

Oracle® R Enterprise

Installation and Administration Guide

Release 1.3 for Windows, Linux, Solaris, and AIX

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Oracle R Enterprise Installation and Administration Guide, Release 1.3 for Windows, Linux, Solaris, and AIX
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Preface

This book describes how to install and administer Oracle R Enterprise Release 1.3.

Audience

This document is intended for anyone responsible for installing or administering Oracle R Enterprise. Oracle R Enterprise. Installation of Oracle R Enterprise requires knowledge of R and Oracle Database.

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at

<http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc>.

Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info> or visit <http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs> if you are hearing impaired.

Related Documents

These manuals describe Oracle R Enterprise:

- *Oracle R Enterprise Installation and Administration Guide* (this manual)
- *Oracle R Enterprise User's Guide*
- *Oracle R Enterprise Release Notes*

For information about Oracle Database, see the *Oracle Database Documentation Library 11g Release 2 (11.2)*.

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.

Convention	Meaning
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

What's New in Oracle R Enterprise?

This section describes new features relating to installation and administration of Oracle R Enterprise. It includes the following sections:

- [New Features for Release 1.3.1](#)
- [New Features for Release 1.3](#)
- [New Features for Release 1.1](#)

New Features for Release 1.3.1

Oracle R Enterprise Release 1.3.1 consists of bug fixes described in *Oracle R Enterprise Release Notes*.

New Features for Release 1.3

Oracle R Enterprise Release 1.3 includes these new features:

- Installation and administration information has moved from *Oracle R Enterprise User's Guide* to *Oracle R Enterprise Installation and Administration Guide* (this manual).
- Release 1.3 requires R 2.15.1; see [R Requirement](#)
- Installation of Oracle R Distribution uses <http://public-yum.oracle.com/> only.
- You can now [Control Memory Used by Embedded R](#)
- [Deprecated Grants](#)
- Supports 64-bit Windows platforms only; see [Operating System Requirement](#).

New Features for Release 1.1

Oracle R Enterprise Release 1.1 includes these new features:

- **Support for IBM AIX:** Oracle R Distribution and Oracle R Enterprise are supported on AIX 5.3 and higher.
- **Support for Solaris:** Oracle R Distribution and Oracle R Enterprise are supported on Solaris 10 and higher for both 64-bit SPARC and 64-bit x86 (Intel) processors.
- **Improved mathematics libraries in R**

You can now use the improved Oracle R Distribution with support for dynamically picking up either the Intel Math Kernel Library (MKL) or the AMD Core Math Library (ACML) with Oracle R Enterprise.

Sun Performance Library for Solaris (SUNPERF), the high performance math library for Solaris 10, is supported on Solaris SPARC and Solaris x86.

- **Server runs on Windows**

The Oracle R Enterprise server now runs on 64-bit and 32-bit Windows operating systems.

- **Support for Oracle Wallet**

R scripts no longer need to have database authentication credentials in clear text. Oracle R Enterprise is integrated with Oracle Wallet for that purpose.

- **Improved installation**

The installation scripts have been improved with more prerequisite checks and detailed error messages. Error messages provide specific instructions on remedial actions.

Overview of Oracle R Enterprise Installation

R is an open source statistical programming language and environment. For information about R, see the R Project for Statistical Computing at <http://www.r-project.org>.

Oracle R Enterprise is a component of the Oracle Advanced Analytics Option of Oracle Database Enterprise Edition. For detailed information about Oracle R Enterprise, including links to software downloads, go to **Oracle R Enterprise** at <http://www.oracle.com/technetwork/database/options/advanced-analytics/r-enterprise/index.html>.

For information about Oracle R Enterprise architecture and how to use Oracle R Enterprise, see the *Oracle R Enterprise User's Guide*.

There are several [Oracle R Enterprise Installation Steps](#).

Oracle R Enterprise Installation Steps

Oracle R Enterprise consists of a server and one or more clients. The server and client can reside on the same system or on different systems.

You must perform these major tasks to install Oracle R Enterprise:

1. Verify that all of the [Prerequisites](#) are satisfied. In particular
 - Make sure that [Operating System Requirement](#) is satisfied.
 - Make sure that the correct version of Oracle database is installed on the server, as described in [Oracle Database Requirements](#)
2. Install R as described in [R Requirement](#).
3. Install Oracle R Enterprise Server components on the server as described in [Install Server](#).
4. Install Oracle R Enterprise Client components on each of the client systems, as described in [Install Client](#).

Note: Oracle R Enterprise client and server must be the same version. For example, Oracle R Enterprise 1.3.1 Client is the only client that can connect to an Oracle R Enterprise 1.3.1 Server.

After you install client and server, you create at least one user and start the client, as described in [Administrative Tasks](#).

Prerequisites

First decide which platforms the Oracle R Enterprise server and clients will run on. Then install the prerequisite software before you install Oracle R Enterprise:

- [Operating System Requirement](#)
- [R Requirement](#) (includes installation instructions)
- [Oracle Database Requirements](#)

Operating System Requirement

Verify that one of these supported operating systems is installed on both client and server. Client and server can be installed on different operating systems; for example, the server is installed on Linux and the clients on Microsoft Windows.

- Linux x86-64
 - Oracle Linux Release 5 Update 6 through Oracle Linux 6
 - Red Hat Enterprise Linux Release 5 Update 6 through Red Hat Enterprise Linux 6

To download Oracle Linux Release 5 Update 6 Media Pack for x86_64 (64 bit), go to <http://www.oracle.com/us/technologies/linux/index.html>).

- Microsoft Windows 64-bit XP, Vista, or Windows 7
- 64-bit Oracle Solaris 10 update 10 through Oracle Solaris 11 for both SPARC and x86 (Intel) platforms and Solaris sunstudio 12u3 or later.
- IBM AIX 5.3 or higher (64-Bit)

Oracle R Enterprise is also supported on

- Oracle Exadata Database Machine running Oracle Linux or Solaris
- SPARC SuperCluster

R Requirement

You must install R on the server and all clients.

Note: Oracle R Enterprise 1.3 and 1.3.1 are certified with R 2.15.1.

Oracle R Enterprise 1.0, 1.1, and 1.2 are certified with R 2.13.2.

[Oracle R Distribution](#) (for Linux, Solaris, and AIX) was created to work with Oracle R Enterprise.

For Windows, the version of R that you download from CRAN at <http://www.r-project.org> works with Oracle R Enterprise.

For Linux and Solaris, the free [Oracle R Distribution](#) was created to work with Oracle R Enterprise.

Installation of R depends on the platform:

- [Install R on Windows](#)
- [Install R on Linux](#)
- [Install R on Solaris](#)
- [Install R on AIX](#)
- [Install R on Oracle Exadata Database Machine](#)

Oracle R Distribution

Oracle R Distribution is Oracle's free distribution of the open source R environment for Linux and Solaris.

It is recommended that you use Oracle R Distribution with Oracle R Enterprise for these reasons:

- Oracle R Distribution has been enhanced for faster performance by taking advantage of hardware specific math library implementations, such as Intel's MKL libraries for high performance mathematical computations on x86 hardware.
- Oracle R Distribution has been compiled with the flags that are required by Oracle R Enterprise.

Note: If you install R from CRAN, you must ensure that R is compiled with the correct flags for Oracle R Enterprise.

- Oracle offers support Oracle R Distribution on Oracle Linux 5 Update 6 and higher, Oracle Linux 6, and Red Hat Enterprise Linux 5 Update 6 and higher. Oracle also offers support for Oracle R Distribution on Oracle Solaris 10 and 11 for both SPARC and x86.

For installation information, see [Install R on Linux](#), or [Install R on AIX](#).

Install R on Windows

The version of binaries distributed by the Comprehensive R Network (CRAN) for Windows work with Oracle R Enterprise.

Follow these steps to install R 2.15.1 on Windows:

1. Go to <http://www.r-project.org>; click CRAN under the heading **Download, Packages**.

2. Select a CRAN Mirror.
3. Click **Download R for Windows**.
4. Click **base**.
5. Under the heading **Other builds**, click **Previous releases** in the third bullet.
6. Click **R 2.15.1 (June, 2012)** to start the download.

Note: If you are installing a version of Oracle R Enterprise earlier than 1.3, download **R 2.13.2 (September, 2011)**.

When the download completes, double-click the executable that you downloaded, `R-2.15.1-win.exe`, to launch the Windows installer for R. Follow the instructions to complete the installation.

Note: It is strongly recommended that you perform a full R installation on 64-bit Windows platforms, so that 64-bit R is installed. (The full R install for 64-bit Windows installs both 32-bit R and 64-bit R.) The Oracle R Enterprise 64-bit Windows Server requires 64-bit R.

You can quickly check that R was installed by starting R from the command line. You will see this startup message for 64-bit R:

```
R version 2.15.1 (2012-06-22) -- "Roasted Marshmallows"
Copyright (C) 2012 The R Foundation for Statistical Computing
ISBN 3-900051-07-0
Platform: x86_64-pc-mingw32/x64 (64-bit)
```

```
R is free software and comes with ABSOLUTELY NO WARRANTY.
You are welcome to redistribute it under certain conditions.
Type 'license()' or 'licence()' for distribution details.
```

```
Natural language support but running in an English locale
```

```
R is a collaborative project with many contributors.
Type 'contributors()' for more information and
'citation()' on how to cite R or R packages in publications.
```

```
Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.
```

```
Install R on Red Hat Enterprise Linux 6
```

Install R on Linux

It is recommended that you install [Oracle R Distribution](#). Installation on Red Hat Enterprise Linux 6. requires a rebuild.

This section describes how to install Oracle R Distribution on Oracle Linux or Red Hat Linux. To install Oracle R Distribution on Oracle Exadata Database Machine, see [Install R on Oracle Exadata Database Machine](#).

The exact steps depend on the version of Linux where you install Oracle R Distribution:

- [Install Oracle R Distribution on Linux 5](#)

- [Install Oracle R Distribution on Linux 6](#)
- [Install R on Red Hat Enterprise Linux 6](#)

If the Intel Math Kernel Library is available on your system and you wish to use them, see [Using MKL](#).

Install Oracle R Distribution on Linux 5

Oracle R Distribution for Linux 5 allows you to install a version of R 1.13.2 or a version of R 2.15.1 that is designed to work with Oracle R Enterprise. Oracle R Distribution supports Oracle Enterprise Linux 5 and Red Hat Enterprise Linux 5.

Go to <http://public-yum.oracle.com/> and follow these steps to install R:

1. Become root; for example use

```
sudo su -
```

2. Install the yum repository as follows:

```
cd /etc/yum.repos.d
```

3. Use this command to get el5.repo:

```
wget http://public-yum.oracle.com/public-yum-el5.repo
```

4. Open a text editor on the file just downloaded public-yum-el5.repo.

Set

- "enabled=1" for [el5_addons]
- "enabled=1" for [el5_latest]

5. This step is optional.

Type the following commands in a shell to check that your yum repository is configured correctly:

```
sudo yum repolist
```

The output should look like this:

```
sudo yum repolist
$ sudo yum repolist
Loaded plugins: aliases, changelog, downloadonly, kabi, presto,
refresh-packagekit, security, tmprepo, verify, versionlock
Loading support for kernel ABI
el5_latest | 1.4 kB 00:00
el5_latest/pri | 12 MB 00:07
el5_latest 9713/9713
ol6_UEK_latest | 1.2 kB 00:00
ol6_UEK_latest/primary | 4.3 MB 00:02
ol6_UEK_latest 106/106
ol6_addons | 1.2 kB 00:00
ol6_addons/primary | 11 kB 00:00
ol6_addons 52/52
ol6_latest | 1.4 kB 00:00
ol6_latest/primary | 23 MB 00:14
ol6_latest 18112/18112
repo id      repo name      status
el5_latest   Oracle Linux 6Server Latest (x86_64) 9,713
ol6_UEK_latest Latest Unbreakable Enterprise Kernel for Oracle Linux
6Server (x86_64) 106
```

ol6_addons	Oracle Linux 6Server Add ons (x86_64)	52
ol6_latest	Oracle Linux 6Server Latest (x86_64)	18,112
repolist: 27,983		

Make sure that both the `el5_addons` and `ol5_u6_base` repository are listed. The list of repository can be different depending on the Linux version and current user's configuration of yum.

