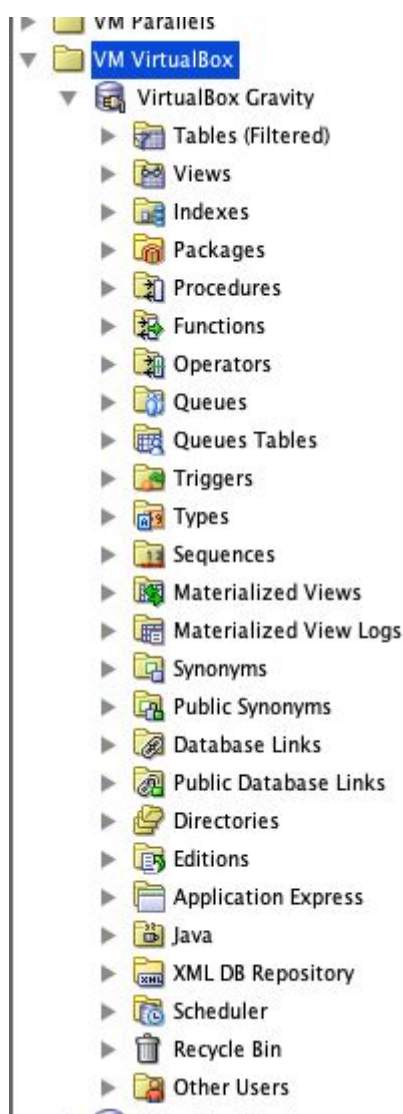


This means you can click on an object and not see the information tab for it.

Hide Object Types from Object Browser

When you expand a connection in the Connection Tree, you'll see a list of object types.

It's a long list:

