SQL Developer Quick Start Guide

Learn how to get set up, change settings, and start being productive with SQL Developer

Ben Brumm

www.databasestar.com

Introduction

Thanks for buying this eBook guide!

I plan on providing you with a lot of valuable information, which you can use right away to start being productive with SQL Developer.

So, why this book?

Well, you might have just moved from using Toad to using SQL Developer because the licenses have just expired.

Or, you might have just changed jobs from a company that had Toad to a company that uses SQL Developer.

Or, this switch to SQL Developer might be happening soon.

In any case, for you to be productive at work, and not spend weeks trying to learn the basics of a tool that you need to use every day.

That's where this guide comes in.

I've prepared this guide to give you an overview of SQL Developer, with a single goal in mind:

To get you up and running SQL Developer as quickly as possible.

What will we cover?

In this guide, we'll cover a few things:

- How to install Oracle SQL Developer
- An explanation of the SQL Developer layout
- How to connect to a database
- Where to find the Settings and how to change them
- What each menu item on the toolbar does
- Keyboard shortcuts for the SQL Developer and how to change them
- What you can do next

So, let's get right into it!

Installing SQL Developer

I've written a few articles on Database Star on downloading and setting up SQL Developer.

In a nutshell, you can download SQL Developer from www.oracle.com:

1. Go to oracle.com
2. Select the Downloads tab, then under Developer Tools, click on SQL Developer.
3. Accept the license agreement.
4. Select a download link for your operating system.
5. Save the file to a location on your computer
6. Browse to the saved location
7. Extract the ZIP file using a compression program (WinZIP, WinRAR, 7ZIP, etc)
8. Close the ZIP file.
9. Open the extracted folder.

Now the program is extracted (you don't need to install it).

To set it up, just open the SQL Developer EXE file.:

You can watch this process in two videos here:

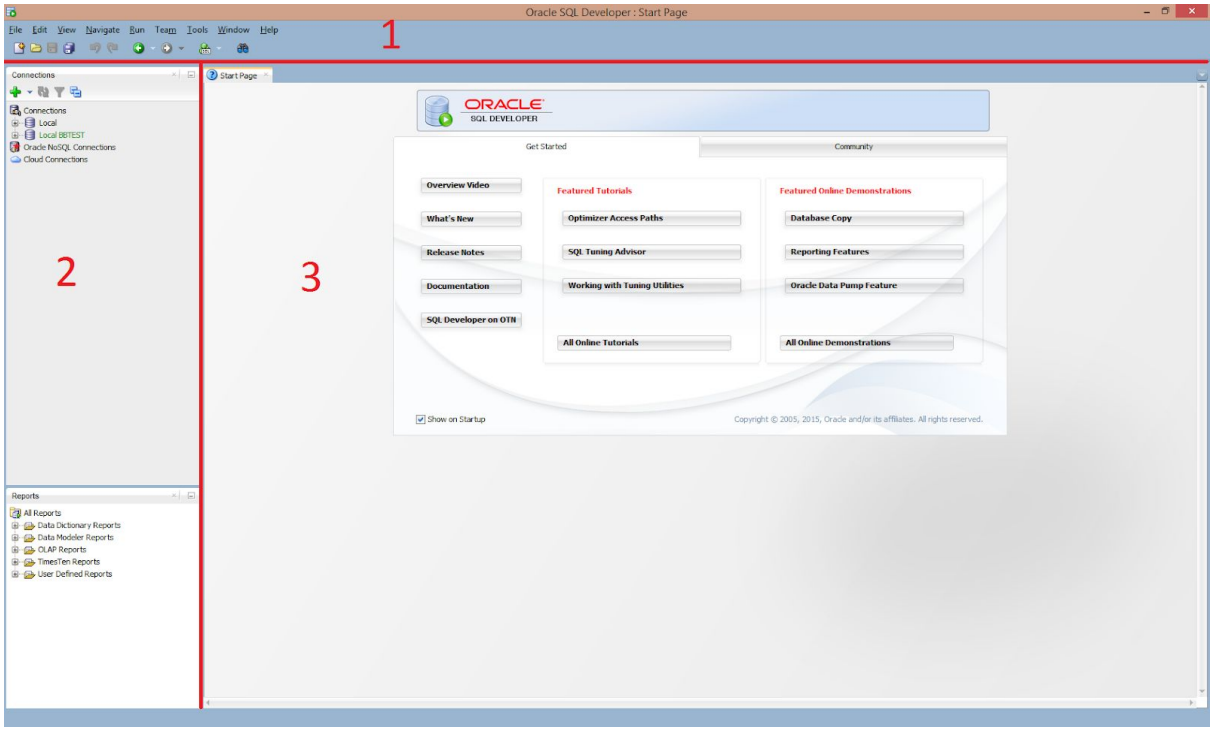
Download: https://www.youtube.com/watch?v=i2Idp5HoMNY

Setup: https://www.youtube.com/watch?v=ga236wZ1Vvc

You should now be able to open and see Oracle SQL Developer.

Oracle SQL Developer Layout

Once you have opened SQL Developer, you'll see a screen like this:



There are three main areas to this screen:

1. Menu bar
2. Side bar
3. Worksheet

The Menu bar contains the standard features found in many applications. You've got the menus (File, Edit, and so on), as well as the toolbar (with small icons for each command).

We'll go into more detail on the toolbar later.

On the left is the sidebar. This contains two areas by default - Connections, and Reports. Different panels can be added to the sidebar, and they can be removed. We'll discuss this later as well.

The main area is called the "worksheet". I'm not sure why it's called that, but that's what they named it. This is where the majority of your work will be done - writing queries, looking at results, debugging code.

Well, now you know the layout of the SQL Developer program, what's next?