6. To install R, use the following command:

```
yum install R.x86_64
```

You can quickly check that R was installed by starting R from the command line. You will see this startup message:

```
Oracle Distribution of R version 2.15.1  (--) -- "Roasted Marshmallows"
Copyright (C)  The R Foundation for Statistical Computing
ISBN 3-900051-07-0
Platform: x86_64-unknown-linux-gnu (64-bit)
```

```
R is free software and comes with ABSOLUTELY NO WARRANTY.
You are welcome to redistribute it under certain conditions.
Type 'license()' or 'licence()' for distribution details.
```

```
Natural language support but running in an English locale
```

```
R is a collaborative project with many contributors.
Type 'contributors()' for more information and
'citation()' on how to cite R or R packages in publications.
```

```
Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.
R version 2.15.1 (2012-06-22) -- "Roasted Marshmallows"
Copyright (C) 2012 The R Foundation for Statistical Computing
ISBN 3-900051-07-0
Platform: i386-pc-mingw32/i386 (32-bit)
```

```
R is free software and comes with ABSOLUTELY NO WARRANTY.
You are welcome to redistribute it under certain conditions.
Type 'license()' or 'licence()' for distribution details.
```

```
Natural language support but running in an English locale
```

```
R is a collaborative project with many contributors.
Type 'contributors()' for more information and
'citation()' on how to cite R or R packages in publications.
```

```
Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.
```

Install Oracle R Distribution on Linux 6

Oracle R Distribution for Linux 6 allows you to install a version of R 2.15.1 that is designed to work with Oracle R Enterprise.

Note: Oracle R Distribution is available for Oracle Enterprise Linux 5 and 6 and Red Hat Enterprise Linux 5.

To install R on Red Hat Enterprise Linux 6, see [Install R on Red Hat Enterprise Linux 6](#).

Go to <http://public-yum.oracle.com/> and follow these steps to install R:

1. Become root; for example use

```
sudo su -
```

2. Install the yum repository as follows:

```
cd /etc/yum.repos.d
```

3. Use this command to get ol6.repo:

```
wget http://public-yum.oracle.com/public-yum-ol6.repo
```

4. Open a text editor on the file just downloaded, public-yum-ol6.repo.

Set

- "enabled=1" for [ol6_addons]
- "enabled=1" for [ol6_latest]

5. This step is optional.

Type the following commands in a shell to check that your yum repository is configured correctly:

```
sudo yum repolist
$ sudo yum repolist
Loaded plugins: aliases, changelog, downloadonly, kabi, presto,
refresh-packagekit, security, tmprepo, verify, versionlock
Loading support for kernel ABI
el5_latest | 1.4 kB 00:00
el5_latest/pri | 12 MB 00:07
el5_latest 9713/9713
ol6_UEK_latest | 1.2 kB 00:00
ol6_UEK_latest/primary | 4.3 MB 00:02
ol6_UEK_latest 106/106
ol6_addons | 1.2 kB 00:00
ol6_addons/primary | 11 kB 00:00
ol6_addons 52/52
ol6_latest | 1.4 kB 00:00
ol6_latest/primary | 23 MB 00:14
ol6_latest 18112/18112
repo id repo name status
el5_latest Oracle Linux 6Server Latest (x86_64) 9,713
ol6_UEK_latest Latest Unbreakable Enterprise Kernel for Oracle Linux
6Server (x86_64) 106
ol6_addons Oracle Linux 6Server Add ons (x86_64) 52
ol6_latest Oracle Linux 6Server Latest (x86_64) 18,112
repolist: 27,983
```

The list of repository can be different depending on the Linux version and current user's configuration of yum.

6. To install R, use the following command:

```
yum install R.x86_64
```

You can quickly check that R was installed by starting R from the command line.

```
Oracle Distribution of R version 2.15.1  (--) -- "Roasted Marshmallows"
Copyright (C)  The R Foundation for Statistical Computing
ISBN 3-900051-07-0
Platform: x86_64-unknown-linux-gnu (64-bit)
```

```
R is free software and comes with ABSOLUTELY NO WARRANTY.
You are welcome to redistribute it under certain conditions.
Type 'license()' or 'licence()' for distribution details.
```

```
Natural language support but running in an English locale
```

```
R is a collaborative project with many contributors.
Type 'contributors()' for more information and
'citation()' on how to cite R or R packages in publications.
```

```
Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.
```

Install R on Red Hat Enterprise Linux 6

You must rebuild Linux 6 Oracle R Distribution RPMs from the source RPMs on Red Hat 6 before you install R.

Follow these steps to rebuild the RPMs on Red Hat Enterprise Linux 6:

1. Create an RPM build directory structure:

```
mkdir -p ~/rpmbuild/{BUILD,RPMS,SOURCES,SPECS,SRPMS}
```

2. Set up RPM tools to use your own build tree (to avoid root login):

```
echo '%_topdir %(echo $HOME)/rpmbuild' > ~/.rpmmacros
```

3. Download the R 2.15.1 SRPM (*.src.rpm) from Oracle's public yum at http://public-yum.oracle.com/repo/OracleLinux/OL6/addons/x86_64/R-2.15.1-1.el6.src.rpm.

Save them to the rpmbuild/SRPMS directory.

4. Rebuild for Red Hat Enterprise Linux 6 using rpmbuild. For example,

```
rpmbuild --rebuild ~/rpmbuild/SRPMS/R-2.15.1-1.el6.src.rpm
```

Note that if any dependencies are missing you will need to yum install them as root.

5. The binary RPMs will be built and saved under ~/rpmbuild/RPMS.

6. Login as root: and run the commands to install. You use commands of the form

```
rpm -i <path to rpmbuild/RPMS/<R-core RPM >
```

For example,

```
rpm -i /refresh/home/rpmbuild/RPMS/x86_64/R-core-2.15.1-1.el6.x86_64.rpm
```

You can quickly check that R was installed by starting R from the command line. R starts up with:

```
[oracle@celvpint1001 ~]$ R
```

```
Oracle Distribution of R version 2.15.1  (--) -- "Roasted Marshmallows"  
Copyright (C)  The R Foundation for Statistical Computing  
ISBN 3-900051-07-0  
Platform: x86_64-unknown-linux-gnu (64-bit)
```

Using MKL

The Intel Math Kernel Library (MKL) includes highly vectorized and threaded Linear Algebra, Fast Fourier Transforms (FFT), Vector Math and Statistics functions. Oracle R Distribution includes support that dynamically picks up the Intel Math Kernel Library (MKL) if MKL is installed on your system.

Follow these steps to use MKL with Oracle R Distribution:

1. Add `libmkl_rt.so`, `$R_HOME/lib`, and `$ORACLE_HOME/lib` to the `LD_LIBRARY_PATH` system environment variable.
2. Start R and execute this Oracle R Distribution function `Sys.BlasLapack()`:

```
R> Sys.BlasLapack()  
$vendor  
[1] "Intel Math Kernel Library (Intel MKL)"  
$nthreads  
[1] -1
```

The vendor value returned indicates the presence of MKL instead of R's internal BLAS.

3. In order to get the speedup provided by MKL, you must set the `MKL_THREADING_LAYER` environment variable to GNU before you invoke Oracle R Distribution on your system. In the Bash shell, set the variable as follows:

```
export MKL_THREADING_LAYER=GNU
```

Install R on Solaris

R for Solaris is available in two ways:

- Oracle R Distribution is available for Solaris. Oracle R Distribution is compiled with the flags required for Oracle R Enterprise.

This distribution of open source R version 2.15.1 is linked with `sunperf`, Oracle Sun Performance Library, a high performance math library.

This distribution is compatible with Solaris 10 update 10 or later and Solaris sunstudio 12u3 or later.

For installation instructions, see [Install Oracle R Distribution on Solaris](#).

- Open-source R can be configured and built for Solaris using source code from CRAN. See the *R Installation and Administration* guide <http://cran.r-project.org/doc/manuals/R-admin.pdf> for details.

If you install from CRAN, be sure to download **R 2.15.1 (June, 2012)**.

Install Oracle R Distribution on Solaris

Follow these steps to install Oracle R Distribution for Solaris:

1. The installation script `install.sh` for Oracle R Distribution must be run as root or as a user with `sudo` access.

2. Go to Oracle R Distribution at <https://oss.oracle.com/ORD/>.

Download the correct set of files for your installation:

- For x86 64-bit systems:

```
ord-2.15.1-sol10-x86-64-sunstudio12u3.tar.gz
ord-2.15.1-supporting-sol10-x86-64-sunstudio12u3.tar.gz
```

- For SPARC 64-bit systems:

```
ord-2.15.1-sol10-sparc-64-sunstudio12u3.tar.gz
ord-2.15.1-supporting-sol10-sparc-64-sunstudio12u3.tar.gz
```

3. Uncompress either `ord-2.15.1-sol10-x86-64-sunstudio12u3.tar.gz` or `ord-2.15.1-sol10-sparc-64-sunstudio12u3.tar.gz`.

Run `install.sh` as root or as a user with `sudo` to install the Solaris PKG file for Oracle R Distribution.

`uninstall.sh` uninstalls Oracle R Distribution on Solaris.

4. Uncompress either

```
ord-2.15.1-supporting-sol10-x86-64-sunstudio12u3.tar.gz or
ord-2.15.1-supporting-sol10-sparc-64-sunstudio12u3.tar.gz
```

Uncompress the libraries to a local file such as `$ORACLE_HOME/lib` and add that directory to `LD_LIBRARY_PATH`.

These tar files contain the following shared libraries that R shared library `libR.so` depends on:

- `libiconv.so.2`
- `libncurses.so.5`
- `libreadline.so.6`
- `libsunperf.so` (This library and its dependent shared libraries usually ship with Solaris sunstudio).

5. Run `ldd -r /usr/lib/64/R/lib/libR.so` to verify that `libR.so` is picking up its shared library dependencies correctly from the local directory.

6. To verify that R is installed correctly, type `R`.

Install R on AIX

R for IBM AIX is available in two ways:

- Oracle R Distribution is available for AIX. Oracle R Distribution is compiled with the flags required for Oracle R Enterprise.

Oracle R Distribution has been built with IBM XLF 11.1 and IBM XLC 8.0. It is supported on AIX 5.3 onwards.

For installation instructions, see [Install Oracle R Distribution on AIX](#). To uninstall Oracle R Distribution, see [Uninstall Oracle R Distribution for AIX](#).

- Open-source R can be configured and built for AIX using source code from CRAN. See the *R Installation and Administration* manual <http://cran.r-project.org/doc/manuals/R-admin.pdf> for details.

If you install from CRAN, be sure to download **R 2.15.1 (June, 2012)**.

Install Oracle R Distribution on AIX

Follow these steps to install Oracle R Distribution for AIX:

1. The installation script `install.sh` for Oracle R Distribution must be run by a user with the super user privilege. You can also use `smitty` (GUI) to install Oracle R Distribution. You must also be super user to uninstall Oracle R Distribution.
2. Go to Oracle R Distribution at <https://oss.oracle.com/ORD/>.

Download these files:

- `ORD.2.15.1.0.bff.gz`
- `ord-supporting-aix.tar.gz`

3. First install the prerequisite for Oracle R Distribution for AIX.
 - a. Uncompress and untar `ord-supporting-aix.tar.gz`. This results in a collection of rpms:

```
$ gunzip ord-supporting-aix.tar.gz # get ord-supporting-aix.tar
$ tar -xvf ord-supporting-aix.tar # extract contents of .tar file
$ ls ord-supporting-aix          # list of rpms
bash-4.2-5.aix5.1.ppc.rpm
expat-2.0.1-3.aix5.1.ppc.rpm
gettext-0.17-1.aix5.1.ppc.rpm
glib2-2.28.6-1.aix5.1.ppc.rpm
info-4.13a-2.aix5.1.ppc.rpm
libiconv-1.14-1.aix5.1.ppc.rpm
libpng-1.5.9-1.aix5.1.ppc.rpm
libpng-devel-1.5.9-1.aix5.1.ppc.rpm
pkg-config-0.25-2.aix5.1.ppc.rpm
readline-6.2-3.aix5.1.ppc.rpm
readline-devel-6.2-3.aix5.1.ppc.rpm
texinfo-4.13a-2.aix5.1.ppc.rpm
zlib-1.2.6-1.aix5.1.ppc.rpm
zlib-devel-1.2.6-1.aix5.1.ppc.rpm
$
```

You can also download these rpms from <http://www.perzl.org/aix/>.