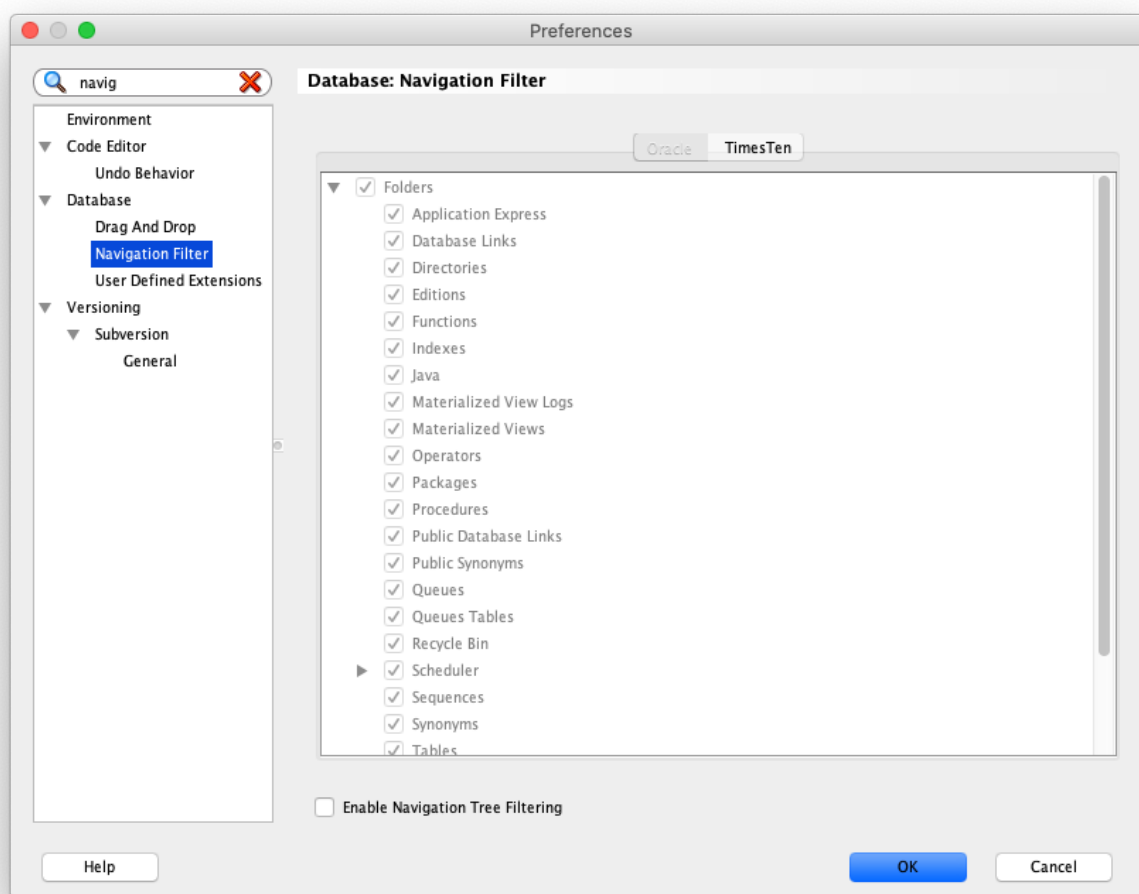


Chances are, you're not using all of these types. Most of them just get in the way.

Fortunately you can hide them using filters.

To do this:

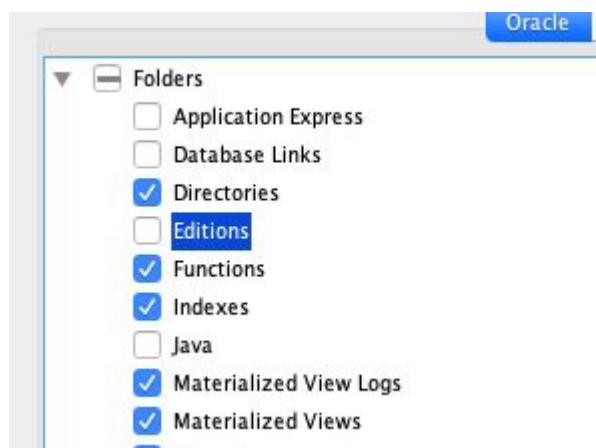
Open Preferences and navigate to Database > Navigation Filter.



Select the checkbox at the bottom labelled "Enable Navigation Tree Filtering".

Now, deselect the objects that you don't want to show.

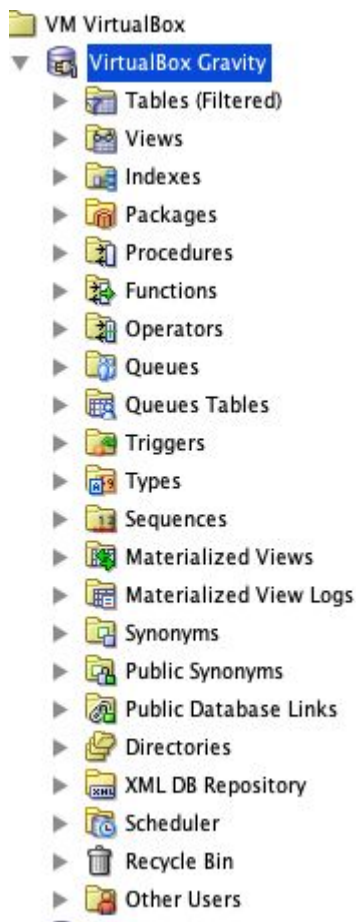
For example, I could hide a few objects:



Click OK.

Click Refresh on the Connection panel.

These objects are no longer shown in my object type list.



You can hide much more than this if there are other object types you don't use.

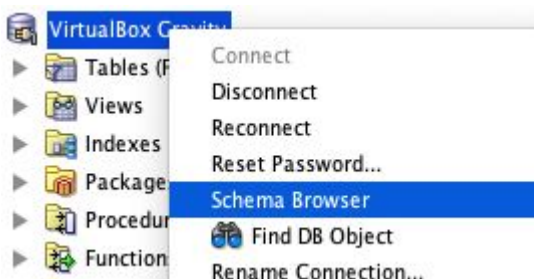
Use Schema Browser Instead of Tree If You Prefer

In the Connection Tree on the left of the window you have a list of object types, and objects, for your connection.