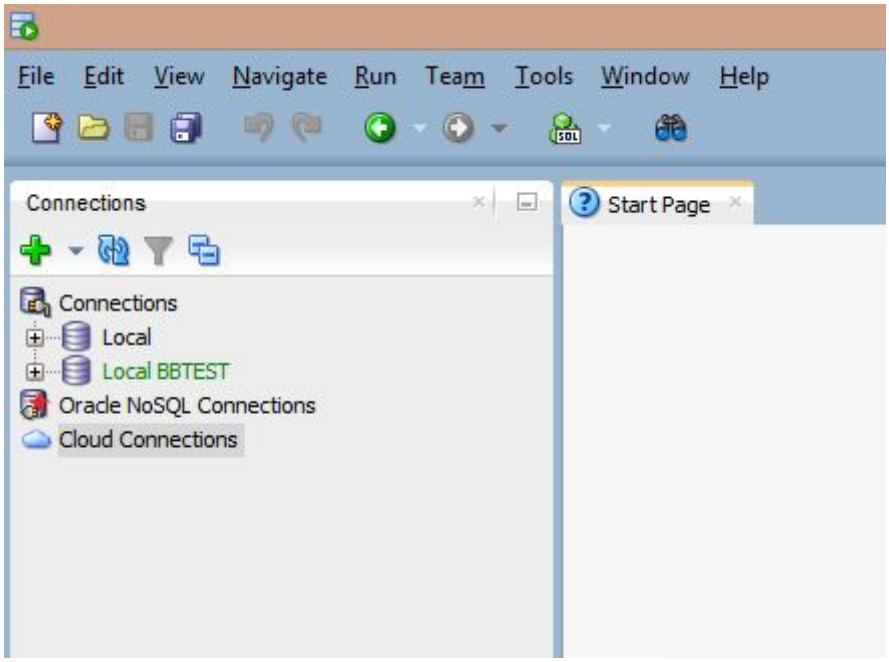
Creating a Connection

The first thing you'll have to after opening SQL Developer for the first time is to create a connection.

A connection works similar to other database programs. You create a connection, which specifies the username, password, hostname and other information, which is then saved into SQL Developer. You can easily connect to different databases or schemas using this previously entered information.

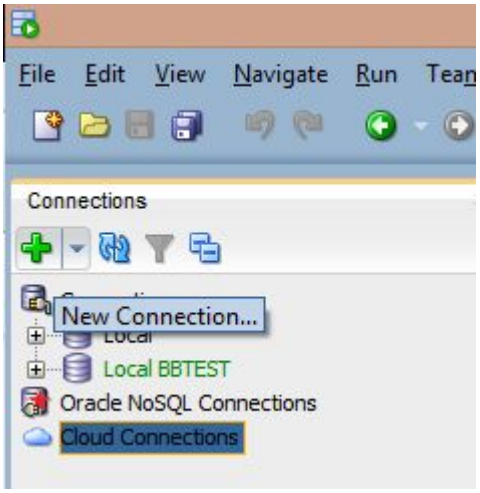
So, how do you set up a connection?

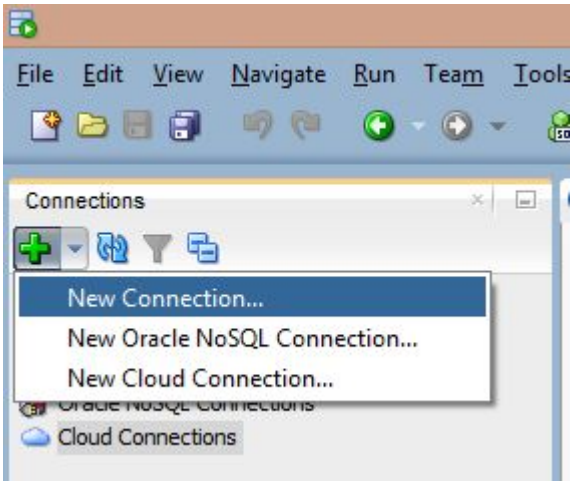
In the sidebar is a Connections panel. You'll see a couple of connections I had already set up (Local, and Local BBTEST)



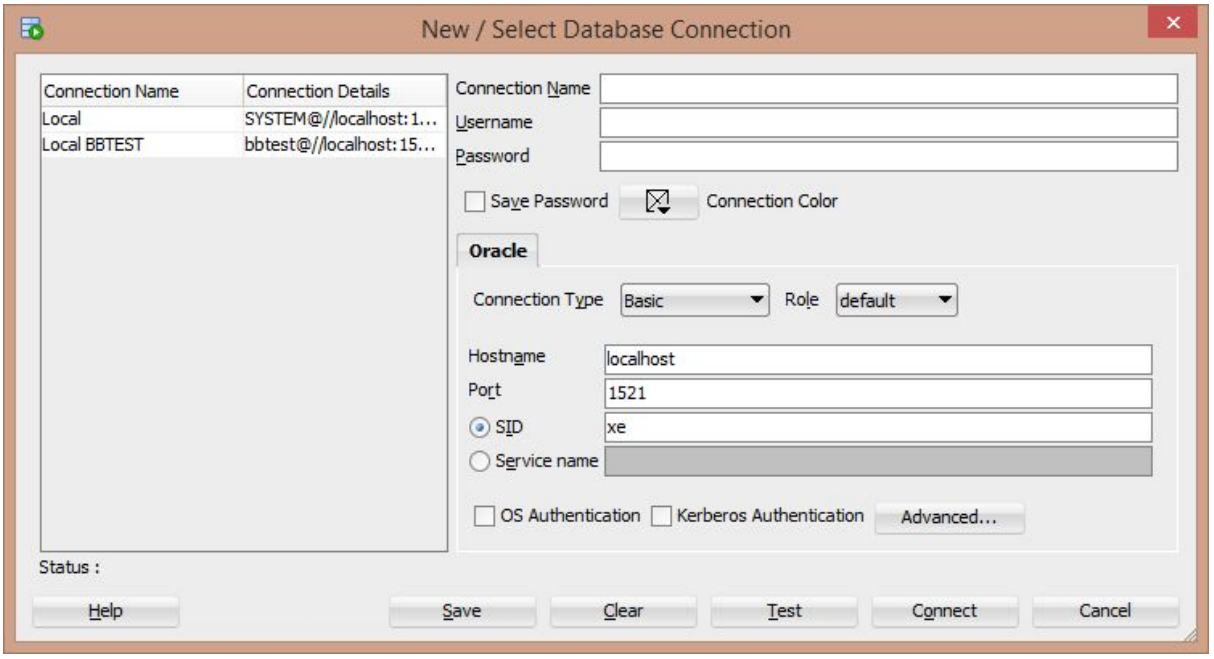
There are a few ways to create a connection:

- Click on the green + icon in the Connections panel
- Click on the drop-down arrow next to the green + icon and select New Connection





With either option, you'll get the "New/Select Database Connection" window.



If you have no connections saved, the left side of your panel will be empty.

Let's create a connection.