- b. Install these rpms using an `rpm` command from the directory where you extracted the contents of `ord-supporting-aix.tar.gz`.

```
$ cd ord-supporting-aix
$ su
# rpm -i *.rpm
```

To upgrade existing dependencies, use

```
# rpm -UF *.rpm
```

If you experience conflicts with dependencies, use

```
# rpm -UF --nodeps *.rpm
```

- c. Add `/opt/freeware/lib` to the `LIBPATH` (or `LD_LIBRARY_PATH`) environment variable:

– For `ksh`

```
$ export LIBPATH=/opt/freeware/lib:$LIBPATH
```

– For `csh`

```
$ setenv LIBPATH /opt/freeware/lib:$LIBPATH
```

Make sure that `/opt/freeware/lib` is before `/usr/lib`.

4. Now install Oracle R Distribution:

- a. Uncompress `ORD-2.15.1-aix.bff.gz` to get `ORD-2.15.1-aix.bff`:

```
$ gunzip ORD.2.15.1.0.bff.gz
```

- b. To install all of the filesets in Oracle R Distribution, use the `installp` command (with the `apply` option) from the directory where the file has been downloaded:

```
$ su
# installp -a -d . ORD # install all the filesets in ORD
```

You can also independent filesets:

```
# installp -a -d . ORD.core # installs only ORE.core
# installp -a -d . ORD.devel # installs only ORE.devel
```

- c. Run `ldd` to ensure that shared library dependencies were picked up correctly:

```
$ ldd /usr/lib/R/bin/exec/R
$ ldd /usr/lib/R/lib/libR.so (libiconv, libreadline)
$ ldd /usr/lib/R/lib/libRlapack.so
$ ldd /usr/lib/R/lib/libRblas.so
```

- d. Add `/usr/lib/R/lib` to the `LIBPATH` (or `LD_LIBRARY_PATH`) environment variable:

- For `ksh`

```
$ export LIBPATH=/usr/lib/R/lib:$LIBPATH
```

- For `csh`

```
$ setenv LIBPATH //usr/lib/R/lib:$LIBPATH
```

5. To verify that R is installed correctly, type `R`.

Uninstall Oracle R Distribution for AIX

To unistall filesets, use the `installp` command (uninstall option).

```
$ su
# installp -u ORD # uninstall all filesets
```

Uninstall independent filesets as follows:

```
# installp -u ORD.devel # uninstall only ORD.devel
# installp -u ORD.core # uninstall only ORD.core
```

Install R on Oracle Exadata Database Machine

Oracle R Distribution is recommend for Oracle Exadata Database Machine. You must install R on every Exadata Compute Server, as described in [Install R on Linux](#) or [Install R on Solaris](#).

Using <http://public-yum.oracle.com/> is the recommended way to install R on Oracle Exadata for Linux. Using the downloads at <https://oss.oracle.com/ORD/> are the recommended way to install R on Solaris.

Oracle Database Requirements

Oracle R Enterprise requires Oracle 11.2 Enterprise Edition; Oracle Database can be installed on Oracle Linux, Red Hat Linux, Oracle Solaris, IBM AIX, or Microsoft Windows.

The 64-bit version of the database must be installed for all platforms. You can check that the proper database is installed by examining `$ORACLE_HOME/bin/oracle`.

The instance of Oracle Database must satisfy these requirements:

- Fix for bug number 11678127 must be installed, as described in [Required Bug Fix](#)
- `extproc` must be configured, as described in [Configure extproc](#).

Required Bug Fix

In order for certain Oracle R Enterprise functionality to work properly, Oracle Database must include the patch that fixes bug number 11678127.

Oracle 11.2.0.3 or later includes this fix.

If you cannot upgrade to Oracle 11.2.0.3, you can use Oracle 11.2.0.1 or 11.2.0.2 if you install the patch that fixes bug number 11678127. For basic information about patching an Oracle Database, see [Patching Oracle Databases](#).

Use one of these solutions to install the required patch on the system where you install the Oracle R Enterprise server:

- For Oracle **11.2.0.1.0**: on Linux:
 1. Bug 11678127 in the Bug Database refers to the bug for the Linux 11.2.0.1.0 patch 12598677.
 2. Patch 12598677 refers to Patch Request 13785245
http://aru.us.oracle.com:8080/ARU/ViewPatchRequest/process_form?aru=13785245 in Oracle Automated Release Updates (ARU).
 3. From ARU 13785245, the patch is `p11678127_112010_Linux-x86-64.zip`.

You can also search My Oracle Support for Patch number 11678127 to find the patch.
- For Oracle **11.2.0.2.0** on Linux:
 1. Bug 11678127 in the Bug Database refers to the bug for the Linux 11.2.0.2 patch 12976544.
 2. Patch 12976544 refers to Patch Request 14095540
http://aru.us.oracle.com:8080/ARU/ViewPatchRequest/process_form?aru=14095540 in Oracle Automated Release Updates (ARU).
 3. From ARU 14095540, the patch is `p11678127_112020_Linux-x86-64.zip`.

You can also search My Oracle Support for Patch number 11678127 to find the patch.

Patching Oracle Databases

Patches for Oracle products are downloaded from My Oracle Support (<http://support.oracle.com>). Access to My Oracle Support requires a CSI (Customer Support ID).

Note: A patch may not be available on all supported platforms at any given time. Check My Oracle Support to see if a patch is available for your platform.

After you download patches, install them using OPatch, described in *Oracle Universal Installer and OPatch User's Guide 11g Release 2 (11.2) for Windows and UNIX*.

Before you apply a patch, review `README.txt`. The patch may require other patches. Also make sure that the latest version of OPatch is installed.

Configure extproc

When an application such as Oracle R Enterprise calls an external procedure such as R, Oracle Database starts an external procedure agent named `extproc`.

In order to run R in embedded mode, the Oracle Database must have `extproc` configured.

For information about configuring `extproc`, see "Default Configuration for External Procedures" in *Oracle Database Net Services Administrator's Guide* at http://docs.oracle.com/cd/E14072_01/network.112/e10836/advcfg.htm#g508505.

Download Oracle R Enterprise Software

You can obtain the archives that contain Oracle R Enterprise software as follows:

- [Download from Oracle Technology Network](#)

Download from Oracle Technology Network

Oracle R Enterprise software for both client and server is available for download from Oracle Technology Network. You must have a free Oracle Technology Network account in order to download software. See

<http://www.oracle.com/technetwork/community/join/why-join/index.html> for information.

To download software for Oracle R Enterprise, go to **Oracle R Enterprise Downloads** at

<http://www.oracle.com/technetwork/database/options/advanced-analytics/r-enterprise/ore-downloads-1502823.html>.

Before you can download any files, you must accept the OTN License Agreement.

You must download the client or server software plus the client supporting packages; for example to install the client on Microsoft Windows, you must download Oracle R Enterprise Client Packages for Windows Platform and Oracle R Enterprise Client Supporting Packages for Windows Platform.

To download the latest software, click the links for your platform for your platform and the release of Oracle R Enterprise that you are installing. These are the downloads for Oracle R Enterprise 1.3.1 on Windows, Linux, and Solaris:

- Microsoft Windows:
 - Oracle R Enterprise Client Packages for Windows Platform
 - Oracle R Enterprise Client Supporting Packages for Windows Platform
 - Oracle R Enterprise Server Install for Oracle Database on Windows 64-bit
- Linux 64-bit:
 - Oracle R Enterprise Client Packages for Linux 64-bit Platform
 - Oracle R Enterprise Client Supporting Packages for Linux 64-bit Platform
 - Oracle R Enterprise Server Install for Oracle Database on Linux 64-bit
- Solaris SPARC 64-bit
 - Oracle R Enterprise Client Packages for Solaris SPARC 64-bit Platform

- Oracle R Enterprise Client Supporting Packages for Solaris SPARC 64-bit Platform
- Oracle R Enterprise Server Install for Oracle Database on Solaris SPARC 64-bit
- Solaris x86 64-bit
 - Oracle R Enterprise Client Packages for Solaris x86 64-bit Platform
 - Oracle R Enterprise Client Supporting Packages for Solaris x86 64-bit Platform
 - Oracle R Enterprise Server Install for Oracle Database on Solaris x86 64-bit
- IBM AIX 5.3 or higher on POWER Systems (64-Bit)
 - Oracle R Enterprise Client Packages for AIX 64-bit Platform
 - Oracle R Enterprise Client Supporting Packages for AIX 64-bit Platform
 - Oracle R Enterprise Server Install for Oracle Database on AIX 64-bit

Click the link for the software that you require. Sign on using your Oracle Technology Network login.

For all platforms, an archive is downloaded. Save the archive on your local system and unzip it.

Install Server

This chapter describes how to install the Oracle R Enterprise server on Linux, Solaris, or AIX. You can also install the server on Oracle Exadata, as described in [Install Server on Oracle Exadata Database Machine](#).

Install the same release of Oracle R Enterprise for both client and server.

Install the server as follows:

1. Make sure that the [Prerequisites](#) for your platform are satisfied.
2. Make sure that [Oracle Database Requirements](#) is installed on the system where you plan to install the server. Make sure that any required patches are installed properly.
3. Install R, as described in [R Requirement](#).

Install R before you install the server.

Before you start the server installation, check that you can run R. This usually means that the R executable is in your PATH environment variable.

4. Make sure that the [Required Privileges](#) are satisfied. If you do not run the install script from an appropriate account, the script will fail.
5. Properly set certain [Environment Variables](#). Define ORACLE_SID. Add \$ORACLE_HOME/lib to LD_LIBRARY_PATH and \$ORACLE_HOME/bin to PATH.
6. Read [Server Installation Overview](#) or go to [Install Server on Microsoft Windows](#), [Install Server on Linux](#), [Install Server on Solaris](#), or [Install Server on AIX](#) to begin the install. You can also [Install Server on Oracle Exadata Database Machine](#).
7. Follow the directions in [Install Server on Microsoft Windows](#), [Install Server on Linux](#), [Install Server on Solaris](#), [Install Server on AIX](#), or [Install Server on Oracle Exadata Database Machine](#) to install the server.
8. Install the [Oracle R Enterprise Client Supporting Packages](#).

Before you can run Oracle R Enterprise, you must create at least one user, as described in [Oracle R Enterprise Users](#). Then you can [Validate Oracle R Enterprise Installation](#).

Before You Install the Server

The install scripts for the Oracle R Enterprise server require:

- You must run the script from an account that has [Required Privileges](#).
- You must properly set certain [Environment Variables](#).

This section also contains the [Server Installation Overview](#) that explains how the installation script works.

Required Privileges

Important: Before you start installation, make sure that:

- You have DBA privileges, that is, you can run as `oracle`:
 - On Windows, you must be a member of the `ORA_DBA` group; see [Notes for Microsoft Windows Installation](#) for more information.
 - On Linux, you must be a member of the `DBA` group; the user `oracle` satisfies this requirement. Note that `root` is not usually a member of the `DBA` group.

If necessary, users can be added to the `DBA` group with

```
useradd -G dba <username>
```

- On Solaris, you must be a member of the `DBA` group
- On AIX, you must be a member of the `DBA` group

In any case, make sure that you are logged in to an account in which you can run `sqlplus / as sysdba` before you run the install script.

- You have write privileges at the operating system level to the directory `$ORACLE_HOME/lib`; the user `oracle` satisfies this requirement

In summary, for all platforms, you can use the account that you used to install the database to install the server. Check that you can run `R` from this account.

Environment Variables

Make sure that these environment variables exist and are defined properly:

- Add `$ORACLE_HOME/lib` to `LD_LIBRARY_PATH` (`LIBPATH` for AIX)
- Add `$ORACLE_HOME/bin` to `PATH`
- Define the variable `$ORACLE_SID`; it contains the `SID` for the database where you install Oracle R Enterprise.

For Microsoft Windows, you must add `R` to the `PATH` environment variable. If you installed `R` in the default location, you must add one of the following to `PATH`:

- For 64-bit Windows, `C:\Program Files\R\R-2.15.1\bin\x64`
- For 32-bit Windows, `C:\Program Files\R\R-2.15.1\bin\i386`

Note that the `R_HOME` environment variable does not need to be explicitly set, as `install.bat` or `install.sh` finds it during the installation.

