

Step-by-Step Guide to Install ora2pg on Windows

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This document is meant to be used as a Quick Installation Guide for enabling migration of schema & data from Oracle to Azure Database for PostgreSQL using ora2pg tool. Complete details on the tool can be found at <http://ora2pg.darold.net/documentation.html>

Pre-Requisites

The following software must be installed in the Windows machine prior to installing ora2pg:

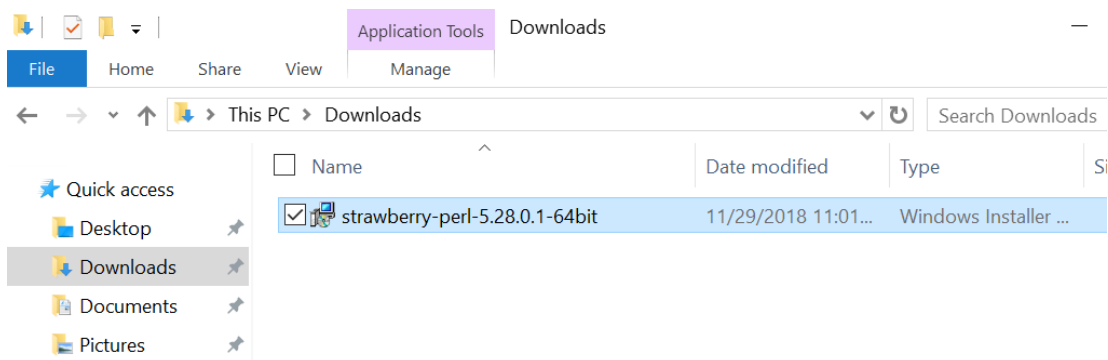
- Perl 5.10 or more
- Oracle Instant Client or Full Oracle installation
- [optional] Visual C++ or Visual Studio Express
- DBD::Oracle Perl Module
- ora2pg

It is recommended that you use the order above to proceed with the installation.

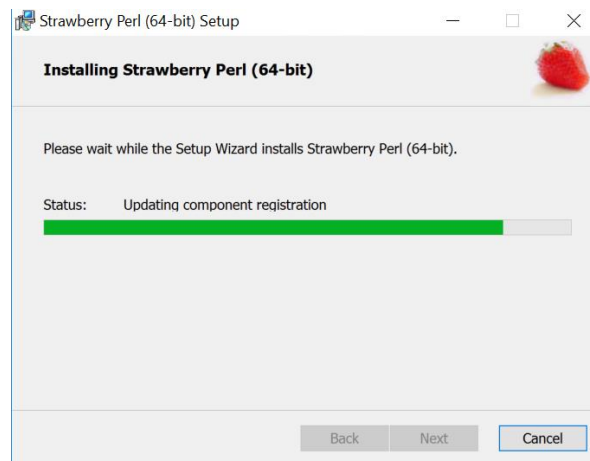
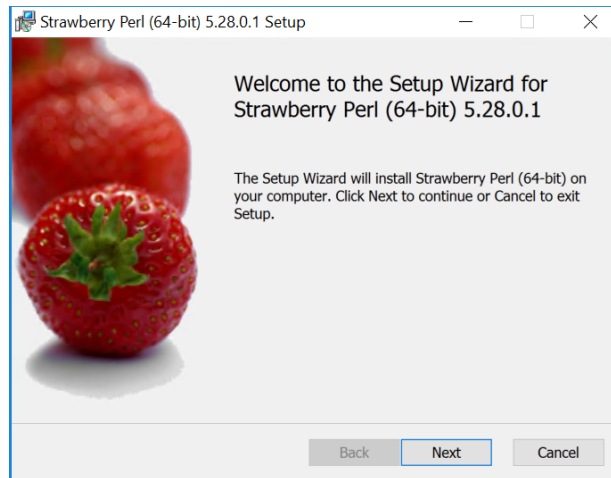
Note that the version of Windows used for this exercise is a Windows Server 2016

Installing Perl 5.10 or more

- 1) go to <http://strawberryperl.com/> and download the latest version of Perl – as of now 5.28 is the latest version
- 2) Double click on strawberry-perl-5.28.0.1-64bit