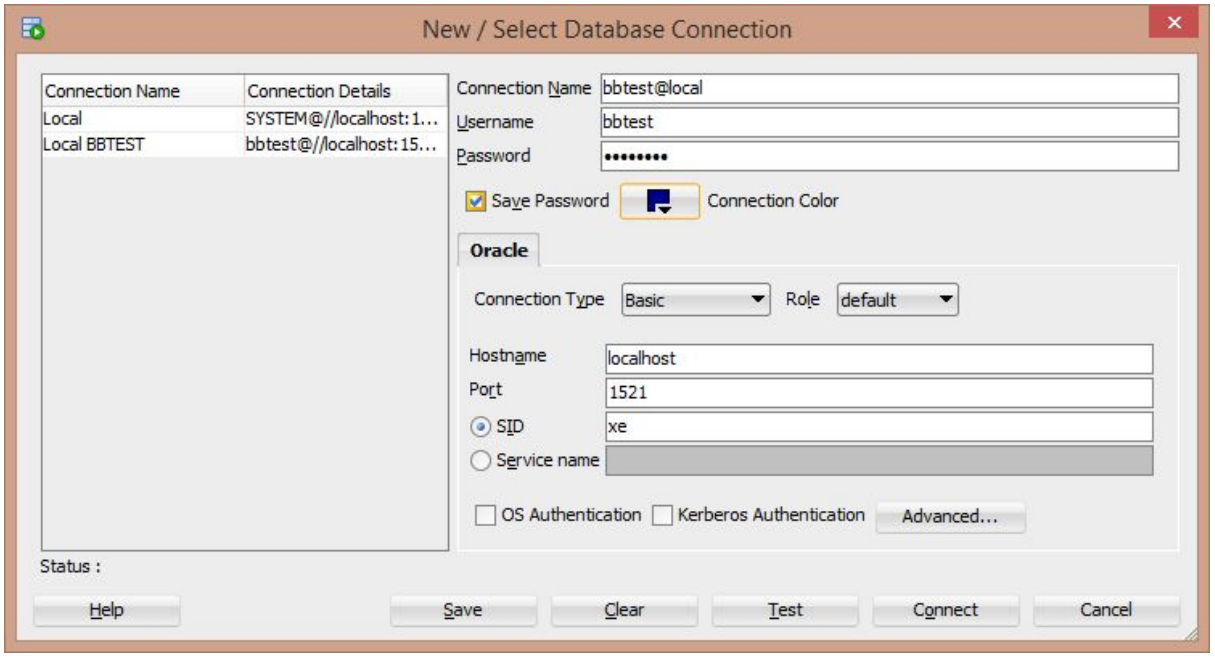
Enter in the following information:

Field	What To Enter	Example
Connection Name	A name to identify your connection the application.	Name and database, e.g. "abc@proddb"
Username	The username used to connect to the database	readonly_user

Password	The password used to connect to this username	?
Save Password	Whether or not you want to save the password. If you leave this unchecked, you'll be prompted every time.	Depends on your company's security policy
Connection Color	The color for this connection. Color-codes the connection name and the query window. Helpful to tell what environment you're in!	Red = Production, Yellow = Test, Green = Development
Connection Type	The type of connection, depending on your database	Basic
Role	The role for this connection, also depending on your database	default
Hostname	The hostname for the database you're connecting to	Depending on your company
Port	The port that the database runs on	1521
SID	The SID of your database	Depending on your company
Service Name	Instead of the SID, you can provide the Service Name	Depending on your company
OS Authentication	Whether you want to use the OS for authentication	
Kerberos Authentication	Whether you want to use Kerberos for the connection	

I've set up a connection like the screen below. I've used Localhost because I have Oracle Express running on my own computer, but if you're using this at work, your details will be different.

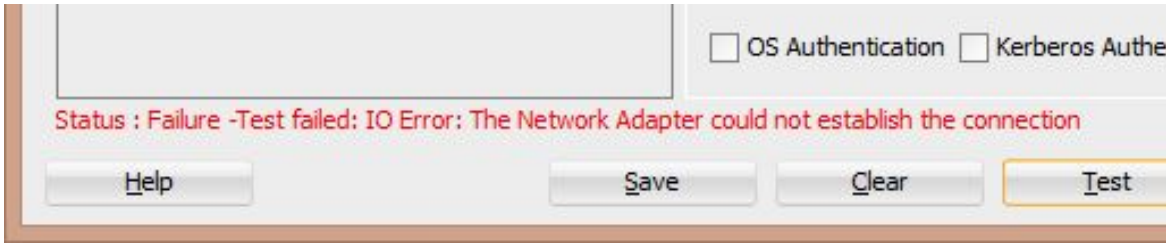
Notice that I've named the connection "bbtest@local". This is because you don't see the username or hostname anywhere else in the main screen. When I look at the connection, I can instantly see that it is for the user "bbtest" and the host or database "local".



Now, there's a very valuable "Test" function here. Click the Test button to test the database connection is OK and that you've entered the right information.

If everything is OK, you'll get Status : Success

If you have an error (such as incorrect hostname), you'll get a message:



Some of the possible messages here are:

Message	General Cause
Status : Failure -Test failed: IO Error: The Network Adapter could not establish the connection	Hostname incorrect, port incorrect
Status : Failure -Test failed: Listener refused the connection with the following error:	Correct hostname and port, but incorrect SID

ORA-12505, TNS:listener does not currently know of SID given in connect descriptor	
Status : Failure -Test failed: ORA-01017: invalid username/password; logon denied	Correct hostname and port, but incorrect username or password

If you're able to successfully test the connection, click Save to save it to your connection list. Then, click Connect to connect to the database.

If you want to add more than one connection, click Clear after you save the connection. Enter in new details (with a different connection name) and follow the same process.

Connecting to a Database

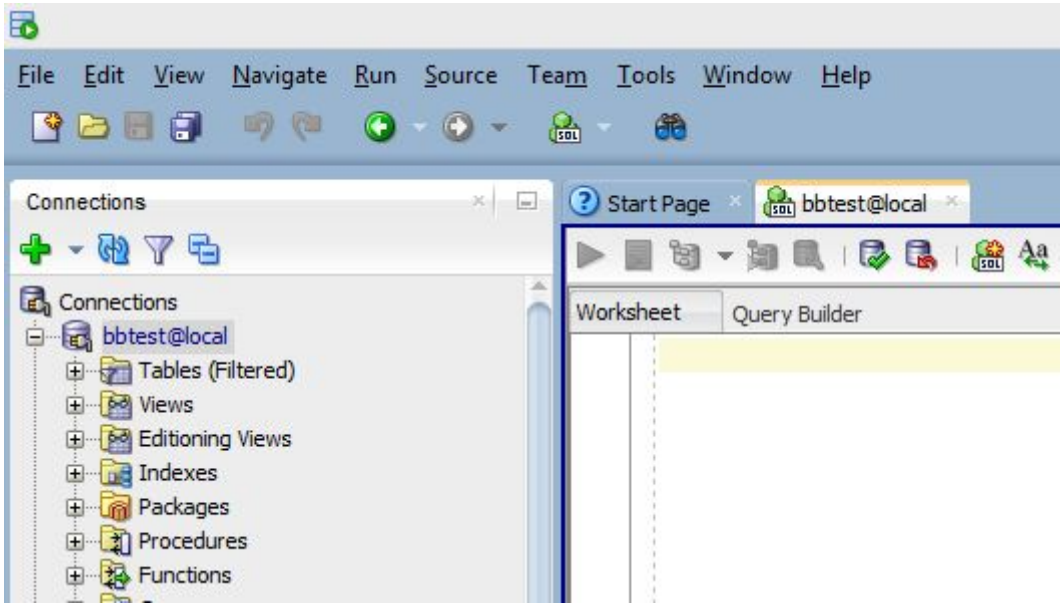
Once your connection is created, you can connect to it.