Server Installation Overview

The installation scripts for the server works as follows:

1. Before the Oracle R Enterprise server install starts, the script checks for the presence of an `R` installation.
2. Once the script verifies that `R` is known to be installed and its location known via `PATH`, the install checks for the presence of these libraries in `$R_HOME/lib/`. In particular, the script checks for
 - `$R_HOME/lib/libR.so`

- `$R_HOME/lib/libRblas.so`
 - `$R_HOME/lib/libRlapack.so`
3. Next the script checks the location of the database installation by checking for the presence of environment variable `ORACLE_HOME` and `ORACLE_SID`.
If `ORACLE_HOME` is set, the install expects that the `$ORACLE_HOME/lib` directory is present.
Before you start the script check that `ORACLE_HOME` and `ORACLE_SID` are present and properly set.
 4. Next the script checks Oracle database instance information. The check includes looking for environment variable `ORACLE_SID` and then connecting to the instance by starting

```
sqlplus /as sysdba
```


Logging into the database as `sysdba` is critical for the install script to proceed.
If `sqlplus` fails to connect to the database instance, the install process aborts.
Before you start the installation script, check that you can connect to the database using this `sqlplus` command.
 5. If Oracle R Enterprise has been installed on the database, that is, if you installed release 1.0, 1.1, or 1.2, then the installer expects to find a user name `RQSYS` in `dba_users` table and the Oracle R Enterprise version number details in `SYS.RQ_CONFIG`. The installer uses this information subsequently to install the correct SQL packages.
 6. The script prompts you to optionally enter the names of permanent and temporary table spaces for the `RQSYS` schema; the default schemas are `SYS_AUX` and `TEMP`.
At this point, the install script has determined it has found the prerequisites satisfactory and proceeds to do the actual installation.
 7. The install script now attempts to copy libraries to `$ORACLE_HOME/lib`.
If `$ORACLE_HOME/lib` is not writable then the installer errors out.
 8. The install script now installs the `RQSYS` schema. Installing the schema requires logging into the database as `SYSDBA`.
 9. Finally, the ORE packages are installed under `$ORACLE_HOME/R/library`.

Install Server on Microsoft Windows

These directions describe how to install Oracle R Enterprise on Microsoft Windows XP or later for the 64-bit architecture.

Review [Before You Install the Server](#) before you run the installation script. Make sure that all environment variables are properly set and that all required directories are present.

Follow these steps to install the server:

1. Before you start the installation, make sure that these environment variables exist and are defined properly:
 - Add `%ORACLE_HOME%\bin` to `PATH`
 - Add `R` to the `PATH` environment variable. If you installed `R` in the default location, you must add one of the following to `PATH`:

- For 64-bit Windows, C:\Program Files\R\R-2.15.1\bin\x64
- For 32-bit Windows, C:\Program Files\R\R-2.15.1\bin\i386
- Define the variable ORACLE_SID; it contains the SID for the database where you install ORE.

For information about setting environment variables in Windows, see [Notes for Microsoft Windows Installation](#).

2. You must have DBA privileges that is, you can run as oracle. The install scripts run SQL*Plus / as sysdba and write to ORACLE_HOME.
3. Download the appropriate files for your system, as described in [Download Oracle R Enterprise Software](#). You must download two archives:
 - ore-server-win-x86_64-1.3.1.zip
 - ore-supporting-win-x86_64-1.3.1.zip
4. Unzip the server download ore-server-win-x86_64-1.3.1.zip.
5. Make sure that you are logged in to an account that has DBA privileges.
6. Open a command window and navigate to the directory where you unzipped the server download.
7. Execute install.bat.

Note: If install.bat fails, go to [Before You Install the Server](#) and check that all requirements are satisfied.

For example, if the environment variables ORACLE_HOME and ORACLE_SID are not set, install.bat will fail.

8. Install the R supporting packages ore-supporting-win-x86_64-1.3.1.zip.

To install the supporting packages, unzip ore-supporting-win-x86_64-1.3.1.zip, and then use these commands:

```
install.packages("<dep path>/supporting/ROracle_1.1-8.zip", repos=NULL)
install.packages("<dep path>/supporting/DBI_0.2-5.zip", repos=NULL)
install.packages("<dep path>/supporting/png_0.1-4.zip", repos=NULL)
```

<dep path> is the directory where you unzipped ore-supporting-win-x86_64-1.3.1.zip.

Each package install produces the message "successfully unpacked and MD5 sums checked" in the R Console.

9. After installation completes, create at least one user, as described in [Oracle R Enterprise Users](#). It may be necessary to make certain GRANTs to users who perform certain tasks; see [Required GRANTs](#).
10. You may wish to use Oracle Wallet, especially if you plan to run scripts in light-out mode. For information, see [Configure Oracle Wallet \(Optional\)](#)
11. [Validate Oracle R Enterprise Installation](#).

Check PC Architecture

Follow these steps to find out if your computer is running a 64-bit version of Windows:

- If the operating system is Windows 7 or Windows Vista:
 1. Open **System**: Click **Start** button, right-click **Computer**, and then click **Properties**.
 2. **System** shows the system type.
- If the operating system is Windows XP:
 1. Click **Start**.
 2. Right-click **My Computer**, and then click **Properties**.
 3. If you don't see "x64 Edition" listed, then you're running the 32-bit version of Windows XP.
 If "x64 Edition" is listed under System, you're running the 64-bit version of Windows XP.

Notes for Microsoft Windows Installation

Before you install the Server on Windows, perform these checks:

- [Check Membership in ORA_DBA](#)
- [Create or Modify Environment Variables](#)
- [Check R Installation](#)

Check Membership in ORA_DBA

If you installed Oracle on Windows, you are automatically added to ORA_DBA. Checking that you are a member of the ORA_DBA group depends on the release of Windows:

- For Microsoft Windows XP, go to **Start** then **All Programs** then to **Administrative Tools**. Select **Computer Management**, then **System Tools**, then **Local Users and Groups**, then **Groups**. Double-click **ora_dba**. The list of users in **ora_dba** is displayed. Use one of these accounts to install the server.
- For Microsoft Windows Vista, see <http://windows.microsoft.com/en-US/windows-vista/Add-a-user-account-to-a-group>.
- For Microsoft Windows 7, see <http://windows.microsoft.com/en-US/windows7/Add-a-user-account-to-a-group>.

For information about ORA_DBA, see the *Oracle Database Platform Guide 11g Release 2 (11.2) for Microsoft Windows*.

Create or Modify Environment Variables

The install script looks at the PATH system variable to find the Database executable. On Windows, you may not have a PATH system variable defined.

If the PATH variable does not exist, create it and set it to %ORACLE_HOME%\bin, the directory where the executable for the Database resides.

Windows does not require the LD_LIBRARY_PATH environment variable that is required by the other platforms.

You view, edit and create s environment variable from the **Advanced** tab of **System**. The steps to navigate to this tab depends on the version of Windows installed on your system:

- For Microsoft Windows XP, go to **Start** then **Control Panel**. Double-click **System**. On the Advanced tab click **Environment Variables**.
- For Microsoft Windows Vista, click **Start**, type **Accounts** in the Start search box, and then click **User Accounts** under **Programs**. In the **User Accounts** dialog box, click **Change my environment variables** under **Tasks**. Make changes and then click OK when done.
- For Microsoft Windows 7, go to **Start** then **Control Panel**. Double click **System and Security**, then **System**, and then **Advanced system settings**.

It may be necessary to log in as an administrator to change environment variables.

Check R Installation

You must install R (64-bit) before you install the server. Before you start the server installation, check that you can run R. If you installed R in the default location, the GUI executable resides in `C:\Program Files\R\R-2.15.1\bin\x64`.

Install Server on Linux

These directions describe how to install Oracle R Enterprise on Oracle Linux or Red Hat Linux on the Linux x86-64 platform. To install the server on Oracle Exadata, see [Install Server on Oracle Exadata Database Machine](#).

Review [Before You Install the Server](#) before you run the installation script. Make sure that all environment variables are properly set and that all required directories are present.

Follow these steps to install the server:

1. Install a Database that satisfies [Oracle Database Requirements](#). Make sure that any required patches are installed properly. If the Database is already installed, make sure that it satisfies the requirements.
2. Install R, as described in [R Requirement](#).
3. Make sure that these environment variables exist and are defined properly:
 - Add `$ORACLE_HOME/lib` to `LD_LIBRARY_PATH`
 - Add `$ORACLE_HOME/bin` to `PATH`
 - Define the variable `$ORACLE_SID`; it contains the SID for the database where you install ORE.
4. You must have DBA privileges that is, you can run as `oracle`. The install scripts run `SQL*Plus / as sysdba` and write to `ORACLE_HOME`.
5. Download `ore-server-linux-x86-64-1.3.1.zip` as described in [Download Oracle R Enterprise Software](#). If you install the server on Oracle Database 11g Release 2 (11.2), you must download the archive.
6. Unzip `ore-server-linux-x86-64-1.3.1.zip` into an empty directory on your local system. This creates a directory containing library files, SQL scripts, and the install shell script `install.sh`.
7. Run `install.sh` to create objects in the SYS and RQSYS schemas.

This script copies ORE packages to `$ORACLE_HOME/R/library` and `R_LIBS_USER`.

The script executes `rqinst.sql` with SYSAUX and TEMP as the default and temporary tablespaces.

The script creates all SQL objects required by Oracle R Enterprise in the RQSYS user schema. The RQSYS schema is created as a locked account with expired password and no connect privileges.

8. Install the [Oracle R Enterprise Client Supporting Packages](#)

ore-supporting-linux-x86-64-1.3.1.zip as follows:

Unzip the download. Go to the directory where you unzipped the archive and use the ORE script to install the packages:

```
ORE CMD INSTALL DBI_0.2-5_R_x86_64-unknown-linux-gnu.tar.gz
ORE CMD INSTALL ROracle_1.1-8_R_x86_64-unknown-linux-gnu.tar.gz
ORE CMD INSTALL png_0.1-4_R_x86_64-unknown-linux-gnu.tar.gz
```

9. After installation completes, create at least one user, as described in [Oracle R Enterprise Users](#). It may be necessary to make certain GRANTS to users who perform certain tasks; see [Required GRANTS](#).
10. You may wish to use Oracle Wallet, especially if you plan to run scripts in light-out mode. For information, see [Configure Oracle Wallet \(Optional\)](#)
11. [Validate Oracle R Enterprise Installation](#).

Install Server on Solaris

These directions describe how to install Oracle R Enterprise on Oracle Solaris on SPARC and x86-64 platforms.

Review [Before You Install the Server](#) before you run the installation script. Make sure that all environment variables are properly set and that all required directories are present.

After the client installation completes, follow these steps to install the server:

1. Install a Database that satisfies [Oracle Database Requirements](#). Make sure that any required patches are installed properly. If the Database is already installed, make sure that it satisfies the requirements.
2. Install R, as described in [R Requirement](#).
3. Before you start the installation, make sure that these environment variables exist and are defined properly:
 - Add \$ORACLE_HOME/lib to LD_LIBRARY_PATH
 - Add \$ORACLE_HOME/bin to PATH
 - Define the variable \$ORACLE_SID; it contains the SID for the database where you install ORE.
4. You must have DBA privileges that is, you can run as oracle. The install scripts run SQL*Plus / as sysdba and write to ORACLE_HOME.
5. Download ore-server-solaris-sparc-64-1.3.1.zip or ore-server-solaris-x86-64-1.3.1.zip as described in [Download Oracle R Enterprise Software](#). If you install the server on Oracle Database 11g Release 2 (11.2), you must download the archive.
6. Unzip ore-server-solaris-sparc-64-1.3.1.zip or ore-server-solaris-x86-64-1.3.1.zip into an empty directory on your local system. This creates a directory containing library files, SQL scripts, and the install shell script install.sh.
7. Run install.sh. to create objects in the SYS and RQSYS schemas.

This script copies ORE packages to \$ORACLE_HOME/R/library and R_LIBS_USER.

The script executes `rqinst.sql` with SYSAUX and TEMP as the default and temporary tablespaces.

The script creates all SQL objects required by Oracle R Enterprise in the RQSYS user schema. The RQSYS schema is created as a locked account with expired password and no connect privileges.

8. Install the [Oracle R Enterprise Client Supporting Packages](#).

`ore-supporting-solaris-sparc-64-1.3.1.zip` (or
`ore-supporting-solaris-x86-64-1.3.1.zip`):

Unzip the download. Go to the directory where you unzipped the archive, and use the ORE script to install the packages.