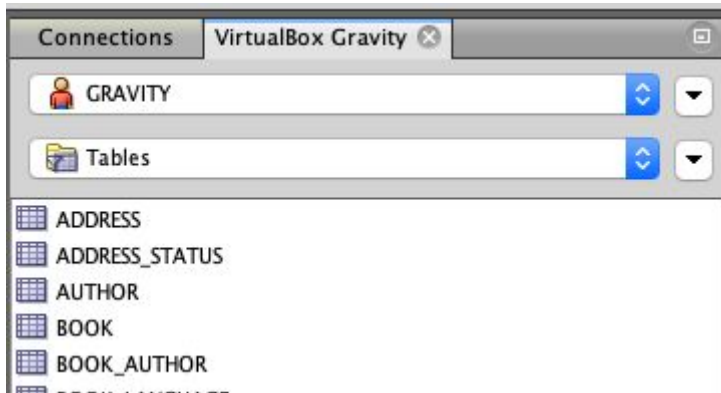
This can be hard to work with if you have a long list or only want to look at one object type.

SQL Developer includes an alternative way to browse objects: the Schema Browser.

Right click on the connection and select Schema Browser.



The Schema Browser tab is then opened next to the Connections tab.



You can filter based on the schema (shown as GRAVITY above) and the object type (such as Tables). The list shown below is all of those objects in the database.

You can then open the properties of any of these objects, drag them to the main window, or right click and select options, just like the connection tree.

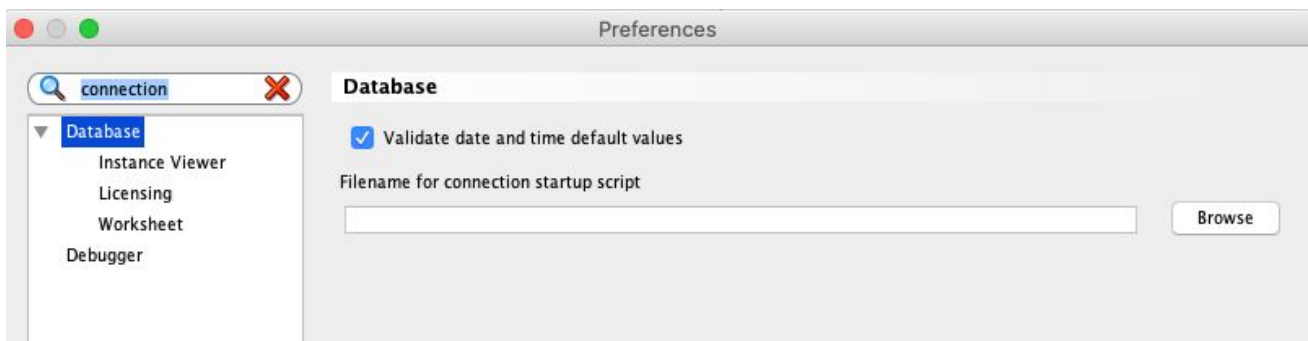
This may save you time when working with objects.

Set a Script to Run On Connection

If there are any settings that you change in your database session manually, you can set them automatically using a connection script.

SQL Developer allows you to write a series of commands in SQL, save it as an SQL file, and specify that this SQL file is run whenever you connect to a database.

You can set the file to run in Preferences > Database. Click Browse for the "Filename for connection startup script".



Some things you could add to this script are:

- Changing the session timezone using Alter Session
- Turning on DBMS_OUTPUT
- Setting the number of results per page in your script output

Use Output Hints to Save Time Exporting

Do you ever need to run a query and copy the results to another program or file?

If so, then Output Hints could save you time.

One way to get data into a CSV file, for example, is to run the Select query, copy the results into Excel, and save the file as a CSV file.

A quicker way is to use Output Hints. These are short comments you add to your SQL code in SQL Developer which affect how the output is displayed.