You can do this in many ways:

- Connect to it from the New Connection window
- Right-click on the connection name in the Connections panel and click Connect
- Double-click on the connection name in the Connections panel
- Click on the + icon to expand the connection name in the Connections panel.

With any of these methods, a few things will happen:

- The database will connect
- The connection object will expand in the Connections tab
- A new SQL Query window will open, with the connection name on the tab heading.



Importing and Exporting Connections

A great feature of Oracle SQL Developer is the ability to import and export connections.

This is great for teams.

Say you've got a list of connections that you and your team connect to. There could be five different users on four different databases. That would be twenty connections (5x4).

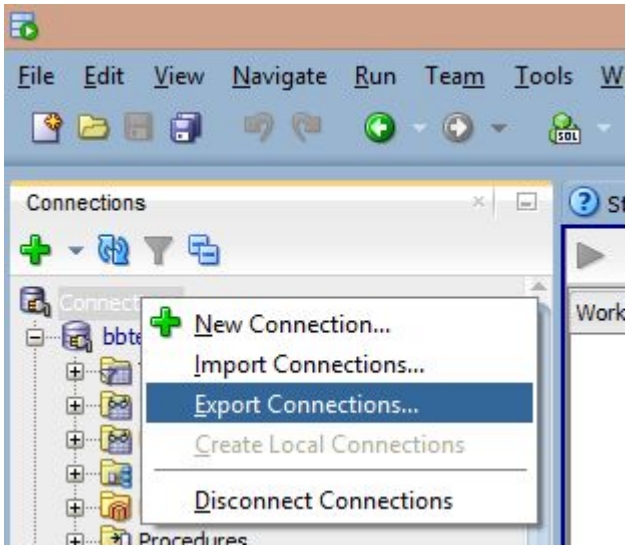
Imagine if everyone had to set them up individually. It would take a while.

With the Import/Export function, they can be set up once by one person. A connection file can then be generated and exported. This file can then be imported by anyone else, and their connections are set up.

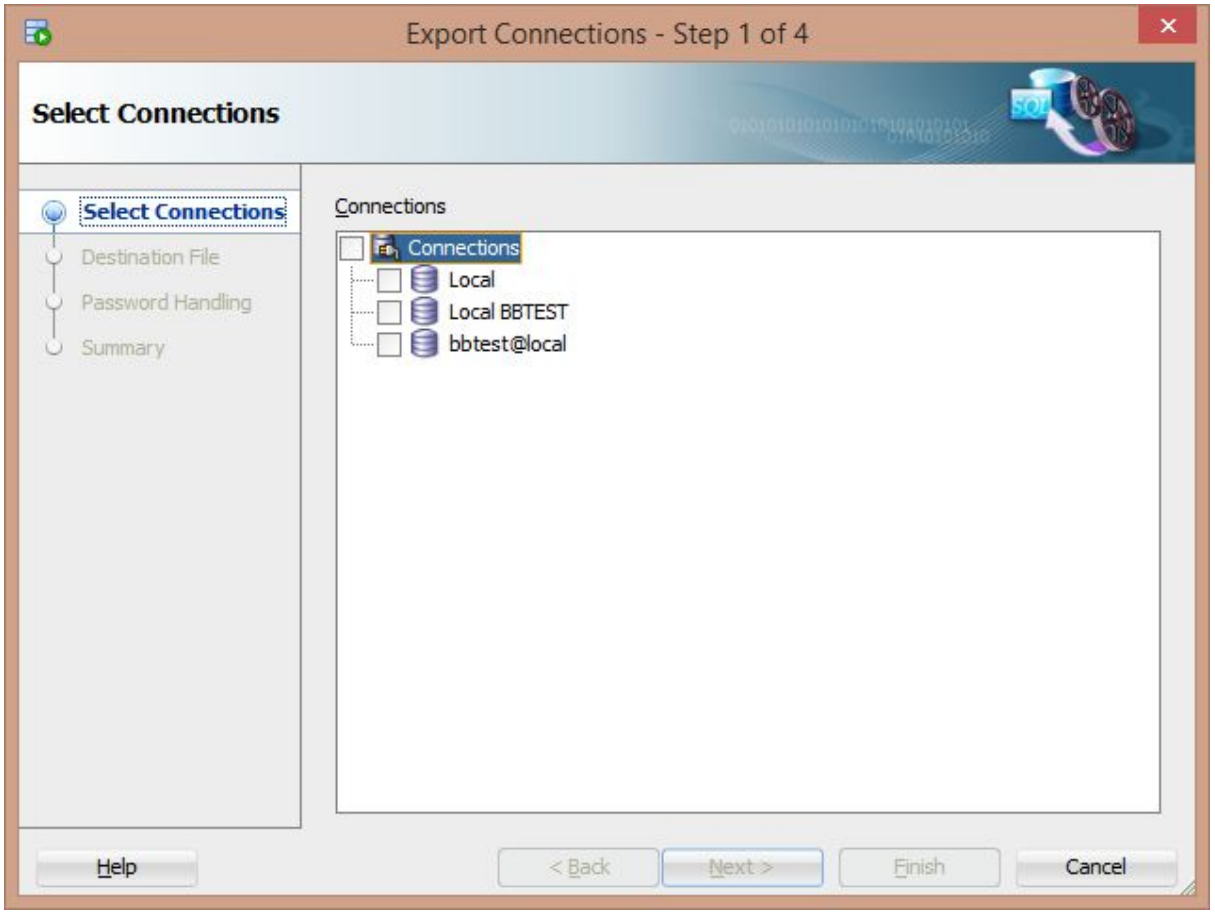
It's a great time saver. It's good for new starters as well.

Also, if you keep the connection file in source control, it ensures everyone has access to the most up-to-date file.

To export your connections, right click on the Connections entry and click Export Connections.



You get the Export Connections window.