Run these commands for x86:

```
ORE CMD INSTALL DBI_0.2-5_R_x86_64-unknown-solaris-sun.tar.gz
ORE CMD INSTALL ROracle_1.1-8_R_x86_64-unknown-solaris-sun.tar.gz
ORE CMD INSTALL png_0.1-4_R_x86_64-unknown-solaris-sun.tar.gz
```

Run these commands for SPARC:

```
ORE CMD INSTALL DBI_0.2-5_R_sparc_64-unknown-solaris-sun.tar.gz
ORE CMD INSTALL ROracle_1.1-8_R_sparc_64-unknown-solaris-sun.tar.gz
ORE CMD INSTALL png_0.1-4_R_sparc_64-unknown-solaris-sun.tar.gz
```

- 9.** After installation completes, create at least one user, as described in [Oracle R Enterprise Users](#). It may be necessary to make certain GRANTs to users who perform certain tasks; see [Required GRANTs](#).
- 10.** You may wish to use Oracle Wallet, especially if you plan to run scripts in light-out mode. For information, see [Configure Oracle Wallet \(Optional\)](#)
- 11.** [Validate Oracle R Enterprise Installation](#).

Install Server on Oracle Exadata Database Machine

Oracle Exadata Database Machine is a complete preoptimized and preconfigured package of software, servers, and storage that provides an optimal solution for all database workloads. It combines Oracle Exadata Storage Server Software, Oracle Database software, and Sun hardware components to deliver extreme performance in a highly available and highly secure environment. Along with Oracle's unique clustering and workload management capabilities, the Database Machine is also well-suited for consolidating multiple databases onto a single grid.

[Oracle Exadata Install Steps](#) describe how to install Oracle R Enterprise on Oracle Exadata.

Oracle Exadata Install Steps

An Oracle Exadata Database Machine consists of several compute nodes, along with storage and other facilities. Oracle R Enterprise server must be installed on every compute node, that is on every server where the database is installed.

Follow these steps to install Oracle R Enterprise server on Oracle Exadata:

- Install the following software on *each* compute node:
 - Oracle R Distribution, as described in [Install R on Linux](#)

- Oracle R Enterprise Server, as described in [Install Server on Linux](#) or [Install Server on Solaris](#); make sure that you follow all steps, including installation of the Oracle R Enterprise Client Supporting packages
- Each compute node has its own ORACLE_HOME, ORACLE_SID, and PATH environment variable.
- You must install the following software on *each* Oracle R Enterprise client, as described in [Install Client](#):
 - Oracle R Distribution
 - Oracle R Enterprise Client packages
 - Oracle R Enterprise Client supporting packages

The client systems must be able to communicate with the server. The clients can run on Microsoft Windows, Linux, or Solaris.

Install Server on AIX

These directions describe how to install Oracle R Enterprise on IBM AIX on 64-bit platforms.

Review [Before You Install the Server](#) before you run the installation script. Make sure that all environment variables are properly set and that all required directories are present.

After the client installation completes, follow these steps to install the server:

1. Install a Database that satisfies [Oracle Database Requirements](#). Make sure that any required patches are installed properly. If the Database is already installed, make sure that it satisfies the requirements.
2. Install R, as described in [R Requirement](#).
3. Before you start the installation, make sure that these environment variables exist and are defined properly:
 - Add \$ORACLE_HOME/lib to LIBPATH
 - Add \$ORACLE_HOME/bin to PATH
 - Define the variable \$ORACLE_SID; it contains the SID for the database where you install ORE.
4. You must have DBA privileges that is, you can run as `oracle`. The install scripts run `SQL*Plus / as sysdba` and write to ORACLE_HOME.
5. Download `ore-server-aix-ppc64-1.3.1.zip` as described in [Download Oracle R Enterprise Software](#).
6. Unzip `ore-server-aix-ppc64-1.3.1.zip` into an empty directory on your local system. This creates a directory containing library files, SQL scripts, and the install shell script `install.sh`.
7. Run `install.sh` to create objects in the SYS and RQSYS schemas.

This script copies ORE packages to \$ORACLE_HOME/R/library and R_LIBS_USER.

The script executes `rqinst.sql` with SYSAUX and TEMP as the default and temporary tablespaces.

The script creates all SQL objects required by Oracle R Enterprise in the RQSYS user schema. The RQSYS schema is created as a locked account with expired password and no connect privileges.

8. Install the [Oracle R Enterprise Client Supporting Packages](#).

ore-supporting-aix-ppc64-1.3.1.zip:

Unzip the download. Go to the directory where you unzipped the archive, and use the ORE script to install the packages.

Run these commands for x86:

```
ORE CMD INSTALL DBI_0.2-5_R_ppc64-unknown-aix.tar.gz
ORE CMD INSTALL ROracle_1.1-8_R_ppc64-unknown-aix.tar.gz
ORE CMD INSTALL png_0.1-4_R_ppc64-unknown-aix.tar.gz
```

- 9.** After installation completes, create at least one user, as described in [Oracle R Enterprise Users](#). It may be necessary to make certain GRANTS to users who perform certain tasks; see [Required GRANTS](#).
- 10.** You may wish to use Oracle Wallet, especially if you plan to run scripts in light-out mode. For information, see [Configure Oracle Wallet \(Optional\)](#)
- 11.** [Validate Oracle R Enterprise Installation](#).

Install Client

Typically, you install the server first and then ask your clients (database users) to install client software and connect to the database. The client and server can run on different platforms; for example a client on Windows can connect to a server on Linux.

Install the same release of Oracle R Enterprise for both client and server.

Installation of Oracle R Enterprise consists of installing two sets of [Client Packages](#).

Installation steps depend on the platform:

- [Install Client on Microsoft Windows](#)
- [Install Client on Linux](#)
- [Install Client on Solaris](#)
- [Install Client on AIX](#)

Client Packages

When you install Oracle R Enterprise client, you install two sets of R packages

- [Oracle R Enterprise Client Supporting Packages](#)
- [Oracle R Enterprise Client Packages](#)

Oracle R Enterprise Client Supporting Packages

These Open-Source R packages are installed when you install the client supporting packages for Oracle R Enterprise:

Both Oracle R Enterprise client and server require the client supporting packages. If client and server are installed on different systems, the supporting packages must be installed on both systems.

- DBI provides the database interface (DBI) definition for communication between R and relational database management systems.
- png is used to read and write PNG images.
- ROracle provides the Oracle database interface (DBI) driver for R.

Oracle R Enterprise Client Packages

These packages are part of Oracle R Enterprise; they are installed when you install the client packages:

- `OREbase` is the base package for Oracle R Enterprise. It provides basic functionality such as `ore.attach()`.
- `OREstats` provides the model framework for Oracle R Enterprise
- `OREgraphics` provides graphics support for Oracle R Enterprise
- `OREeda` provides linear and stepwise linear egression for Oracle R Enterprise (`ore.lm()` and `ore.stepwise()`)
- `ORExml` provides XML support for Oracle R Enterprise
- `OREdm` build mining models using Oracle Data Mining algorithms
- `OREpredict` make predictions using R models and database tables
- `ORE` provides base support for Oracle R Enterprise

Load the ORE Packages

Use this command to load the ORE packages into R:

```
library(ORE)
```

Install Client on Microsoft Windows

Oracle R Enterprise client is supported on Microsoft Windows XP or later for 64-bit architectures. The client requires R 2.15.1 for Oracle R Enterprise 1.3 and 1.3.1, R 2.13.2 for earlier versions of Oracle R Enterprise.

To install the client, you must install two sets of packages:

- [Oracle R Enterprise Client Supporting Packages](#)
- [Oracle R Enterprise Client Packages](#)

After you have installed R, as described in [Install R on Windows](#), follow these steps to install the two sets of R packages for Oracle R Enterprise Windows client:

1. As described in [Download Oracle R Enterprise Software](#), download these two zip archives:
 - `ore-supporting-win-x86_64-1.3.1.zip`, the client supporting packages
 - `ore-client-win-x86_64-1.3.1.zip`, the Oracle R Enterprise packages.
2. Unzip `ore-supporting-win-x86_64-1.3.1.zip` to your local system. This creates the supporting directory.
3. Unzip `ore-client-win-x86_64-x86_64-1.3.1.zip` to your local system. This creates the `client` directory.
4. Start 64-bit R 2.15.1 (or R 2.13.2) from the **All Programs** group of the Windows **Start** menu.
5. You can install both sets of R packages (supporting and client) from the R Console, from the R GUI, or from the command window.
 - To install both sets of packages from the **R Console**, follow these steps:
 - a. To install the client supporting packages, use these commands:

```
install.packages("<dep path>/supporting/ROracle_1.1-8.zip", repos=NULL)
install.packages("<dep path>/supporting/DBI_0.2-5.zip", repos=NULL)
install.packages("<dep path>/supporting/png_0.1-4.zip", repos=NULL)
```

where <dep path> is the directory where you unzipped ore-supporting-win-x86_64-1.3.1.zip.

Each package install produces the message "successfully unpacked and MD5 sums checked" in the R Console.

- b. To install the client packages, use these commands:

```
ninstall.packages("<dep path>/client/ORE_1.3.1.zip", repos=NULL)
install.packages("<dep path>/client/OREbase_1.3.1.zip", repos=NULL)
install.packages("<dep path>/client/OREdm_1.3.1.zip", repos=NULL)
install.packages("<dep path>/client/OREeda_1.3.1.zip", repos=NULL)
install.packages("<dep path>/client/OREgraphics_1.3.1.zip", repos=NULL)
install.packages("<dep path>/client/OREpredict_1.3.1.zip", repos=NULL)
install.packages("<dep path>/client/OREstats_1.3.1.zip", repos=NULL)
install.packages("<dep path>/client/ORExml_1.3.1.zip", repos=NULL)
```

where <dep path> is the directory where you unzipped ore-client-win-x86_64-1.3.1.zip.

Each package install produces the message "successfully unpacked and MD5 sums checked" in the R Console.

- To install both sets of packages from the **R GUI**, follow these steps:
 - a. From the main menu, select **Packages** then **Install package(s) from local zip files**
 - b. Navigate to

<DEP_PATH>\supporting

where <DEP_PATH> is the directory where you unzipped ore-supporting-win-x86_64-1.3.1.zip.

- c. Select all of the files in the directory, that is, select DBI_0.2-5.zip, ROracle_1.1-8.zip, and png_0.1-4.zip.
- d. Click **Open**. Each package install produces the message "successfully unpacked and MD5 sums checked" in the R Console.
- e. From the main menu, select **Packages** then **Install package(s) from local zip files**.
- f. Navigate to

<ORE_PATH>\client

where <ORE_PATH> is the directory where you unzipped the ore-client-win-x86_64-1.3.1.zip.

- g. Select all of the files in the directory, that is, select OREbase_1.3.1.zip, OREstats_1.3.1.zip, OREgraphics_1.3.1.zip, OREeda_1.3.1.zip, ORExml_1.3.1.zip, OREdm_1.3.1.zip, OREpredict_1.3.1.zip, and ORE_1.3.1.zip.
- h. Click **Open**. Each package install produces the message "successfully unpacked and MD5 sums checked" in the R Console.
- To install packages from the **command window**, follow these steps:
 - a. Open a command window.
 - b. Go to the supporting directory, the directory where you unzipped ore-supporting-win-x86_64-1.3.1.zip, and type these commands:

```
R CMD INSTALL ROracle_1.1-8.zip
R CMD INSTALL DBI_0.2-5.zip
R CMD INSTALL png_0.1-4.zip
```

Each command generates messages indicating that the package is successfully installed. This example illustrates the messages for the package ORE:

```
* installing to library 'C:/Program Files/R/R-2.13.2/library'
package 'ORE' successfully unpacked and MD5 sums checked
```

- c. Go to the client directory, the directory where you unzipped ore-client-win-x86_64-x86_64_1.3.1.zip, and type these commands:

```
R CMD INSTALL OREbase_1.3.1.zip
R CMD INSTALL OREstats_1.3.1.zip
R CMD INSTALL OREgraphics_1.3.1.zip
R CMD INSTALL OREeda_1.3.1.zip
R CMD INSTALL ORExml_1.3.1.zip
R CMD INSTALL OREdm_1.3.1.zip
R CMD INSTALL OREpredict_1.3.1.zip
R CMD INSTALL ORE_1.3.1.zip
```

Each command generates messages indicating that the package is successfully installed, as for the supporting packages.

