

# A

## Instant Client for SQL\*Loader, Export, and Import

Oracle Instant Client enables you to run your applications without installing the standard Oracle Client, or having an Oracle home.

- [What is the Tools Instant Client?](#)  
The Tools Instant Client package is available on platforms that support the Oracle Call Interface (OCI) Instant Client.
- [Choosing Which Instant Client to Install](#)  
Before you install the Tools Instant Client Tools package, decide if you want to use Basic Instant Client, or take advantage of the smaller disk space requirements of Instant Client Light.
- [Installing Instant Client Tools by Downloading from OTN](#)  
To install the Oracle Instant Client tools package, select the procedure for your platform from the Oracle Technical Network (OTN), and download the files.
- [Installing Tools Instant Client from the Client Release Media](#)  
To install the Tools Instant Client package from the client release media, you copy files over to a local home.
- [List of Oracle Instant Client Tools Files](#)  
Learn about the purpose of the files that comprise the Oracle Instant Client Tools.
- [Configuring Tools Instant Client Package](#)  
To configure the Tools Instant Client package executable for use with Oracle Instant Client, you must set environment variables.
- [Connecting to a Database with the Tools Instant Client Package](#)  
After the Tools Instant Client package is installed and configured, there are multiple ways that you can connect to the database using the tools.
- [Uninstalling Tools Instant Client Package and Instant Client](#)  
You can uninstall the Tools Instant Client package separately, or uninstall the entire Instant Client.

### A.1 What is the Tools Instant Client?

The Tools Instant Client package is available on platforms that support the Oracle Call Interface (OCI) Instant Client.

The Tools package contains several command-line utilities, including SQL\*Loader, Oracle Data Pump Export, Oracle Data Pump Import, Original (classic) Export, and Original (classic) Import. Instant Client installations are standalone, with all of the functionality of the command-line versions of the products. The Instant Client connects to existing remote Oracle Databases, but does not include its own database. It is easy to install, and uses significantly less disk space than the full Oracle Database Client installation required to use the command-line versions of products.

## Overview of Steps Required to use Tools Instant Client

To use the Tools Instant Client, you need two packages:

- Tools Instant Client Package
- Either the Basic OCI Instant Client package, or the OCI Instant Client Light package.

The basic steps required to use the Tools Instant Client are as follows. Each of these steps is described in this appendix.

1. Choose which OCI Package (Basic or Light) you want to use, and also select the directory in which to install the Instant Client files.
2. Copy the Tools Instant Client Package, and the OCI Instant Client package of your choice, from an installed Oracle instance or download them from OTN.
3. Install (unpack) the Tools Instant Client package and the OCI package. A new directory `instantclient_12_2` is created as part of the installation.
4. Configure the Instant Client.
5. Connect to a remote instance with the utility you want to run.

Both the Tools package and OCI package must be from Oracle Database version 12.2.0.0.0, or higher, and the versions for both must be the same.

See *Oracle Call Interface Developer's Guide* for more information about the OCI Instant Client.

### Related Topics

- About Oracle Instant Client

## A.2 Choosing Which Instant Client to Install

Before you install the Tools Instant Client Tools package, decide if you want to use Basic Instant Client, or take advantage of the smaller disk space requirements of Instant Client Light.

The Tools Instant Client package is fully supported with both of the Oracle Instant Client options. The primary difference between them is that the Instant Client Light option includes only error message files in English.

### Basic Instant Client

The Tools Instant Client package, when used with Basic Instant Client works with any `NLS_LANG` setting supported by Oracle Database. It supports all character sets and language settings available with Oracle Database.

### Instant Client Light

The Instant Client Light (English) version of Instant Client further reduces the disk space requirements of the client installation. The size of the library has been reduced by removing error message files for languages other than English and leaving only a few supported character set definitions out of around 250.