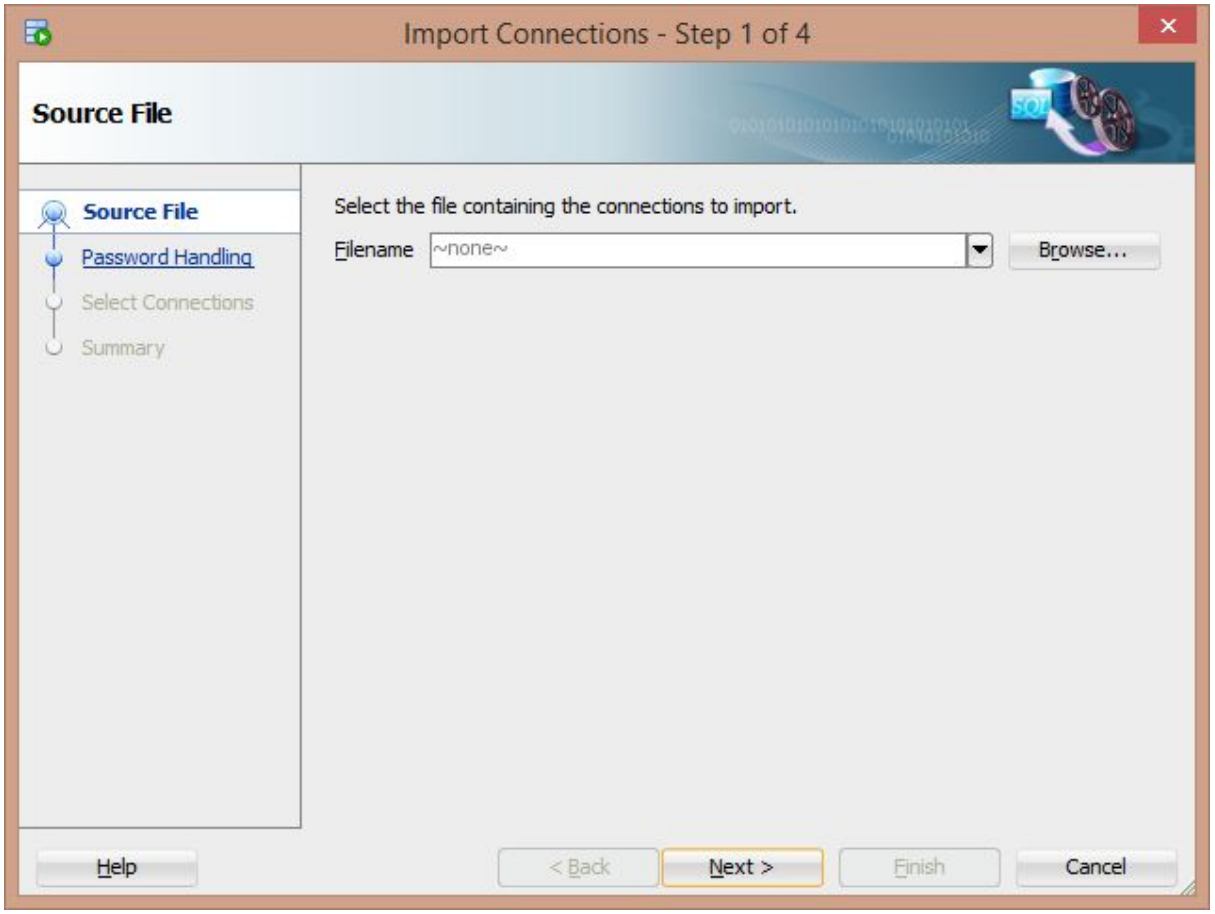
Follow this process to select the connections you want, the output file (which is an XML file), how to treat passwords, and then finish.

You'll get an XML file that contains the connection data.

In my SQL Developer training course, I'll walk through the import and export connection process, among many other features of SQL Developer.

Import Connections

To import your connections, right click on the Connections item on the Connections panel, and select Import Connections.



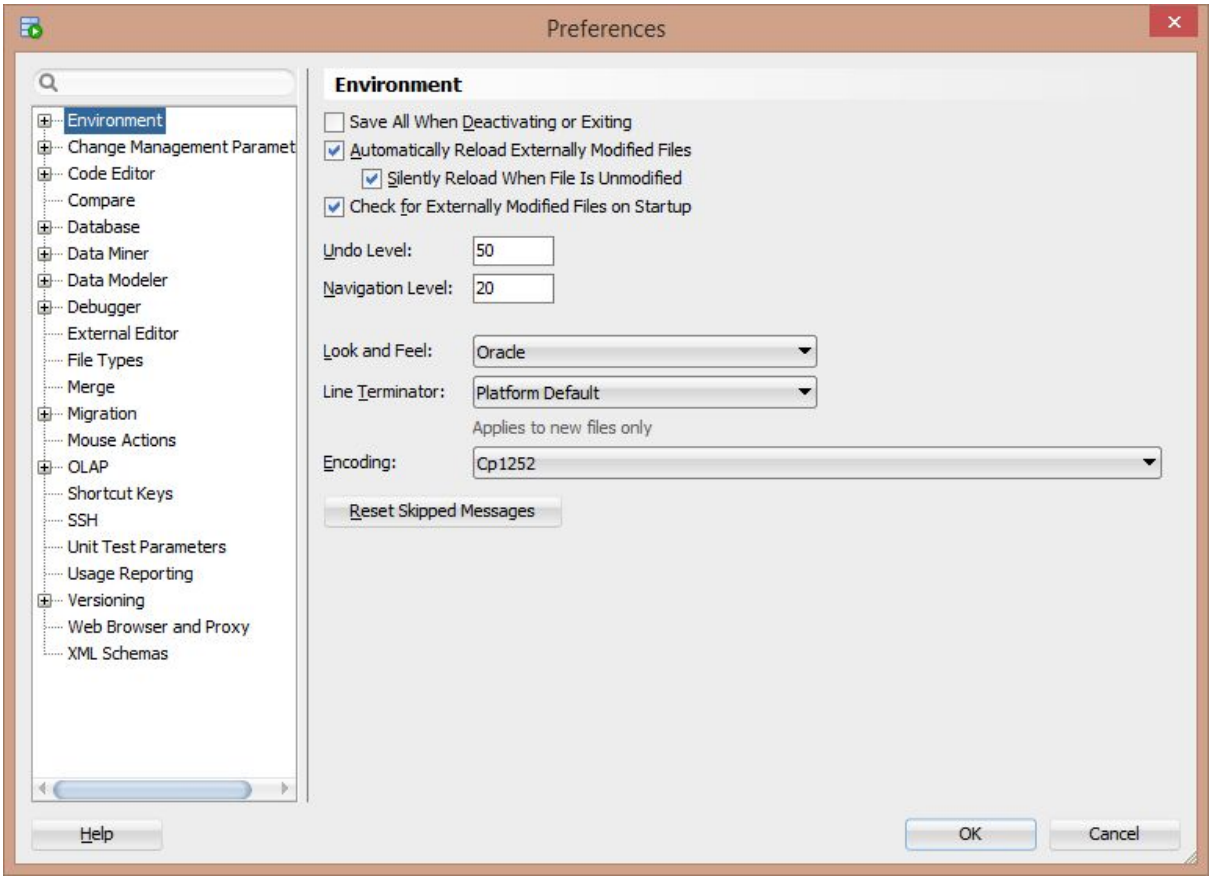
Select the source file, password handling, and connections, and then finish. Your passwords will now be imported.