- 3) Run the wizard until the end of installation:



4) Verify that Perl was installed successfully:

cmd> perl --version

```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.14393]
(c) 2016 Microsoft Corporation. All rights reserved.

C:\Users\corp>perl --version

This is perl 5, version 28, subversion 0 (v5.28.0) built for MSWin32-x64-multi-thread
Copyright 1987-2018, Larry Wall

Perl may be copied only under the terms of either the Artistic License or the
GNU General Public License, which may be found in the Perl 5 source kit.

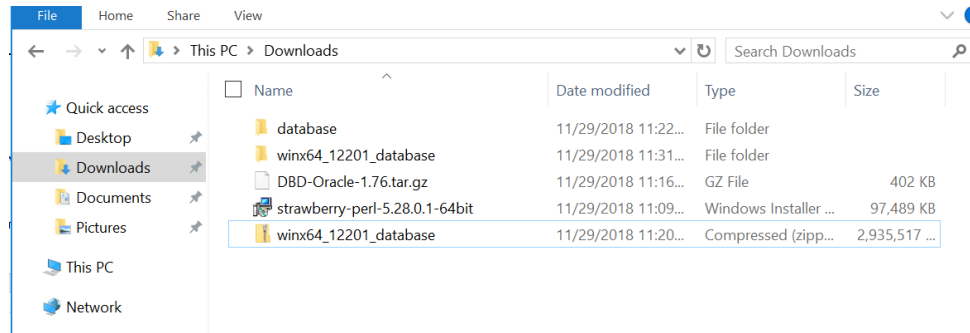
Complete documentation for Perl, including FAQ lists, should be found on
this system using "man perl" or "perldoc perl".  If you have access to the
Internet, point your browser at http://www.perl.org/, the Perl Home Page.
```

Installing Oracle Instant Client or Full Oracle Installation

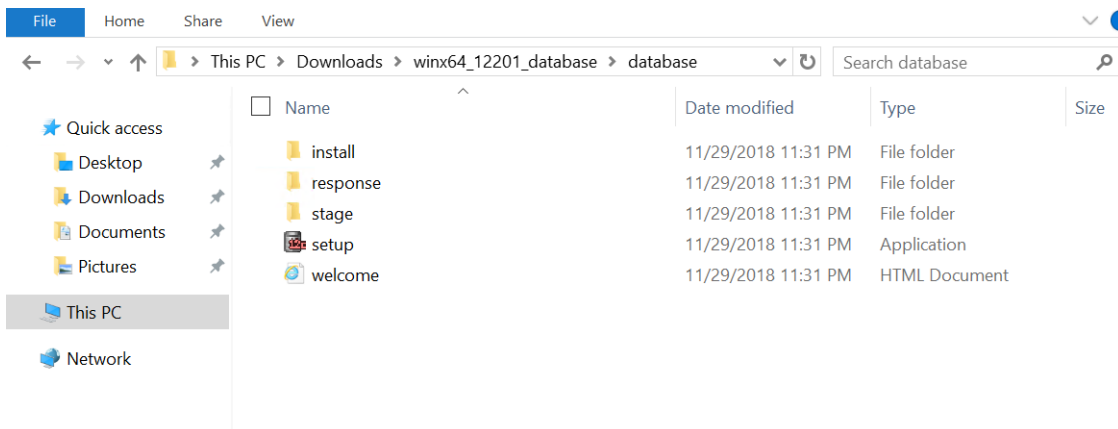
- 1) Go to <https://www.oracle.com/technetwork/database/enterprise-edition/downloads/index.html> and download either the oracle client or a full Oracle Installation

For this exercise a full Oracle Database software will be installed

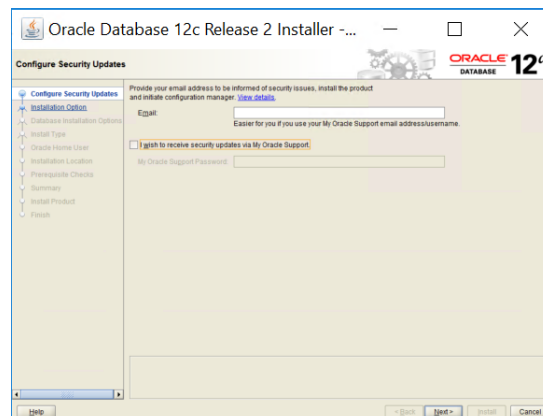
- 2) Extract the Oracle file *winx64_12201_database.zip* to any location