Instant Client Light is geared toward applications that use either `US7ASCII`, `WE8DEC`, `WE8ISO8859P1`, `WE8MSWIN1252`, or a Unicode character set. There is no restriction on the `LANGUAGE` and the `TERRITORY` fields of the `NLS_LANG` setting, Instant Client Light operates with any language and territory settings. Because only English error messages are provided with Instant Client Light, error messages generated on the client side, such as Net connection errors, are always reported in English. This is true even if `NLS_LANG` is set to a language other

than AMERICAN. Error messages generated by the database side, such as syntax errors in SQL statements, are in the selected language provided the appropriate translated message files are installed in the Oracle home of the Oracle Database instance.

## A.3 Installing Instant Client Tools by Downloading from OTN

To install the Oracle Instant Client tools package, select the procedure for your platform from the Oracle Technical Network (OTN), and download the files.

The Instant Client tools package provides an easy way to add many Oracle Database utilities to your Instant Client. The tool package includes Oracle Data Pump, SQL\*Loader and Workload Replay Client.

The OTN downloads for Linux are RPM packages. The OTN downloads for UNIX and Windows are zip files.

- [Installing Instant Client and Instant Client Tools RPM Packages for Linux](#)  
Use this procedure to download and install the Linux RPM packages for Oracle Instant Client, and Oracle Instant Client Tools.
- [Installing Instant Client and Instant Client Tools from Unix or Windows Zip Files](#)  
Use this procedure to download and install the zip files for Oracle Instant Client, and Oracle Instant Client Tools.

### A.3.1 Installing Instant Client and Instant Client Tools RPM Packages for Linux

Use this procedure to download and install the Linux RPM packages for Oracle Instant Client, and Oracle Instant Client Tools.

In this deployment option, you download the Oracle Instant Client RPM and the Instant Client Tools RPM from the Oracle Technical Network.

#### **Caution:**

Set up a separate installation location for Oracle Instant Client. Never install Oracle Instant Client packages in an Oracle home.

1. Download the Oracle Instant Client and Instant Client Tools RPM packages from the following URL:  
<http://www.oracle.com/technetwork/database/database-technologies/instant-client/overview/index.html>  
Both packages must be at least release 12.2.0.0.0 or higher, and both packages must be the same release.
2. Use `rpm -i` for the initial install of the RPM packages, or `rpm -u` to upgrade to a newer version of the packages. Install Oracle Instant Client first before you attempt to install the Instant Client Tools package.
3. Configure Instant Client.

### Related Topics

- [Configuring Tools Instant Client Package](#)  
To configure the Tools Instant Client package executable for use with Oracle Instant Client, you must set environment variables.
- Oracle Instant Client and Oracle Instant Client Light

## A.3.2 Installing Instant Client and Instant Client Tools from Unix or Windows Zip Files

Use this procedure to download and install the zip files for Oracle Instant Client, and Oracle Instant Client Tools.

In this deployment option, you download the Oracle Instant Client RPM and the Instant Client Tools RPM from the Oracle Technical Network.

### Caution:

Set up a separate installation location for Oracle Instant Client. Never install Oracle Instant Client packages in an Oracle home.

1. Download the Oracle Instant Client and Instant Client Tools zip files from the following URL:

<http://www.oracle.com/technetwork/database/database-technologies/instant-client/overview/index.html>

Both zip files must be at least release 12.2.0.0.0 or higher, and both packages must be the same release.

2. Create a new directory. For example, with an Oracle Instant Client 19c deployment, on Unix systems create `/home/instantclient19c`. On Windows, create `c:\instantclient19c` on Windows.
3. Unzip the two packages into the new directory. Install the Oracle Instant Client package first.
4. Configure Instant Client.

### Related Topics

- [Configuring Tools Instant Client Package](#)  
To configure the Tools Instant Client package executable for use with Oracle Instant Client, you must set environment variables.
- Oracle Instant Client and Oracle Instant Client Light

## A.4 Installing Tools Instant Client from the Client Release Media

To install the Tools Instant Client package from the client release media, you copy files over to a local home.