Preferences

Coming from Toad to SQL Developer can be quite a change. There may be certain ways you like things done, and certain preferences set in Toad that allow you to do your work better.

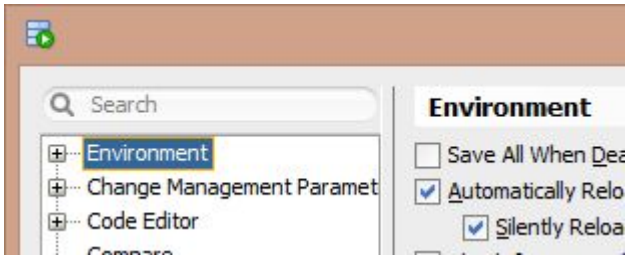
Fortunately, SQL Developer has quite a comprehensive Preferences section, allowing you to change and customise many areas of the program.

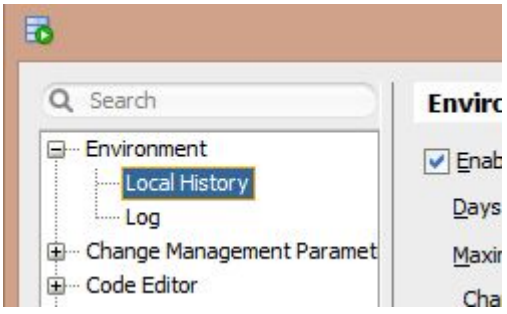
To access it, go to Tools > Preferences.



On the left are the sections, and the right, is the settings that can be changed.

It uses a tree structure for settings, which I think is really helpful. You can expand the tree sections to see what sits underneath them.





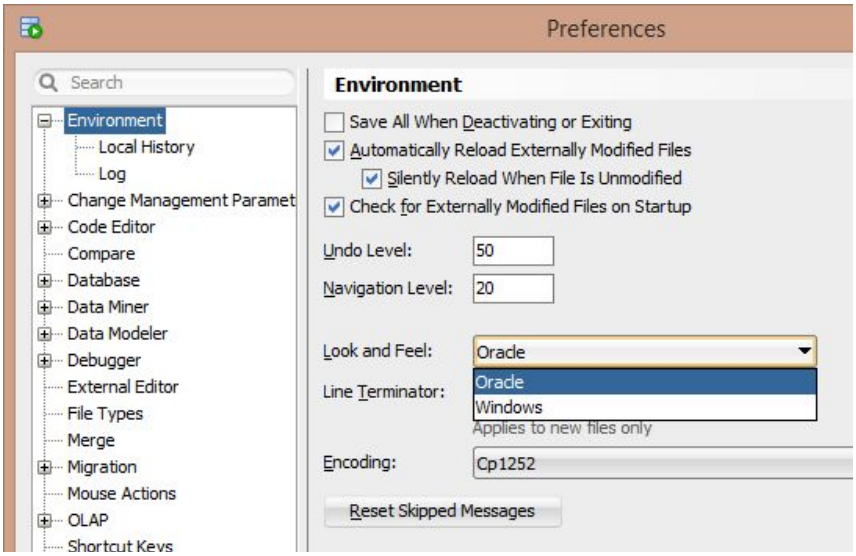
Note: Both the main items and the sub-sections have settings attached to them. In the example above, both the Environment label and the Local History label have settings to change. If you can't find a setting you're looking for, try looking in the parent item.

What Settings Are Good To Change?

Now, I won't go through all of the settings in this guide, as it will be too large, but there are some that are worth changing.

Look and Feel

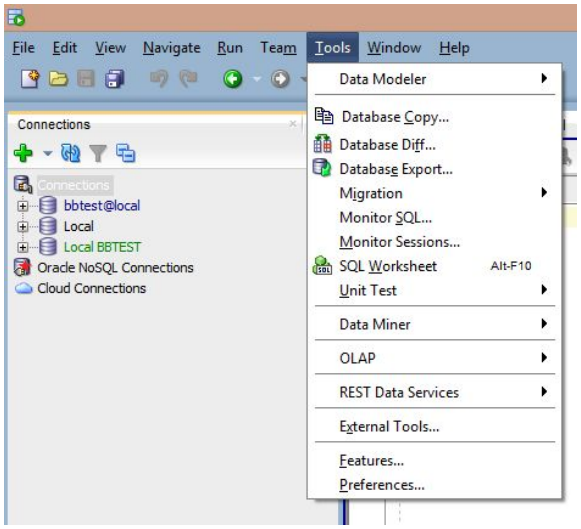
Under the Environment tab, there is a setting called Look and Feel. The default is Oracle, but you can change it to Windows.