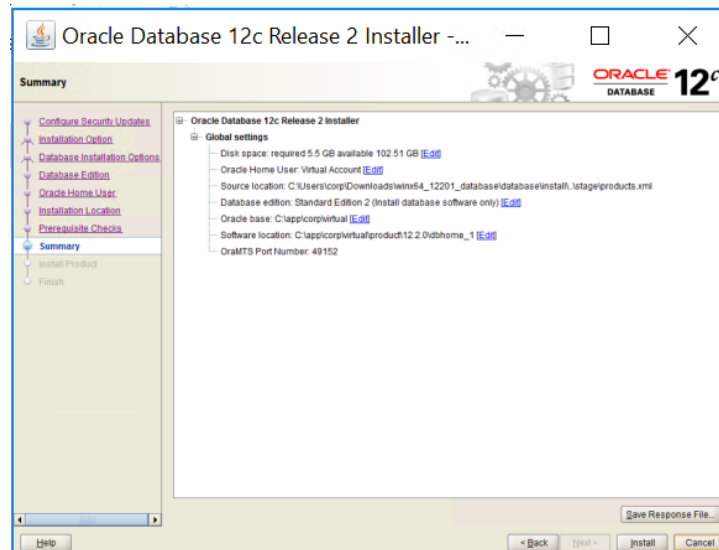
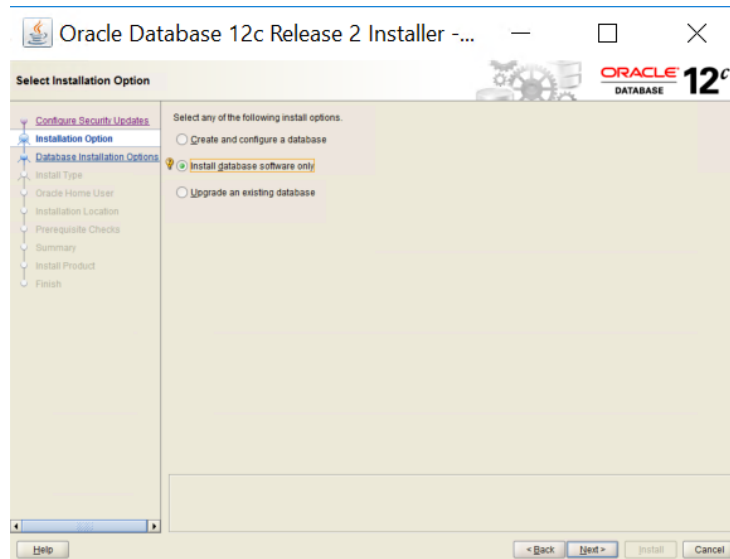


- 3) Navigate to the extracted folder "winx64_12201_database" -> database and double click on setup to install the Oracle database



- 4) Run the wizard until it finishes and wait for the Oracle product to be installed





Installing DBD::Oracle Perl Module

- 1) Go to <https://metacpan.org/pod/DBD::Oracle> and click on “Download”

The file DBD-Oracle-1.76.tar.gz will be downloaded

- 2) Extract the file to the C:\ drive – use winzip or winrar or any other “untar” tool available in the machine
- 3) Open a Command Prompt (cmd) and navigate to the C:\DBD-Oracle-1.76

```
cd c:\DBD-Oracle-1.76\DBD-Oracle-1.76\
```

- 4) Set your ORACLE_HOME to the Instant Client directory

```
set ORACLE_HOME=C:\app\corp\virtual\product\12.2.0\dbhome_1
```

- 5) Set your NLS parameter as below

```
set NLS_LANG=.WE8ISO8859P15
```

```
C:\Users\corp>cd c:\DBD-Oracle-1.76\DBD-Oracle-1.76\  
  
c:\DBD-Oracle-1.76\DBD-Oracle-1.76>set ORACLE_HOME=C:\app\corp\virtual\product\12.2.0\dbhome_1  
  
c:\DBD-Oracle-1.76\DBD-Oracle-1.76>set NLS_LANG=.WE8ISO8859P15
```