1. Run the installer on the Oracle Database Client Release media and choose the Administrator option.

2. Create a new directory. For example, on Unix and Linux, create a directory such as `/home/instantclientrelease`, where *release* is the release number of the instant client package. For example: `/home/instantclient19` On Microsoft Windows, create a path such as `c:\instantclient19`.
3. Copy the Tools Instant Client package to the new directory. All files must be copied from the same Oracle home. Refer to "List of Oracle Instant Client Tools Files" for a list of the files to copy

After you copy the Instant Client files, you are ready to configure the Tools Instant Client package on your system.

## A.5 List of Oracle Instant Client Tools Files

Learn about the purpose of the files that comprise the Oracle Instant Client Tools.

### Oracle Instant Client Tools Files

Refer to the list of files for your platform. Note that, for convenience, the Microsoft Windows files include symbolic links (**symlinks**), so that you do not need to create them. When the zip file is unzipped and restored, the symlinks are also restored.



#### Note:

The original Oracle Database Export (`exp`) utility is desupported in Oracle Database 23ai. Oracle strongly recommends that you use the new Oracle Data Pump Export and Import utilities.

Oracle recommends that you use Oracle Data Pump Export (`expdp`).

**Table A-1** Instant Client Tools Files for Linux and Unix

File Name	Description
<code>exp</code>	Original (legacy) export executable. Desupported for all uses in Oracle Database 23ai.
<code>expdp</code>	Oracle Data Pump export executable
<code>imp</code>	Original (classic) import executable used for imports of dump files that were created using the original Export utility ( <code>exp</code> ).
<code>impdp</code>	Oracle Data Pump import executable
<code>libnfsodmrelease.so</code>	A shared library used by the SQL*Loader Instant Client to use the Oracle Disk Manager (ODM). The value in the variable <i>release</i> corresponds to the release of the tools files contained in the zip. For example, and Oracle Database 19c tools file set has the shared library <code>libnfsodm19.so</code>
<code>sqlldr</code>	SQL*Loader executable
<code>TOOLS_LICENSE</code>	License document for the Tools Instant Client package.
<code>TOOLS_README</code>	Readme for the Tools Instant Client package

**Table A-1 (Cont.) Instant Client Tools Files for Linux and Unix**

File Name	Description
wrc	The Tools Instant Client package contains tools other than those described in this appendix. The <code>wrc</code> tool is the Workload Replay Client ( <code>wrc</code> ) for the Oracle Database Replay feature. The <code>wrc</code> tool is listed here, but it is not covered by the information in this appendix.

**Table A-2 Oracle Instant Client Tools Files for Microsoft Windows**

File Name	Description
exp.exe	Original (classic) export executable.
exp.sym	Symbolic link file for the original (classic) export executable.
expdp.exe	Oracle Data Pump export executable.
expdp.sym	Symlink for Oracle Data Pump export executable.
imp.exe	Original (classic) import executable.
imp.sym	Symlink for Original (classic) import executable.
impdp.exe	Oracle Data Pump import executable.
impdp.sym	Symlink for Oracle Data Pump import executable.
sqlldr.exe	SQL*Loader executable.
sqlldr.exe	Symlink for SQL*Loader executable.
TOOLS_LICENSE	License document for the Tools Instant Client package.
TOOLS_README	Read Me document for the Tools Instant Client package.
wrc.exe	The Tools Instant Client package contains tools other than those described in this appendix. The <code>wrc</code> tool is the Workload Replay Client ( <code>wrc</code> ) for the Oracle Database Replay feature. The <code>wrc</code> tool is listed here, but it is not covered by the information in this appendix.
wrc.sym	Symlink for the Workload Replay Client.

## A.6 Configuring Tools Instant Client Package

To configure the Tools Instant Client package executable for use with Oracle Instant Client, you must set environment variables.

With Oracle Instant Client, you do not need to set `ORACLE_HOME` or `ORACLE_SID` environment variables. However, you must set `LD_LIBRARY_PATH`, and you must set any globalization environment variables that you require.

Only use the Tools Instant Client package executable that is the same release as the Oracle Instant Client executable that you intend to use with the Tools package.