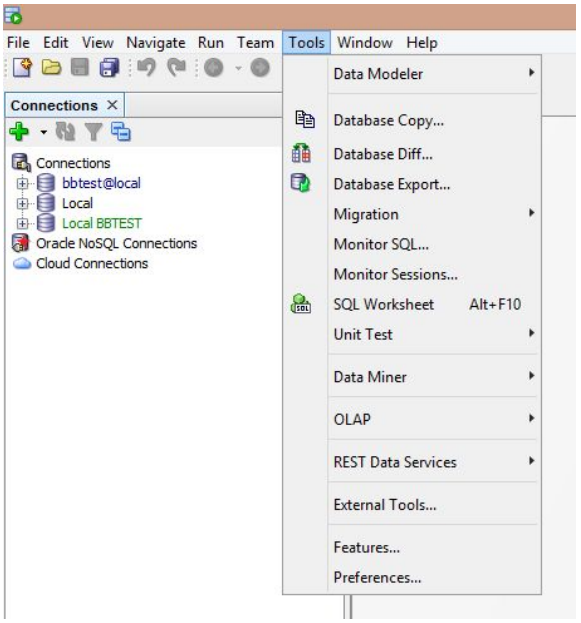


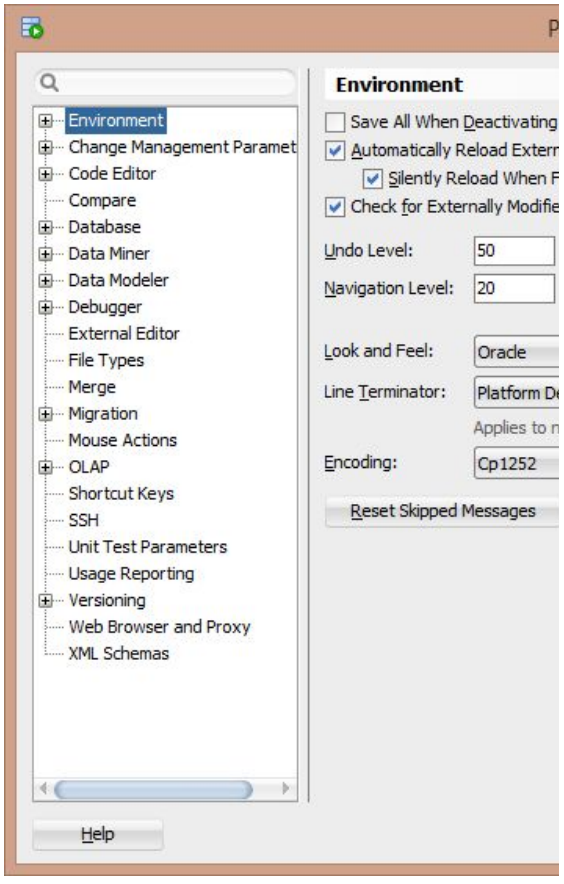
You can't preview it, unfortunately, so you'll need to set it and restart SQL Developer.

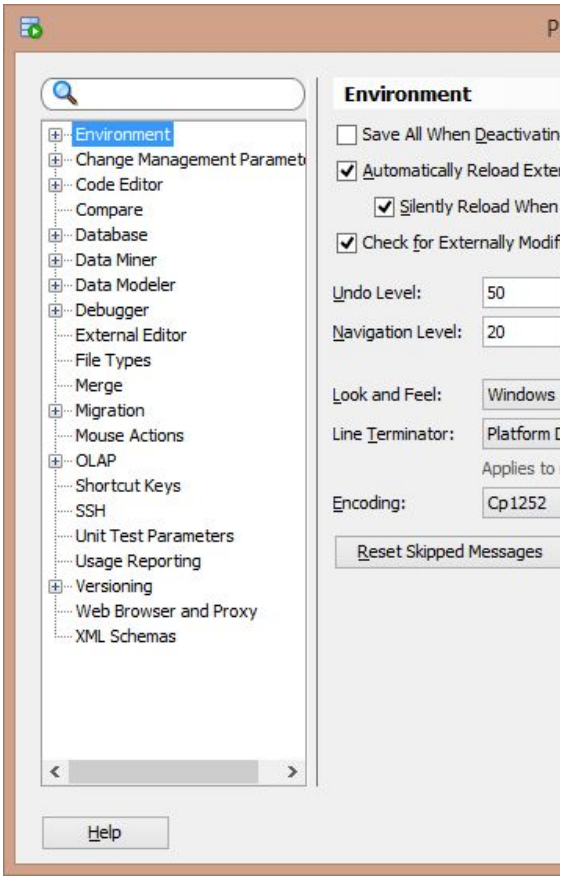
You can see the differences below.

Oracle	Windows









Font

If you have a preference for font size and style, you can change it under Code Editor > Fonts.

I don't mind the default (12pt DialogInput) but you can change it to a different size and style here.

Line Numbers

By default, SQL Developer does not show line numbers. Line numbers are great for debugging and just to see the overall size of your code.

To turn them on, go to Code Editor > Line Gutter, and ensure "Show Line Numbers" is set checked.

SQL History Limit

SQL Developer saves a history of the statements you run. The default for this is 100, but you can increase it to something like 500 or 1000 if you want to store more.

This is available in Database > Worksheet > SQL History Limit

Show Query Results in New Tabs

Sometimes you might want to show query results in a new tab teach time, so you can see how it has changed after you alter a query.

To turn this on, go to Database > Worksheet > Show query results in new tabs.

Debugger Step Over

By default, when you start a debugging session, SQL Developer run until it finds a breakpoint. If you have none set, the code will run to the end.

If you want the debugger to run and pause at line 1, then you can set the default action to Step Over.

You can set this in Debugger > Start Debugging Option.

Shortcut Keys

SQL Developer has some pretty good shortcut key preferences. I'll describe them more later in the guide, but you can access them by going to the Shortcut Keys section.

Open Objects on Single Click

If you want to turn on/off the ability to open objects on a single click, instead of selecting it, go to Database > ObjectViewer and turn on "Open Object on Single Click".

Hide Objects From Connection Trees

The connection tree can get quite long with all different types of objects. You can hide certain types if you don't use them, which means you scroll less.

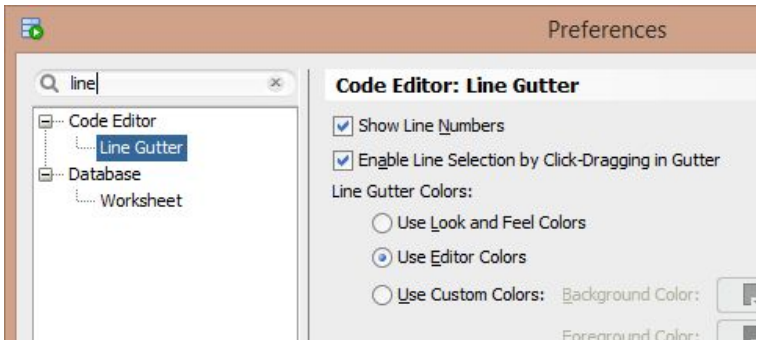
To change what is shown, go to Database > Navigation Filter. Select "Enable Navigation Tree Filtering" and select or deselect the options to show and hide.

Set A Connection Script

You can set an SQL script to run whenever you connect, to change different session variables or whatever else you want to run.

Set the script name in the Database tab.

Note: If you're looking for a particular setting, you can use the Search box at the top-left of the Preferences window. This allows you to search for what you want to change, instead of browsing through all of the options.



The Toolbar

The toolbar in SQL Developer contains much fewer commands than other IDEs. It can be customised to add and remove items, but it has some there by default.