Here are the output hints:

```
SELECT /*csv*/ columns FROM table;

SELECT /*xml*/ columns FROM table;

SELECT /*json*/ columns FROM table;

SELECT /*delimited*/ columns FROM table;

SELECT /*fixed*/ columns FROM table;

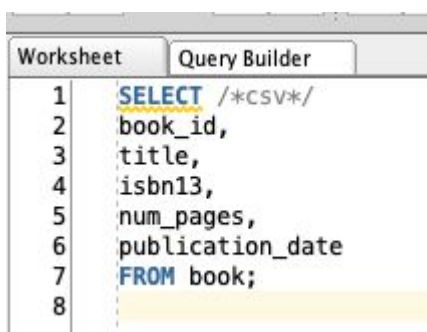
SELECT /*html*/ columns FROM table;

SELECT /*insert*/ columns FROM table;

SELECT /*loader*/ columns FROM stable;

SELECT /*text*/ columns FROM table;
```

For example, to output your data in CSV format, add `/*csv*/` after your `SELECT` keyword. Then, run the query using Run Script (not Run Statement).



Your output will show in CSV format.

```
4900,"Life Is A Dream = La Vida Es Sueño","9780486424736",208,06/DEC/02
4901,"The Pilgrim's Progress","9780486426754",324,10/FEB/03
4902,"Gorgias/Timaeus","9780486427591",256,15/JUL/03
4903,"The Burgess Bird Book for Children","9780486428406",260,23/APR/03
4904,"Great Russian Short Stories","9780486429922",208,29/JUL/03
4905,"Babbitt","9780486431673",320,22/SEP/03
```

```
5,000 rows selected.
```

You can do the same for JSON and other formats as well.

```
{"results":[{"columns":[{"name":"BOOK_ID","type":"NUMBER"},{"name":"TITLE","type":"VARI
[
{"book_id":274,"title":"Fluke: Or I Know Why the Winged Whale Sings","isbn13":"9780060
,{"book_id":275,"title":"Lord of Light","isbn13":"9780060567231","num_pages":296,"publi
,{"book_id":276,"title":"The Perennial Philosophy","isbn13":"9780060570583","num_pages"
```

Or, instead of setting it for that query, you can use the SET SQLFORMAT command to set it for your session.

```
SET SQLFORMAT csv;
```

```
SELECT yourquery...;
```

Then, to return to the default output:

```
SET SQLFORMAT;
```

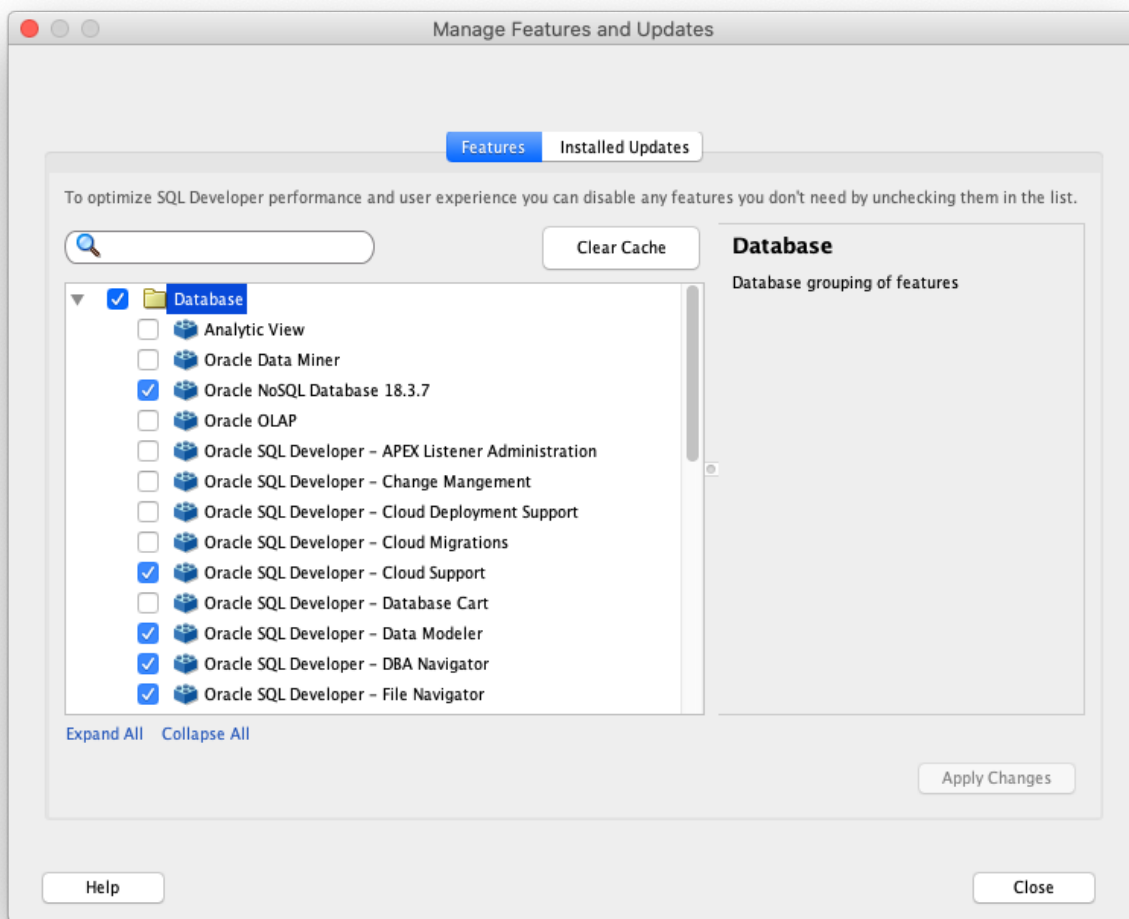
This can make it easier to copy and paste your results into different formats.