- 6) Once the NLS and ORACLE_HOME parameters are set, run the following:

```
perl Makefile.PL
```

```
c:\DBD-Oracle-1.76\DBD-Oracle-1.76>perl Makefile.PL  
Using DBI 1.641 (for perl 5.028000 on MSWin32-x64-multi-thread) installed in C:/Strawberry/perl/vendor/lib/auto/DBI/  
Configuring DBD::Oracle for perl 5.028000 on MSWin32 (MSWin32-x64-multi-thread)
```

```
If you encounter any problem, a collection of troubleshooting  
guides are available under lib/DBD/Oracle/Troubleshooting.  
'DBD::Oracle::Troubleshooting' is the general troubleshooting  
guide, while platform-specific troubleshooting hints  
live in their labelled sub-document (e.g., Win32  
hints are gathered in 'lib/DBD/Oracle/Troubleshooting/Win32.pod').
```

```
Installing on a MSWin32, Ver#10.0  
Using Oracle in C:/app/corp/virtual/product/12.2.0/dbhome_1  
DEFINE _SQLPLUS_RELEASE = "1202000100" (CHAR)  
Oracle Version 12.2.0.1 (12.2)  
Found oci directory  
Using OCI directory 'oci'
```

```
client_version=12.2
```

```
DEFINE= -Wall -Wno-comment -DUTF8_SUPPORT -DORA_OCI_VERSION=\"12.2.0.1\" -DORA_OCI_102 -DORA_OCI_112
```

```
Checking for functioning wait.ph
```

```
Checking for functioning wait.ph
```

```
System: perl5.028000 Win32 strawberry-perl 5.28.0.1 #1 Sat Jun 23 13:55:45 2018 x64  
Compiler: gcc -s -O2 -s -O2 -DWIN32 -DWIN64 -DCONSERVATIVE -D_USE_MINGW_ANSI_STDIO -DPERL_TEXTMODE_SCRIPTS -DPERL_  
PLICIT_CONTEXT -DPERL_IMPLICIT_SYS -DUSE_PERLIO -fwrapv -fno-strict-aliasing -mms-bitfields  
Linker: not found  
Sysliblist:
```

```
Checking if your kit is complete...
```

```
Looks good
```

```
LD_RUN_PATH=C:/app/corp/virtual/product/12.2.0/dbhome_1/lib:C:/app/corp/virtual/product/12.2.0/dbhome_1/rdbms/lib
```

```
Using DBD::Oracle 1.76.
```

```
Using DBD::Oracle 1.76.
```

```
Using DBI 1.641 (for perl 5.028000 on MSWin32-x64-multi-thread) installed in C:/Strawberry/perl/vendor/lib/auto/DBI/
```

```
Generating a gmake-style Makefile
```

```
Writing Makefile for DBD::Oracle
```

```
Writing MYMETA.yml and MYMETA.json
```

[optional]

The next step is to run nmake install. Visual Studio Express or Visual C++ Express is needed on the Windows Server, so nmake is a command enabled in the windows server.

<https://social.technet.microsoft.com/wiki/contents/articles/50941.visual-studio-express-2017-offline-installer-win7-install-instructions.aspx?Redirected=true>

Complete the installation of Visual Studio Express in order to enable nmake.

[optional]

"C:\Program Files (x86)\Microsoft Visual Studio\2017\WDEExpress\VC\Tools\MSVC\14.16.27023\bin\Hostx86\x86\nmake.exe" install

```
c:\DBD-Oracle-1.76\DBD-Oracle-1.76>"C:\Program Files (x86)\Microsoft Visual Studio\2017\WDEExpress\VC\Tools\MSVC\14.16.27023\bin\Hostx86\x86\nmake.exe" install
Microsoft (R) Program Maintenance Utility Version 14.16.27024.1
Copyright (C) Microsoft Corporation. All rights reserved.

"C:\Strawberry\perl\bin\perl.exe" -MExtUtils::Command::MM -e cp_nonempty -- Oracle.bs blib\arch\auto\DBD\Oracle\Oracle.bs 644
Files found in blib\arch: installing files in blib\lib into architecture dependent library tree
Appending installation info to C:\STRAWB~1\perl\lib\perllocal.pod
```

At this point you are all set.