These items are:

Icon	Name	Purpose
	New	Creates a new SQL file
	Open	Opens an existing SQL file
	Save	Saves the current file
	Save All	Saves all open files
	Undo	Undoes the last action
	Redo	Redoes the last action
	Back	Goes to the previous page
	Forward	Goes to the next page
	SQL Worksheet	Creates a new SQL worksheet. You can also specify the connection.
	Find DB Object	Opens the Find DB Object panel in the sidebar.

I've found that the SQL Worksheet is the most common feature for me. Many of the commands I perform using keyboard shortcuts, including this one, but it's a good feature to have there.

Keyboard Shortcuts

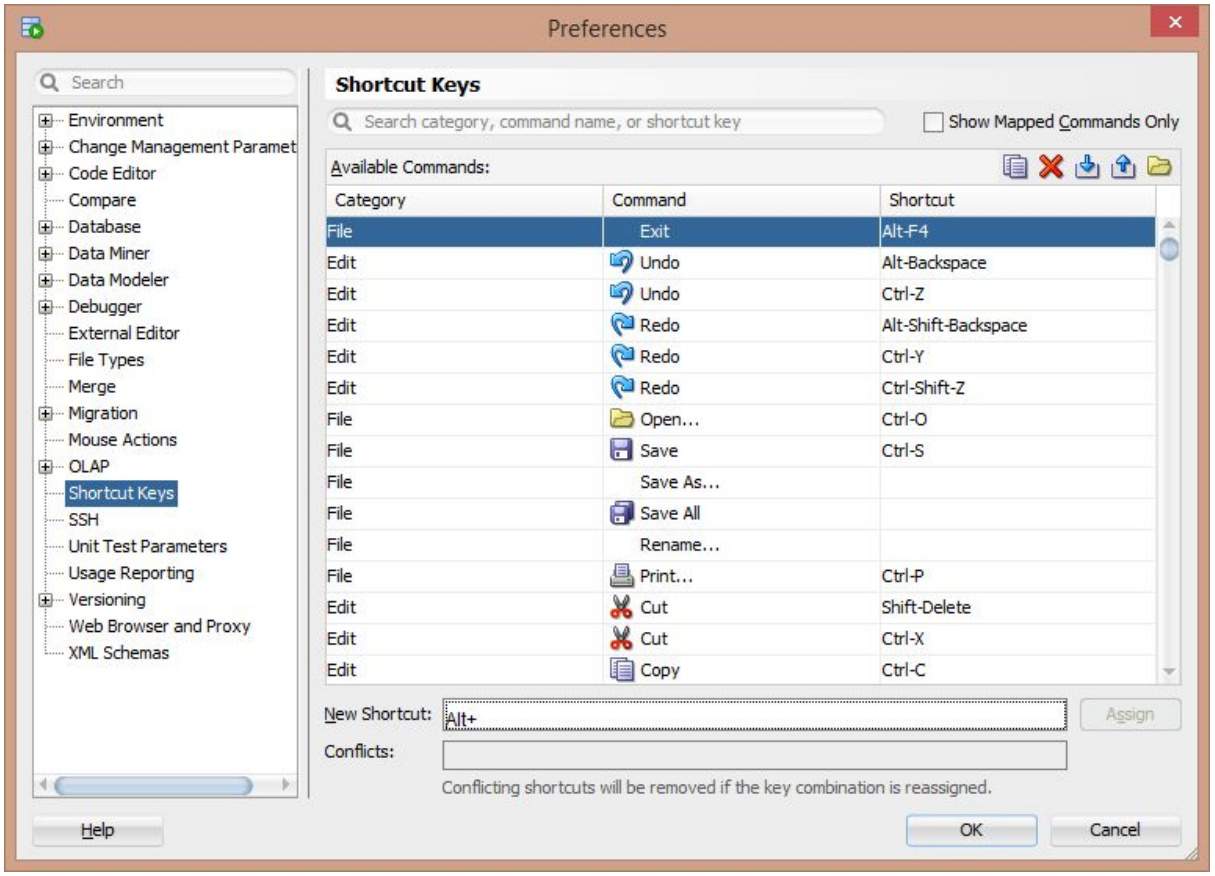
This is one of the best features of the program.

SQL Developer not only has a long list of keyboard shortcuts, it also lets you change the keyboard shortcuts to suit your way of working.

There is a set of default shortcuts, which you can change if you don't like them. There's also a lot of other things you can add shortcuts to.

To access the shortcuts area, go to Tools > Preferences > Shortcut Keys.

You'll get this screen.



There are a few things to notice on this screen.

First, every shortcut has a category. There are a lot of categories in the list, which can be sorted by each of the headings.

You can see the existing shortcuts in the Shortcut column.

You can assign a new shortcut to the command by adding a value into the New Shortcut text box. Any conflicts will be shown and then removed. My SQL Developer course will show you how to work more efficiently with shortcut keys and how to set them up, by demonstrating them in screencast videos.

You can set a sequence of up to two keys.

For example, you may want to set a shortcut to "Save All". You can set a shortcut using two combinations in a row, such as "Alt+K, S".

This means you can press and hold Alt, then press K, then let go of both Alt and K, then press S.

This is the entire shortcut for that command. If you set that sequence to Save All, and press those keys, the Save All command will be run.

This allows you to set up a lot of combinations of shortcuts.

Default Keyboard Shortcuts

It's good to have a list of keyboard shortcuts for your program. However, I'm not going to list them all in this guide, as there are way too many. The common commands also have shortcuts that you might expect (CTRL+Z is Undo, for example).

I'll list some of the more useful ones though.

Command	**Shortcut**
Go To Line	Ctrl+G
Go To Last Edit	Ctrl+Shift+Backspace
Extended Paste	Ctrl+Shift+V
Activate Document 1 (up to 9)	Alt+1
Insert Row	CTRL+I
SQL Worksheet	Alt+F10
Format SQL	Ctrl+F7
Debug	Ctrl+Shift+F10
Run Script	F5
Run Statement	F9, or Ctrl+Enter
Step Into	F7
Completion Insight	Ctrl+Space

What's Next?

Well, you've finished this guide to setting up SQL Developer and getting ready to use it.

You've been shown how to change some of the more common settings in SQL Developer, how to create connections, and how to make your life easier with shortcut keys.

To really get the most out of SQL Developer, though, you should know how all of the features work.

I've created a video course that goes more in-depth with many more of the SQL Developer features. It's called "SQL Developer Jumpstart" and you can access it as part of the Database Star Academy:

https://www.databasestar.com/dsa/

Thanks for reading this guide, and hope to see you inside the Academy soon!

Take care,

Ben Brumm

Database Star

www.databasestar.com