### Example A-1 Configuring Tools Instant Client Package (from RPMS) on Linux

In this example, you move the RPMs downloaded from OTN install into the `/usr` file system, in release-specific subdirectories for the Tools Instant Client package. By using release-specific folders in the `/usr` subdirectory, you can have multiple versions of Instant Client tools available for each release of Oracle Instant Client that you want to use.

1. Add the name of the directory containing the Oracle Instant Client libraries to `LD_LIBRARY_PATH`. Remove any other Oracle directories.

For example, to set `LD_LIBRARY_PATH` in the Bourne or Korn shells, use the following syntax:

```
LD_LIBRARY_PATH=/usr/lib/oracle/19/client/lib:${LD_LIBRARY_PATH}
export LD_LIBRARY_PATH
```

Or, to set `LD_LIBRARY_PATH` in the C shell, use the following syntax:

```
% setenv LD_LIBRARY_PATH /usr/lib/oracle/19/client/lib:${LD_LIBRARY_PATH}
```

2. Make sure the Tools executables installed from the RPM are the first executables found in your `PATH`. For example, to test if the Tools executable is found first, enter `which sqlldr`. If the `PATH` environment variable is configured correctly, then the response should be `/usr/bin/sqlldr`. If you do not obtain that response, then remove any other Oracle directories from `PATH`, or put `/usr/bin` before other Tools executables in `PATH`, or use an absolute or relative path to start Tools Instant Client.

For example, to set `PATH` in the bash shell:

```
PATH=/usr/bin:${PATH}
export PATH
```

3. Set Oracle globalization variables required for your locale. For example:

```
NLS_LANG=AMERICAN_AMERICA.UTF8
export NLS_LANG
```

If you do not set a globalization value, then the Tools package takes the globalization values from the default locale.

### Example A-2 Configuring Tools Instant Client Package (from Client Media or Zip File) on Linux and Unix

1. Add the name of the directory containing the Instant Client files to the appropriate shared library path `LD_LIBRARY_PATH`, `LIBPATH` or `SHLIB_PATH`. Remove any other Oracle directories.

For example, using Solaris the Bourne or Korn shells on Oracle Solaris, enter the following command:

```
LD_LIBRARY_PATH=/home/instantclient19:${LD_LIBRARY_PATH}
export LD_LIBRARY_PATH
```

2. Add the directory containing the Instant Client files to the `PATH` environment variable. If it is not set, then an absolute or relative path must be used to start the utilities provided in the Tools package. Remove any other Oracle directories from `PATH`. For example:

```
PATH=/home/instantclient19:${PATH}
export PATH
```

3. Set Oracle globalization variables required for your locale. For example:

```
NLS_LANG=AMERICAN_AMERICA.UTF8
export NLS_LANG
```

If you do not set a globalization value, then the Tools package takes the globalization values from the default locale.

### Example A-3 Configuring Tools Instant Client Package on Windows

You can configure your Microsoft Windows environment by using the `SET` commands in a Windows command prompt. You can make the environment variable permanent by setting Environment Variables in System Properties.

For example, to set environment variables in Windows Server 2019 using System Properties, open **System** from the Control Panel, click the **Advanced System Settings** link, and then click **Environment Variables**.

1. Add the directory containing the Instant Client files to the `PATH` system environment variable. Remove any other Oracle directories from `PATH`.

For example, add `c:\instantclient19` to the beginning of `PATH`.

2. Set Oracle globalization variables required for your locale. A default locale will be assumed if no variables are set.

For example, to set `NLS_LANG` for a Japanese environment, create a user environment variable `NLS_LANG` set to `JAPANESE_JAPAN.JA16EUC`.

## A.7 Connecting to a Database with the Tools Instant Client Package

After the Tools Instant Client package is installed and configured, there are multiple ways that you can connect to the database using the tools.

The utilities supplied in the Tools Instant Client are always remote from any database server. To use Oracle Instant Client, a server must have an Oracle Database instance up and running, and it must have the TNS listener running. For the Oracle Data Pump Export and Import clients, the dump files reside on the remote server; an Oracle Database directory object on the server must exist, and should have the appropriate permissions.