Installing ora2pg

- 1) Go to <https://sourceforge.net/projects/ora2pg/> to download ora2pg
- 2) Go to ora2pg installation folder

cd ora2pg-19.1
- 3) Type perl Makefile.PL

```
c:\>cd ora2pg-19.1

c:\ora2pg-19.1>perl Makefile.PL
Checking if your kit is complete...
Looks good
Invalid LICENSE value 'GPLv3' ignored
Generating a gmake-style Makefile
Writing Makefile for Ora2Pg
Invalid LICENSE value 'GPLv3' ignored
Writing MYMETA.yml and MYMETA.json

Done...
-----
Please read documentation at http://ora2pg.darold.net/ before asking for help
-----
Now type: dmake && dmake install
```

- 4) Set the environment variables: ORACLE_HOME and LD_LIBRARY_PATH

ORACLE_HOME=<Oracle client software location>

LD_LIBRARY_PATH=<Oracle client software location>/lib

In this install:

set ORACLE_HOME=C:\app\corp\virtual\product\12.2.0\dbhome_1

set LD_LIBRARY_PATH=C:\app\corp\virtual\product\12.2.0\dbhome_1\lib

```
c:\ora2pg-19.1>set ORACLE_HOME=C:\app\corp\virtual\product\12.2.0\dbhome_1
c:\ora2pg-19.1>set LD_LIBRARY_PATH=C:\app\corp\virtual\product\12.2.0\dbhome_1\lib
```

5) gmake && gmake install

```
c:\ora2pg-19.1>gmake && gmake install
cp lib/Ora2Pg.pm blib\lib\Ora2Pg.pm
cp lib/Ora2Pg\GEOM.pm blib\lib\Ora2Pg\GEOM.pm
cp lib/Ora2Pg\PLSQL.pm blib\lib\Ora2Pg\PLSQL.pm
cp lib/Ora2Pg\MySQL.pm blib\lib\Ora2Pg\MySQL.pm
"C:\Strawberry\perl\bin\perl.exe" -MExtUtils::Command -e cp -- scripts/ora2pg blib\script\ora2pg
pl2bat.bat blib\script\ora2pg
"C:\Strawberry\perl\bin\perl.exe" -MExtUtils::Command -e cp -- scripts/ora2pg_scanner blib\script\ora2pg_scanner
pl2bat.bat blib\script\ora2pg_scanner
Installing C:\STRAWB~1\perl\site\lib\Ora2Pg.pm
Installing C:\STRAWB~1\perl\site\lib\Ora2Pg\GEOM.pm
Installing C:\STRAWB~1\perl\site\lib\Ora2Pg\MySQL.pm
Installing C:\STRAWB~1\perl\site\lib\Ora2Pg\PLSQL.pm
Installing C:\STRAWB~1\perl\site\bin\ora2pg
Installing C:\STRAWB~1\perl\site\bin\ora2pg.bat
Installing C:\STRAWB~1\perl\site\bin\ora2pg_scanner
Installing C:\STRAWB~1\perl\site\bin\ora2pg_scanner.bat
"Installing default configuration file (ora2pg_dist.conf) to C:\ora2pg"
Appending installation info to C:\STRAWB~1\perl\lib\perllocal.pod
```

ora2pg is set.

Testing ora2pg installation

Type ora2pg --version as following:

```
c:\ora2pg-19.1>ora2pg --version
Ora2Pg v19.1
```

References

<http://ora2pg.darold.net/documentation.html>

<http://strawberryperl.com/>

<https://www.oracle.com/technetwork/database/enterprise-edition/downloads/index.html>

<https://metacpan.org/pod/DBD::Oracle>

<https://blog.pythian.com/dbdoracle-and-windows-64bit/>

Feedback and suggestions

If you have feedback or suggestions for improving this data migration asset, please contact the Data Migration Jumpstart Team (askdmjfordmtools@microsoft.com). Thanks for your support!

Note: For additional information about migrating various source databases to Azure, see the [Azure Database Migration Guide](#).