After you install the server, you can [Start Oracle R Enterprise Client on Microsoft Windows](#).

Install Client on Linux

The Oracle R Enterprise client is supported on Oracle Linux or Red Hat Linux. The client requires R 2.15.1 for Oracle R Enterprise 1.3 and 1.3.1, R 2.13.2 for earlier versions.

This section describes how to install a client on a Linux system that does not have the server installed on it. It is not necessary to perform these steps on a Linux system that has the server installed on it.

To install the client you must install two sets of packages:

- [Oracle R Enterprise Client Supporting Packages](#)
- [Oracle R Enterprise Client Packages](#)

After you have installed R on Linux as described in [Install R on Linux](#), follow these steps to install the two sets of R packages for the Oracle R Enterprise Linux 64-bit client:

1. Download Oracle Instant Client Basic Package for 64-bit from Linux from **Instant Client Downloads for Linux x86-64** (<http://www.oracle.com/technetwork/topics/linuxx86-64soft-092277.html>).

Oracle Instant Client includes all files required to run OCI, OCCI, and JDBC-OCI applications. The ROracle R package is an OCI application.

Go to **Oracle Database Instant Client**

<http://www.oracle.com/technetwork/database/features/instant-client/index-100365.html> for installation instructions.

Note: You must have either Oracle Database or Oracle Instant Client installed on any Linux system where you install Oracle R Enterprise Client.

2. Add the path where you unzipped or installed Oracle Instant Client libraries to your LD_LIBRARY_PATH.
3. Download the client supporting R packages
ore-supporting-linux-x86-64-1.3.1.zip from
<http://www.oracle.com/technetwork/database/options/advanced-analytics/r-enterprise/ore-downloads-1502823.html>.

4. Unzip ore-linux-x86-64-1.3.1.zip to your local system. This creates the directory ore-supporting-linux-x86-64-1.3.1 containing these files:

```
DBI_0.2-5_R_x86_64-unknown-linux-gnu.tar.gz
ROracle_1.1-8_R_x86_64-unknown-linux-gnu.tar.gz
png_0.1-4_R_x86_64-unknown-linux-gnu.tar.gz
```

5. Download Oracle R Enterprise client packages
ore-client-linux-x86-64-1.3.1.zip from
<http://www.oracle.com/technetwork/database/options/advanced-analytics/r-enterprise/ore-downloads-1502823.html>.
6. Unzip ore-client-linux-x86-64-1.3.1.zip to your local system. This creates the directory ore-client-linux-x86-64-1.3.1 containing these files:

```
ORE_1.3.1_R_x86_64-unknown-linux-gnu.tar.gz
OREbase_1.3.1_R_x86_64-unknown-linux-gnu.tar.gz
OREeda_1.3.1_R_x86_64-unknown-linux-gnu.tar.gz
OREgraphics_1.3.1_R_x86_64-unknown-linux-gnu.tar.gz
OREstats_1.3.1_R_x86_64-unknown-linux-gnu.tar.gz
ORExml_1.3.1_R_x86_64-unknown-linux-gnu.tar.gz
OREdm_1.3.1_R_x86_64-unknown-linux-gnu.tar.gz
OREpredict_1.3.1_R_x86_64-unknown-linux-gnu.tar.gz
```

7. Go to the directory ore-supporting-linux-x86-64-1.3.1. Type the following commands to install the client supporting R packages:

```
R CMD INSTALL DBI_0.2-5_R_x86_64-unknown-linux-gnu.tar.gz
R CMD INSTALL ROracle_1.1-8_R_x86_64-unknown-linux-gnu.tar.gz
R CMD INSTALL png_0.1-4_R_x86_64-unknown-linux-gnu.tar.gz
```

These commands generate the following messages to confirm successful installation of the packages:

```
* installing to library '<Your $R_HOME directory> /library'
* installing *binary* package 'DBI' ...
* DONE (DBI)
* installing to library '<Your $R_HOME directory> /library'
* installing *binary* package 'ROracle' ...
* DONE (ROracle)
* installing to library '<Your $R_HOME directory> /library'
* installing *binary* package 'png' ...
* DONE (png)
```

8. Go to the directory ore-linux-x86-64-1.3.1. Type the following commands to install the client packages:

```
R CMD INSTALL ORE_1.3.1_R_x86_64-unknown-linux-gnu.tar.gz
```

```

R CMD INSTALL OREbase_1.3.1_R_x86_64-unknown-linux-gnu.tar.gz
R CMD INSTALL OREeda_1.3.1_R_x86_64-unknown-linux-gnu.tar.gz
R CMD INSTALL OREgraphics_1.3.1_R_x86_64-unknown-linux-gnu.tar.gz
R CMD INSTALL OREstats_1.3.1_R_x86_64-unknown-linux-gnu.tar.gz
R CMD INSTALL ORExml_1.3.1_R_x86_64-unknown-linux-gnu.tar.gz
R CMD INSTALL OREdm_1.3.1_R_x86_64-unknown-linux-gnu.tar.gz
R CMD INSTALL OREpredict_1.3.1_R_x86_64-unknown-linux-gnu.tar.gz

```

Each command generates messages like the following to confirm successful installation of the packages:

```

* installing to library '<Your $R_HOME directory>/library'
* installing *binary* package '<>' ...
* DONE (<>)

```

After you have completed the client install, verify the install by connecting to a database that has been enabled for Oracle R Enterprise as discussed in [Start Oracle R Enterprise Client on Linux, Solaris, or AIX](#).

Install Client on Solaris

The Oracle R Enterprise client is supported on Oracle Solaris. The client requires R 2.15.1 for Oracle R Enterprise 1.3 and 1.3.1, R 2.13.2 for earlier versions.

This section describes how to install a client on a Solaris system that does not have the server installed on it. It is not necessary to perform these steps on a Solaris system that has the server installed on it.

To install the client you must install two sets of packages:

- [Oracle R Enterprise Client Supporting Packages](#)
- [Oracle R Enterprise Client Packages](#)

After you have installed R on Solaris as described in [Install R on Solaris](#), follow these steps to install the two sets of R packages for the Oracle R Enterprise Solaris client:

1. Download Oracle Instant Client Basic Package for 64-bit for Solaris from Instant Client Downloads for Solaris SPARC-64 at <http://www.oracle.com/technetwork/topics/sol64soft-085649.html> or Instant Client Package - Basic for Solaris Operating System (SPARC 64-bit) at <http://www.oracle.com/technetwork/topics/sol64soft-085649.html>.
Oracle Instant Client includes all files required to run OCI, OCCI, and JDBC-OCI applications. The ROracle R package is an OCI application.
Download the appropriate Instant Client zip file.
2. Add the path where you unzipped or installed Oracle Instant Client libraries to your LD_LIBRARY_PATH.
3. Download the client R packages ore-supporting-solaris-sparc-64-1.3.1.zip for SPARC or ore-supporting-solaris-x86-64-1.3.1.zip from <http://www.oracle.com/technetwork/database/options/advanced-analytics/r-enterprise/ore-downloads-1502823.html>.
4. Unzip ore-solaris-sparc-64-1.3.1.zip or ore-solaris-x86-64-1.3.1.zip to your local system. This creates the directory ore-supporting-solaris-sparc-64-1.3 containing these files for SPARC:

```

DBI_0.2-5_R_sparc_64-unknown-solaris-sun.tar.gz
ROracle_1.1-8_R_sparc_64-unknown-solaris-sun.tar.gz

```

```
png_0.1-4_R_sparc_64-unknown-solaris-sun.tar.gz
```

or the directory ore-supporting-solaris-x86-64-1.3.1 containing these files for x86:

```
DBI_0.2-5_R_x86_64-unknown-solaris-sun.tar.gz
ROracle_1.1-8_R_x86_64-unknown-solaris-sun.tar.gz
png_0.1-4_R_x86_64-unknown-solaris-sun.tar.gz
```

5. Download Oracle R Enterprise client packages

ore-client-solaris-sparc-64-1.3.1.zip or ore-client-solaris-x86-64-1.3.1.zip from

<http://www.oracle.com/technetwork/database/options/advanced-analytics/r-enterprise/ore-downloads-1502823.html>.

6. Unzip ore-client-solaris-sparc-64-1.3.1.zip or

ore-client-solaris-x86-64-1.3.1.zip to your local system. This creates the directory ore-client-solaris-x86-64-1.3.1 containing these files for x86-64:

```
ORE_1.3.1_R_x86_64-unknown-solaris-sun.tar.gz
OREbase_1.3.1_R_x86_64-unknown-solaris-sun.tar.gz
OREdm_1.3.1_R_x86_64-unknown-solaris-sun.tar.gz
OREeda_1.3.1_R_x86_64-unknown-solaris-sun.tar.gz
OREgraphics_1.3.1_R_x86_64-unknown-solaris-sun.tar.gz
OREpredict_1.3.1_R_x86_64-unknown-solaris-sun.tar.gz
OREstats_1.3.1_R_x86_64-unknown-solaris-sun.tar.gz
ORExml_1.3.1_R_x86_64-unknown-solaris-sun.tar.gz
```

or the directory ore-client-solaris-sparc-64-1.3.1 containing these files for SPARC:

```
ORE_1.3.1_R_sparc_64-unknown-solaris-sun.tar.gz
OREbase_1.3.1_R_sparc_64-unknown-solaris-sun.tar.gz
OREdm_1.3.1_R_sparc_64-unknown-solaris-sun.tar.gz
OREeda_1.3.1_R_sparc_64-unknown-solaris-sun.tar.gz
OREgraphics_1.3.1_R_sparc_64-unknown-solaris-sun.tar.gz
OREpredict_1.3.1_R_sparc_64-unknown-solaris-sun.tar.gz
OREstats_1.3.1_R_sparc_64-unknown-solaris-sun.tar.gz
ORExml_1.3.1_R_sparc_64-unknown-solaris-sun.tar.gz
```

7. Go to the directory ore-supporting-solaris-x86-64-1.3.1. Type the following commands to install the client supporting R packages:

```
R CMD INSTALL DBI_0.2-5_R_x86_64-unknown-solaris-sun.tar.gz
R CMD INSTALL ROracle_1.1-8_R_x86_64-unknown-solaris-sun.tar.gz
R CMD INSTALL png_0.1-4_R_x86_64-unknown-solaris-sun.tar.gz
```

For SPARC, go to the directory ore-supporting-solaris-sparc-64-1.3.1. Type the following commands to install the client supporting R packages:

```
R CMD INSTALL DBI_0.2-5_R_sparc_64-unknown-solaris-sun.tar.gz
R CMD INSTALL ROracle_1.1-8_R_sparc_64-unknown-solaris-sun.tar.gz
R CMD INSTALL png_0.1-4_R_sparc_64-unknown-solaris-sun.tar.gz
```

These commands generate the following messages to confirm successful installation of the packages:

```
* installing to library '<Your $R_HOME directory> /library'
* installing *binary* package 'DBI' ...
* DONE (DBI)
* installing to library '<Your $R_HOME directory> /library'
* installing *binary* package 'ROracle' ...
```

```
* DONE (ROracle)
* installing to library '<Your $R_HOME directory> /library'
* installing *binary* package 'png' ...
* DONE (png)
```

8. Go to the directory ore-client-solaris-x86-64-1.3.1. Type the following commands to install the client packages:

```
R CMD INSTALL ORE_1.3.1_R_x86_64-unknown-solaris-sun.tar.gz
R CMD INSTALL OREbase_1.3.1_R_x86_64-unknown-solaris-sun.tar.gz
R CMD INSTALL OREdm_1.3.1_R_x86_64-unknown-solaris-sun.tar.gz
R CMD INSTALL OREeda_1.3.1_R_x86_64-unknown-solaris-sun.tar.gz
R CMD INSTALL OREgraphics_1.3.1_R_x86_64-unknown-solaris-sun.tar.gz
R CMD INSTALL OREpredict_1.3.1_R_x86_64-unknown-solaris-sun.tar.gz
R CMD INSTALL OREstats_1.3.1_R_x86_64-unknown-solaris-sun.tar.gz
R CMD INSTALL ORExml_1.3.1_R_x86_64-unknown-solaris-sun.tar.gz
```

For SPARC, go to the directory ore-client-solaris-sparc-64-1.3.1. Type the following commands to install the client supporting R packages:

```
R CMD INSTALL ORE_1.3.1_R_sparc_64-unknown-solaris-sun.tar.gz
R CMD INSTALL OREbase_1.3.1_R_sparc_64-unknown-solaris-sun.tar.gz
R CMD INSTALL OREdm_1.3.1_R_sparc_64-unknown-solaris-sun.tar.gz
R CMD INSTALL OREeda_1.3.1_R_sparc_64-unknown-solaris-sun.tar.gz
R CMD INSTALL OREgraphics_1.3.1_R_sparc_64-unknown-solaris-sun.tar.gz
R CMD INSTALL OREpredict_1.3.1_R_sparc_64-unknown-solaris-sun.tar.gz
R CMD INSTALL OREstats_1.3.1_R_sparc_64-unknown-solaris-sun.tar.gz
R CMD INSTALL ORExml_1.3.1_R_sparc_64-unknown-solaris-sun.tar.gz
```

Each command generates messages like the following to confirm successful installation of the packages:

```
* installing to library '<Your $R_HOME directory>/library'
* installing *binary* package '<>' ...
* DONE (<>)
```

After you have completed the client install, verify the install by connecting to a database that has been enabled for Oracle R Enterprise as discussed in [Start Oracle R Enterprise Client on Linux, Solaris, or AIX](#).