Disable Unused Features to Improve Startup Time

When SQL Developer starts, it loads all of the components that are needed. SQL Developer has a lot of great features, but some of them you won't use, due to your database environment and setup.

You can disable these features in SQL Developer, which will make the application start up faster.

To do so, go to Tools > Features.



This is a list of all the features in SQL Developer. Deselect those that you aren't using, and click Close. When you next start up SQL Developer, it should take less time.

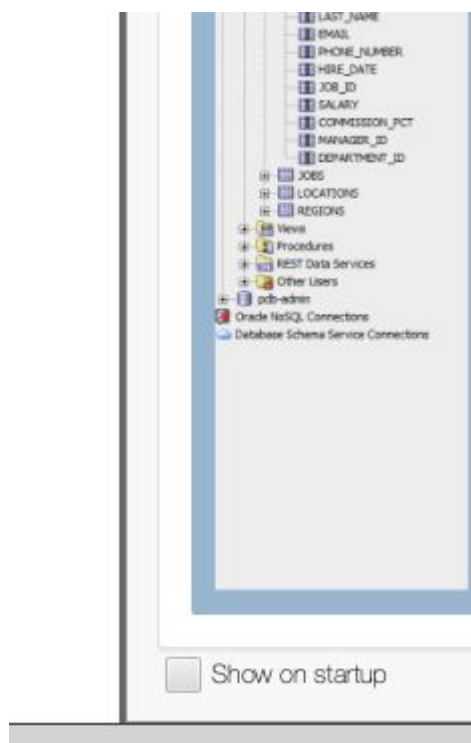
I did this once and saved many seconds off the startup time, which can really add up each morning when you open the application.

Note that some of the items in the list are required, so you can't disable everything.

Prevent the Welcome Page from Opening Every Time

The welcome page is a helpful first page to see in SQL Developer, but you may not want to see it every time you open it.

To stop it from displaying when you open SQL Developer, scroll to the bottom of the Welcome Page and deselect the Show On Startup checkbox.



You can then close the Welcome tab one final time. This can save you a couple of seconds if you happen to close it anyway each time you open it.

Conclusion

Thanks for taking the time to read this Timesaver guide on SQL Developer. I hope you learned a thing or two and can save some time when using SQL Developer.

Take a look at Database Star Academy for more time saving tips and other material on SQL development.

Thanks,

Ben Brumm

www.DatabaseStar.com