### Example A-4 Different Ways You Can Connect to a Database Using the Instant Client Tools

To connect to a database, you must specify the database by using an Oracle Net connection identifier. The following information uses the SQL\*Loader (`sqlldr`) utility, but the information applies to other utilities supplied in the Tools Instant Client package as well.

For example, you can use an Easy Connection identifier to connect to the `HR` schema in the `MYDB` database running on *mymachine* is:

```
sqlldr hr/your_password@"//mymachine.mydomain:port/MYDB"
```

Alternatively you can use a Net Service Name:

```
sqlldr hr/your_password@MYDB
```



Your Net Service Names can be stored in a number of places, including LDAP. To take full advantage of new release Oracle Database features, Oracle recommends that you use LDAP.

To use Net Service Names configured in a local Oracle Net `tnsnames.ora` file, set the environment variable `TNS_ADMIN` to the directory containing the `tnsnames.ora` file. For example, on Unix or Linux systems, if your `tnsnames.ora` file is in `/home/user1` and it defines the Net Service Name `MYDB2`, you can use the following commands:

```
TNS_ADMIN=/home/user1
export TNS_ADMIN
sqlldr hr@MYDB2
```

If you do not set `TNS_ADMIN` as an environment variable, then an operating system dependent set of directories is examined to find `tnsnames.ora`. This search path includes looking in the directory specified by the `ORACLE_HOME` environment variable for `network/admin/tnsnames.ora`. Enabling the operating system to find the `tnsnames.ora` file is the only reason to set the `ORACLE_HOME` environment variable for SQL\*Loader Instant Client. If `ORACLE_HOME` is set when running Instant Client applications, then you must set it to a directory that exists.

In the following example, we assume that the `ORACLE_HOME` environment variable is set, and the `$ORACLE_HOME/network/admin/tnsnames.ora` or `ORACLE_HOME\network\admin\tnsnames.ora` file defines the Net Service Name `MYDB3`:

```
sqlldr hr@MYDB3
```

You can set the environment variable `TWO_TASK` (on Unix and Linux) or `LOCAL` (on Microsoft Windows) to a connection identifier. By setting the environment variable this way, you can avoid the need to explicitly enter the connection identifier whenever a connection is made in SQL\*Loader or SQL\*Loader Instant Client. For example, suppose you want to connect to a database using a client on a Unix system. The following example connects to the database called `MYDB4`:

```
TNS_ADMIN=/home/user1
export TNS_ADMIN
TWO_TASK=MYDB4
export TWO_TASK
sqlldr hr
```

On Microsoft Windows, you can set both `TNS_ADMIN` and `LOCAL` in the System Properties.

## A.8 Uninstalling Tools Instant Client Package and Instant Client

You can uninstall the Tools Instant Client package separately, or uninstall the entire Instant Client.

After uninstalling the Tools Instant Client package, the remaining Instant Client libraries still enable custom written OCI programs or third-party database utilities to connect to a database.

### Example A-5 Uninstalling Tools Instant Client

1. For installations on Linux from RPM packages, use `rpm -e` only on the Tools Instant Client package  
OR

For installations on Unix and Windows, and installations on Linux from the Client Release media, manually remove any files specific to the Tools Instant Client. The files that you want to delete should be in the Instant Client directory that you specified at installation. Do not remove any Oracle home files.

If necessary, reset environment variables and remove `tnsnames.ora`.

#### **Example A-6 Uninstalling the Complete Instant Client**

1. For installations on Linux from RPM packages, choose one of the following options:
  - use `rpm -qa` to find the Tools Instant Client and Basic Oracle Instant Client package names. To remove them, run `rpm -e`
  - For installations on UNIX and Windows, and installations on Linux from the Client Release media, manually delete the directory containing the Tools executable and Oracle libraries.
2. Reset environment variables, such as `PATH`, `LD_LIBRARY_PATH` and `TNS_ADMIN`.
3. Remove `tnsnames.ora` if necessary.