Install Client on AIX

The Oracle R Enterprise client is supported on IBM AIX. The client requires R 2.15.1 for Oracle R Enterprise 1.3 and 1.3.1, R 2.13.2 for earlier versions.

This section describes how to install a client on an AIX system that does not have the server installed on it. It is not necessary to perform these steps on an AIX system that has the server installed on it.

To install the client you must install two sets of packages:

- [Oracle R Enterprise Client Supporting Packages](#)
- [Oracle R Enterprise Client Packages](#)

After you have installed R on Solaris as described in [Install R on AIX](#), follow these steps to install the two sets of R packages for the Oracle R Enterprise AIX client:

1. Download Oracle Instant Client Basic Package for AIX5L (64-bit) from Instant Client Downloads for AIX5L (64-bit) at <http://www.oracle.com/technetwork/topics/aix5lsoft-098883.html>

Oracle Instant Client includes all files required to run OCI, OCCI, and JDBC-OCI applications. The ROracle R package is an OCI application.

Download the Instant Client zip file.

2. Add the path where you unzipped or installed Oracle Instant Client libraries to your LIBPATH.
3. Download the supporting R package from <http://www.oracle.com/technetwork/database/options/advanced-analytics/r-enterprise/ore-downloads-1502823.html>.
4. Unzip ore-supporting-aix-ppc64-1.3.1.zip to your local system. This creates the directory ore-supporting-aix-ppc64-1.3 containing these files:

```
DBI_0.2-5_R_ppc64-unknown-aix.tar.gz
ROracle_1.1-8_R_ppc64-unknown-aix.tar.gz
png_0.1-4_R_ppc64-unknown-aix.tar.gz
```

5. Download Oracle R Enterprise client packages ore-client-aix-ppc64-1.3.1.zip from <http://www.oracle.com/technetwork/database/options/advanced-analytics/r-enterprise/ore-downloads-1502823.html>.
6. Unzip ore-client-aix-ppc64-1.3.1.zip to your local system. This creates the directory ore-client-aix-ppc64-1.3.1 containing these files:

```
ORE_1.3.1_R_ppc64-unknown-aix.tar.gz
OREbase_1.3.1_R_ppc64-unknown-aix.tar.gz
OREdm_1.3.1_R_ppc64-unknown-aix.tar.gz
OREeda_1.3.1_R_ppc64-unknown-aix.tar.gz
OREgraphics_1.3.1_R_ppc64-unknown-aix.tar.gz
OREpredict_1.3.1_R_ppc64-unknown-aix.tar.gz
OREstats_1.3.1_R_ppc64-unknown-aix.tar.gz
ORExml_1.3.1_R_ppc64-unknown-aix.tar.gz
```

7. Go to the directory ore-supporting-aix-x86-64-1.3.1. Type the following commands to install the client supporting R packages:

```
R CMD INSTALL DBI_0.2-5_R_ppc64-unknown-aix.tar.gz
R CMD INSTALL ROracle_1.1-8_R_ppc64-unknown-aix.tar.gz
R CMD INSTALL png_0.1-4_R_ppc64-unknown-aix.tar.gz
```

These commands generate the following messages to confirm successful installation of the packages:

```
* installing to library '<Your $R_HOME directory> /library'
* installing *binary* package 'DBI' ...
* DONE (DBI)
* installing to library '<Your $R_HOME directory> /library'
* installing *binary* package 'ROracle' ...
* DONE (ROracle)
* installing to library '<Your $R_HOME directory> /library'
* installing *binary* package 'png' ...
* DONE (png)
```

8. Go to the directory ore-client-aix-ppc64-1.3.1. Type the following commands to install the client packages:

```
R CMD INSTALL ORE_1.3.1_R_ppc64-unknown-aix.tar.gz
R CMD INSTALL OREbase_1.3.1_R_ppc64-unknown-aix.tar.gz
R CMD INSTALL OREdm_1.3.1_R_ppc64-unknown-aix.tar.gz
R CMD INSTALL OREeda_1.3.1_R_ppc64-unknown-aix.tar.gz
```

```
R CMD INSTALL OREgraphics_1.3.1_R_ppc64-unknown-aix.tar.gz
R CMD INSTALL OREpredict_1.3.1_R_ppc64-unknown-aix.tar.gz
R CMD INSTALL OREstats_1.3.1_R_ppc64-unknown-aix.tar.gz
R CMD INSTALL ORExml_1.3.1_R_ppc64-unknown-aix.tar.gz
```

Each command generates messages like the following to confirm successful installation of the packages:

```
* installing to library '<Your $R_HOME directory>/library'
* installing *binary* package '<>' ...
* DONE (<>)
```

After you have completed the client install, verify the install by connecting to a database that has been enabled for Oracle R Enterprise as discussed in [Start Oracle R Enterprise Client on Linux, Solaris, or AIX](#).

Administrative Tasks

If the installation is not successful, you can [Troubleshoot the Installation](#).

After you have installed a server and at least one client, create at least one user:

- Create [Oracle R Enterprise Users](#)
- Make [Required GRANTs](#) for special purposes
- [Configure Oracle Wallet \(Optional\)](#) to make connections more secure.

After you create a user, perform these tasks:

- [Start Oracle R Enterprise Client](#)
- [Connect to an Oracle Database](#)
- [Validate Oracle R Enterprise Installation](#)

As system administrator, you can [Control Memory Used by Embedded R](#).

If you installed any previous version of Oracle R Enterprise, you can [Upgrade Oracle R Enterprise](#); upgrade happens as part of install.

If necessary, you can [Uninstall Oracle R Enterprise](#).

Troubleshoot the Installation

The installation script creates a log file on the server. Examine the log file even if the installation reports success. Search the log file for `ERROR`.

If you cannot resolve the problems, request help from Oracle Support or from the Oracle R Enterprise discussion forum.

Oracle R Enterprise Users

You must create at least one user for Oracle R Enterprise. Follow these steps to create a user for Oracle R Enterprise:

1. [Create a User](#)
2. Add any [Required GRANTs](#)

Create a User

To create an Oracle R Enterprise user, use

- `demo_user.sh` (for Linux, Solaris, or AIX)
- `demo_user.bat` (for Windows)

To run these scripts, start SQL*Plus / as sysdba.

Either of these scripts asks you if you want to create an ORE (Oracle R Enterprise) user. The script checks that Oracle Database and Oracle R Enterprise are installed and then creates a user.

After you create the user RUSER, you can edit the user as necessary; for example, you can and should change the password.

Required GRANTS

Several additional GRANTS may be required depending on how you plan to use Oracle R Enterprise:

- **RQADMIN role** allows Oracle R Enterprise users to create and drop R scripts that use the database embedded R engine. Oracle R Enterprise installation creates the administrative role RQADMIN.

All users can execute these scripts; no special grant is required.

Note: You should grant RQADMIN **only** to those users who need to have it, that is, to users who must create and drop R scripts that use the database embedded R engine.

To grant RQADMIN to RUSER, start SQL*Plus as sysdba and type

```
GRANT RQADMIN to RUSER
```

- **CREATE TABLE** is needed by some functions that create temporary tables, such as `ore.create()` with a table argument.

To grant CREATE TABLE to RUSER, start SQL*Plus as sysdba and type

```
GRANT CREATE TABLE TO RUSER;
```

- **CREATE PROCEDURE** is required by `ore.groupApply()`

To grant CREATE PROCEDURE to RUSER, start SQL*Plus as sysdba and type

```
GRANT CREATE PROCEDURE TO RUSER;
```

- **CREATE VIEW** is required by `ore.create()` with a view argument and by the OREdm package.

To grant CREATE VIEW to RUSER, start SQL*Plus as sysdba and type

```
GRANT CREATE VIEW TO RUSER;
```

- **CREATE MINING MODEL** is required by the OREdm package.

To grant CREATE MINING MODEL to RUSER, start SQL*Plus as sysdba and type

```
GRANT CREATE MINING MODEL TO RUSER;
```

Two GRANTS that were required for Oracle R Enterprise 1.1 are no longer required; see [Deprecated Grants](#) for details.

Deprecated Grants

The RQROLE role was granted to all users for Oracle R Enterprise 1.1. RQROLE is deprecated for Oracle R Enterprise 1.3 and 1.3.1.

This GRANT EXECUTE:

```
grant EXECUTE on rgsys.rqGroupEvalImpl to rquser;
```

is deprecated for Oracle R Enterprise 1.3 and 1.3.1 but was required for Oracle R Enterprise 1.1.

Configure Oracle Wallet (Optional)

Oracle Wallet provides secure storage of user passwords and client certificates. An Oracle Wallet provides a secure way for embedded R scripts to avoid storing passwords in the script.

Follow these steps to configure Oracle Wallet with Oracle R Enterprise:

1. Configure Oracle Wallet and store the username and password. For information, see the discussions of Oracle Wallet in *Oracle Database Security Guide*.
2. Add the connection string used to create the wallet entry (for example, "mydb112_test") to map to the DB instance connection string in `tnsnames.ora` (Change the host name to be your database machine name and SID to be the SID of your database.):

```
mydb112_test =
  (DESCRIPTION =
    (ADDRESS =
      (PROTOCOL = TCP)
      (HOST = <host_name>)
      (PORT = 1521)
    )
    (CONNECT_DATA = (sid=<SID>))
  )
```

After you complete the steps, you can just use the connect string to connect to the database:

```
ore.connect(conn_string = "mydb112_test", all = TRUE)
```

For more information about connecting using Oracle Wallet, see the R help for `ore.connect()`.

Start Oracle R Enterprise Client

After you have installed a server and a client, follow these directions to start the client:

- [Start Oracle R Enterprise Client on Microsoft Windows](#)
- [Start Oracle R Enterprise Client on Linux, Solaris, or AIX](#)

Start Oracle R Enterprise Client on Microsoft Windows

After the server is installed, you can launch the client.

To launch Oracle R Enterprise client in a running session of R 2.15.1 (or R 2.13.2 for earlier releases), execute the following R code from the R Console. Before you execute the code, modify the connection information (user, sid, host, password, and port) for the database where the R Server is installed:

```
# Load ORE packages and dependencies
# DBI, ROracle, OREbase, MASS, OREstats,
# OREgraphics, OREeda, ORExml, ORE
```

```
library(ORE)

# Connect to Oracle RDBMS
# Change the connection information below
ore.connect(user = "<USERNAME>",
            sid = "<SID>",
            host = "<HOST>",
            password = "<PASSWORD>",
            port = PORTNUMBER,
            all = TRUE)
```

For more information, see [Connect to an Oracle Database](#).

To test that you can connect to the specified Oracle Database, type

```
ore.is.connected()
```

`ore.is.connected` returns TRUE if you are connected to the database, or FALSE if you are not connected.

After you set up Oracle Wallet, as described in [Configure Oracle Wallet \(Optional\)](#), you can connect as follows:

```
ore.connect(conn_string = "ore_wallet", all = TRUE)
```

`ore_wallet` is a connect string that has been registered with the Wallet.

As with all R commands, this code can be used during the initialization of an R session.

For more information on the initialization sequence of R on startup, type `help(Startup)` in the R Console.

Specify `ore.connect` in an embedded R function, otherwise all embedded R scripts automatically go to the same schema.

Start Oracle R Enterprise Client on Linux, Solaris, or AIX

After the server is installed, you can launch the client.

Before you launch Oracle R Enterprise client, add these paths to the LIBPATH environment variable:

1. The path where Oracle Instant Client libraries are installed. Otherwise loading of ROracle package will fail.
2. The path for the shared libraries `libR.so`, `libRblas.so`, and `libRlapack.so` from the installation of R 2.15.1 (or R 2.13.2 for earlier releases)

Start R 2.15.1 (or R 2.13.2 for earlier releases) from your favorite shell. Next use `ore.connect` to connect to Oracle Database on the server.

Launch Oracle R Enterprise client by executing the following R code from the R Console. Before you execute the code, modify the connection information (`user`, `sid`, `host`, `password`, and `port`) for the database where the R Server is installed.

```
# Load ORE packages and dependencies
# DBI, ROracle, OREbase, MASS, OREstats,
# OREgraphics, OREeda, ORExml, ORE
library(ORE)

# Connect to Oracle RDBMS
# Change the connection information below
ore.connect(user = "<USERNAME>",
```

```

sid = "<SID>",
host = "<HOST>",
password = "<PASSWORD>",
port = PORTNUMBER
all = TRUE)

```

Your Oracle Database Administrator can provide you with suitable values for USERNAME, SID, HOST, PASSWORD, and PORT. These values provide connection information for the database.

For more information, see [Connect to an Oracle Database](#).

After you set up Oracle Wallet, as described in [Configure Oracle Wallet \(Optional\)](#), you can connect as follows:

```
ore.connect(conn_string = "ore_wallet", all = TRUE)
```

ore_wallet is a connect string that has been registered with the Wallet.

As with all R commands, this code can be used during the initialization of an R session.

For information on the initialization sequence of R on startup, type `help(Startup)` in the R Console.

Connect to an Oracle Database

Oracle R Enterprise includes the following R functions that enable transparent access to Oracle Database tables and views:

- `ore.connect(user = "", sid = "", host = "localhost", password = "", port = 1521, service_name = NULL, conn_string = NULL, all = FALSE, type = c("ORACLE", "HIVE"))` establishes a connection to an Oracle R Enterprise server running on an ORE database.

The call `ore.connect()` must precede all other calls to ORE functionality (except `ore.is.connected()`). There can only be one active ORE connection.

An ORE session can optionally end with a call to function `ore.disconnect()`. An ORE session is implicitly terminated when the R session ends.

To connect to an Oracle Database, specify `user`, `sid`, `host`, `password`, and `port`. `conn_string` is specified if you set up Oracle Wallet as described in [Configure Oracle Wallet \(Optional\)](#).

Calling `ore.connect()` when an active ORE connection already exists results in disconnecting the active session prior to starting a new session.

If `ore.is.connected()` returns `TRUE`, an active connection exists.

- `ore.attach(schema, pos = 2, warn.conflicts = TRUE)` attaches The named ORE schema's R environment to the R search path. When attached to the R search path, the ORE objects can be accessed by directly by name.

If you don't specify `schema`, the default schema, the one used to connect to the ORE database, is used.

By default the ORE database is attached in position 2 in the R search path, immediately after the user's workspace and before all previously attached packages and environment. The `pos` argument can be used to attach the ORE schema at a different location in the search path, but it cannot be attached at `pos = 1`.

If you use the `all` parameter of `ore.connect` when you attach to a database, `ore.attach` is executed automatically.

Use `ore.detach(schema)` to detach from schema.

- `ore.sync(schema, table, use.keys = TRUE)` synchronizes `ore.frame` objects, representing database tables and views, in the ORE schema environment, on a per schema basis.

Oracle R Enterprise creates proxy objects in R that correspond to the tables or views in the database schema. These proxy objects contain metadata used by Oracle R Enterprise internally to provide transparency layer functionality.

By default, `ore.sync()` uses the schema given in `ore.connect()`. The schema argument can be used to select a different schema to which the user has the appropriate access privileges.

If `table` is not specified in an `ore.sync` function call, all tables and views whose name do not contain `$` or begin with `SYS_` are selected. Select all tables in a database schema can be expensive and so the recommended practice is to use `table` to limit the number of tables and views represented in the ORE schema environment.

- `ore.ls(schema, all.names = FALSE, pattern)` lists all objects in the specified schema with names that match the regular expression `pattern`. `all.names = FALSE` lists names that do not start with `.` (period), such as internal functions or objects.

`ore.ls()` returns the objects available in the current ORE schema environment.

Objects created by Oracle R Enterprise are identified with the `ore` prefix. Pick any object returned by `ore.ls()` and type either `class(OBJECTNAME)` or `class(OBJECTNAME$COLUMN_NAME)`.

For example,

```
R> class(NARROW)
[1] "ore.frame"
attr(,"package")
[1] "OREbase"
```

The prefix `ore` is applied to the class names. This indicates that the object is an Oracle R Enterprise created object that holds metadata (instead of contents) of the corresponding object in Oracle Database.

Validate Oracle R Enterprise Installation

The purpose of validation is to ensure that you can connect to the database that has now been enabled with Oracle R Enterprise from R and successfully use Oracle R Enterprise.

The exact same steps validate a server installation or a client installation.

After you complete the installation, follow these steps to validate it:

1. On the Oracle R Enterprise server, you must set `.libPaths()` to specify the library trees that R knows about and, hence, uses when looking for packages.

The R packages are in `$ORACLE_HOME/R/library`.

To set `.libPaths()`, start R and then execute this command on the server **only**:

```
R> .libPaths(<path/to/$ORACLE_HOME/R/library>)
```

After this command executes, you can start the ORE library.

2. Start R on a client. Load the Oracle R Enterprise Packages:

```
R> ORE
```

3. Connect to Oracle Database on the server. The exact command depends the details for the database to which you connect:

```
R> ore.connect(user = "rquser", sid = "orcl", host = "localhost", password =
"rquser", port = 1521, all = TRUE)
```

In this command provide the values for user, sid, host, password, and port that are correct for your database. If you did not install the database, you may have to ask the DBA for these values.

Alternatively if the database is on the same machine, use `ore.connect` in this way.

```
ore.connect("scott", password="tiger", conn_string="", all=TRUE)
```

4. Run several Oracle R Enterprise demos. This command provides a list of available demos:

```
R> demo(package = "ORE")
```

These commands illustrate how to run specific demos:

```
# Test the transparency layer
R> demo("aggregate", package = "ORE")
```

```
# Test embedded R:
R> demo("row_apply", package = "ORE")
```

Control Memory Used by Embedded R

As system administrator, you can control the memory resources between R and other processes running on system. For example, a properly-set minimum memory bound allows R to have enough memory to run in a reasonable amount of time while a properly-set maximum number prevents R from holding too much memory unnecessarily or starving other processes.

This feature limits the amount of R heap memory (vector and cons in R's terminology) that is automatically managed by R's gc mechanism. The C-type memory that may be allocated via `call`, `Calloc`, `Realloc`, `calloc`, and `malloc` is not controlled by this feature. Such C-type memory is mainly created to hold intermediate or temporary values for completing computation in an R function implemented in C. The C-type memory that may be allocated and released explicitly by function is not controlled by this feature. Under normal circumstances, the amount of such memory is usually of limited size and does not affect memory usage of R significantly.

Oracle R Enterprise 1.3 and 1.3.1 allow a DBA to control R memory usage by specifying minimum vector heap, maximum vector heap, minimum cons cells, and maximum cons cells using the `sys.rqconfigset` SQL procedure.

Use these commands to set minimum vector heap, maximum vector heap, minimum cons cells, and maximum cons cells

- `sys.rqconfigset('MIN_VSIZE', '20M')` sets minimum R vector heap memory to 20MB; default is 32MB

- `sys.rqconfigset('MAX_VSIZE', '100M')` sets maximum R vector heap memory to 100MB; default is 4GB
- `sys.rqconfigset('MIN_NSIZE', '500K')` sets minimum number of R cons cells to 500x1024; default is 1M
- `sys.rqconfigset('MAX_NSIZE', '10M')` sets maximum number of R cons cells to 10x1024x1024; default is 20M

To set maximum vector heap memory and maximum cons cells to no limits,

```
exec sys.rqconfigset('MAX_VSIZE', NULL); exec sys.rqconfigset('MAX_NSIZE', NULL)
```

Upgrade Oracle R Enterprise

You can upgrade from any version of Oracle R Enterprise to the current version by reinstalling the product.

If you installed an earlier version of Oracle R Enterprise, you can upgrade to this release as follows:

- To upgrade the Client, re-install the packages. See [Install Client on Microsoft Windows](#) or [Install Client on Linux](#). You do not have to uninstall the client packages before you re-install.
- To upgrade the Server, follow the steps in [Install Server](#). When `install.sh` detects a previous version of Oracle R Enterprise, it asks if upgrade is needed. Answering No aborts the process; answering Yes starts the upgrade.

Follow all of the upgrade steps, including the installation of [Oracle R Enterprise Client Supporting Packages](#).

Uninstall Oracle R Enterprise

You uninstall Oracle R Enterprise Client by removing the packages, as described in [Uninstall Oracle R Enterprise Client](#).

You uninstall Oracle R Enterprise Server by running a script, as described in [Uninstall Oracle R Enterprise Server](#).

You uninstall R or Oracle R Distribution as described in [Uninstall R](#).

Uninstall Oracle R Enterprise Client

Follow these steps to uninstall Oracle R Enterprise client:

To remove the Oracle R Enterprise packages, start R and type these commands:

```
remove.packages("ORE")
remove.packages("ORExml")
remove.packages("OREeda")
remove.packages("OREgraphics")
remove.packages("OREstats")
remove.packages("OREbase")
remove.packages("ROracle")
remove.packages("DBI")
remove.packages("png")
remove.packages("OREdm")
remove.packages("OREpredict")
```

Uninstall Oracle R Enterprise Server

To uninstall Oracle R Enterprise server, execute

- `uninstall.sh` (for Linux, Solaris, or AIX)
- `uninstall.bat` (Windows)

Either script removes libraries installed in `$ORACLE_HOME/lib` and removes all installed SQL objects.

Uninstall R

Before you installed Oracle R Enterprise, you installed either Open Source R (on Windows) or Oracle R Distribution (on Linux, AIX, or Solaris). This section includes these topics:

- [Uninstall R on Windows](#)
- [Uninstall Oracle R Distribution on Linux](#)
- [Uninstall Oracle R Distribution on Solaris](#)
- [Uninstall Oracle R Distribution on AIX](#)

Uninstall R on Windows

Uninstall Open Source R just as you would uninstall any other Windows program, using **Add or Remove Programs** from the Windows **Control Panel**.

Uninstall Oracle R Distribution on Linux

To uninstall Oracle R Distribution for R 2.13.2 on Linux, log in as root and run these commands in the exact order specified:

1. `rpm -e R-2.13.2-5.el5.x86_64`
2. `rpm -e R-devel`
3. `rpm -e R-core`

To uninstall Oracle R Distribution for R2.15.1 on Linux, log in as root and run these commands in the exact order specified:

1. `rpm -e R-2.15.1-1.el5.x86_64`
2. `rpm -e R-devel`
3. `rpm -e R-core`

Uninstall Oracle R Distribution on Solaris

To uninstall Oracle R Distribution on Solaris, run `uninstall.sh`, as described in the in Solaris Oracle R Distribution README

<http://adc2100203.us.oracle.com:8080/software/ORD2.15.1/Solaris-SPARC64/u10/README>.

Uninstall Oracle R Distribution on AIX

To uninstall Oracle R Distribution on AIX, use the `installp` command with the `uninstall (-u)` option, as described in the AIX Oracle R Distribution README

<http://adc2100203.us.oracle.com:8080/software/ORD2.15.1/AIX-PPC64/README>.

To uninstall all filesets use:

```
$ su # installp -u ORD # uninstall all filesets
```

To uninstall an independent fileset use

# installp -u ORD.devel	# uninstall only ORD.devel
# installp -u ORD.core	# uninstall only ORD.core

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