

# Oracle® Database Express Edition

Installation Guide

11g Release 2 (11.2) for Microsoft Windows

E18803-03

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Welcome to *Oracle Database Express Edition Installation Guide for Microsoft Windows*. This guide covers the following topics:

- [Introduction](#)
- [Requirements](#)
- [Licensing Restrictions](#)
- [Installing Oracle Database XE](#)
- [Starting Oracle Database XE](#)
- [Deinstalling Oracle Database XE](#)
- [Importing and Exporting Data between 10.2 XE and 11.2 XE](#)
- [Reporting Security Vulnerabilities](#)
- [Oracle Database XE Character and Language Configurations](#)
- [Globalization Support: Configuring Locale and Character Sets with the NLS\\_LANG Parameter](#)
- [Documentation Accessibility](#)

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**Note:** The most up-to-date version of this installation guide is available from the Oracle Database Express Edition (Oracle Database XE) download page on Oracle Technology Network:

<http://www.oracle.com/pls/xe112/homepage>

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## 1 Introduction

Oracle Database XE is easy to install. The Oracle Database XE provides an Oracle database and tools for managing the database.

Oracle Database XE supports the following development environments:

- **Oracle SQL Developer:** Oracle SQL Developer is a graphical version of SQL\*Plus that gives database developers a convenient way to perform basic tasks. You can connect to any target Oracle Database XE schema using standard Oracle database authentication. Once connected, you can perform operations on objects in the database.

Download and install Oracle SQL Developer from:

<http://www.oracle.com/technetwork/developer-tools/sql-developer/overview/index.html>

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- **Oracle Application Express:** Oracle Database XE includes Oracle Application Express, a rapid web application development tool for the Oracle database. Oracle Application Express is enabled by default in Oracle Database XE.
- **Java:** Java is an open-source programming language that is designed for use in the distributed environment of the Internet. You can use Oracle JDeveloper, which is a free integrated Java development environment with support for the full development life cycle.

Download and install Oracle JDeveloper from:

<http://www.oracle.com/technetwork/developer-tools/jdev/overview/index.html>

- **.NET and Visual Studio:** Visual Studio is an integrated development environment by Microsoft for building .NET applications. .NET is a software framework for Microsoft Windows operating systems.

Download and install Oracle Data Access Components (ODAC) for Windows from:

<http://www.oracle.com/technetwork/topics/dotnet/downloads/index.html>

- **PHP**

PHP is an open-source server-side embedded scripting language that is designed for Web development and can be embedded in HTML. You can use the following PHP product:

- **PHP:** Download and install from:

<http://www.php.net>

For more information on Oracle Database XE, see the following:

- Oracle Database XE home page on the Oracle Technology Network:  
<http://www.oracle.com/technetwork/database/express-edition/>
- Oracle Database XE Documentation Library:  
Click the appropriate link on the Oracle Database XE home page on the Oracle Technology Network; or from the system menus, get to **Oracle Database 11g Express Edition** and select **Get Help**, then **Read Documentation**.
- Discussion forum:  
Click the appropriate link on the Oracle Database XE home page on the Oracle Technology Network; or from the system menus, get to **Oracle Database 11g Express Edition** and select **Get Help**, then **Go to Online Forum**.

## 2 Requirements

This section covers the following topics:

- [Software Requirements](#)
- [Permission Requirement for Installing Oracle Database XE](#)

- [Windows Security Recommendations](#)

## 2.1 Software Requirements

This section covers the following topics:

- [System Requirements](#)
- [Windows Firewall Configuration](#)
- [Oracle Database Extensions for .NET Requirements](#)
- [Oracle Developer Tools for Visual Studio](#)

### 2.1.1 System Requirements

[Table 1](#) provides system requirements for Oracle Database XE.

**Table 1 Oracle Database XE Requirements**

Requirement	Value
System architecture	<ul style="list-style-type: none"> <li>■ Intel (x86)</li> </ul>
Operating system	<p>One of the following Microsoft Windows operating systems:</p> <ul style="list-style-type: none"> <li>■ Microsoft Windows XP Professional</li> <li>■ Microsoft Windows Server 2003 - all editions</li> <li>■ Microsoft Windows Server 2003 R2 - all editions</li> <li>■ Microsoft Windows Server 2008 - Standard, Enterprise, Datacenter, Web, and Foundation editions. The Server Core option is not supported.</li> <li>■ Microsoft Windows 7 - Professional, Enterprise, and Ultimate editions</li> </ul>
Network protocol	<p>The following protocols are supported:</p> <ul style="list-style-type: none"> <li>■ IPC</li> <li>■ Named Pipes</li> <li>■ SDP</li> <li>■ TCP/IP</li> <li>■ TCP/IP with SSL</li> </ul>
Disk space	1.5 gigabytes minimum
RAM	256 megabytes minimum, 512 megabytes recommended
Microsoft Windows Installer (MSI)	<p>MSI version 2.0 or later</p> <p>You can download MSI from Microsoft at:</p> <p><a href="http://msdn.microsoft.com/">http://msdn.microsoft.com/</a></p>

### 2.1.2 Windows Firewall Configuration

If you plan to install Oracle Database XE onto a computer running Windows Firewall, which was first introduced in Windows XP Service Pack 2 and Windows Server 2003 Service Pack 1, and then connect to it from another computer, check that the firewall has not been configured to block communication from the following incoming ports. These ports are the default ports that Oracle Database XE users.

- **1521:** Oracle Database Listener
- **2030:** Oracle Services for Microsoft Transaction Server
- **8080:** Oracle HTTP Transaction Server

### 2.1.3 Oracle Database Extensions for .NET Requirements

If you plan to use Oracle Database Extensions for .NET for Oracle Database XE, then you must install the following software onto your server and client computers:

- On the computer where you plan to install Oracle Database XE, install .NET Framework 2.0, 3.0, 3.5, or 4. Be sure to install .NET Framework 2.0 or higher before you install Oracle Database XE.

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**Note:** This requirement is for design-time development, deployment, and run-time.

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- On the computer where you plan to develop .NET stored procedures, you need the following software:

- Oracle Database XE
- Visual Studio 2005, Visual Studio 2008, or Visual Studio 2010, which includes .NET Framework 2.0 or higher

Install Visual Studio 2005 or higher onto the computer before you install Oracle Developer Tools for Visual Studio.

- Oracle Developer Tools for Visual Studio

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**Note:** These requirements are for design-time development and deployment. They are not required for run-time. For run-time, you only need to have .NET Framework 2.0 or higher installed on the database server. Visual Studio 2005 or higher is not necessary for run-time.

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**See Also:**

<http://www.oracle.com/technetwork/topics/dotnet/index-085095.html> for more information on Oracle Database Extensions for .NET, including download and installation instructions

### 2.1.4 Oracle Developer Tools for Visual Studio

You can install Oracle Developer Tools on the same computer on which you installed Oracle Database XE. *Oracle Database Express Edition 2 Day Plus .NET Developer Guide* provides instructions for installing Oracle Developer Tools.

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**Note:** These requirements are for design-time development and deployment. They are not required for run-time. For run-time, you only need to have .NET Framework 2.0 or higher installed on the database server. Visual Studio 2005 or higher is not necessary for run-time.

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**See Also:**

<http://www.oracle.com/technetwork/developer-tools/visual-studio/overview/index-097110.html> for more information on Oracle Developer Tools for Visual Studio.

## 2.2 Permission Requirement for Installing Oracle Database XE

You must be part of the Administrators group on Windows to install Oracle Database XE. If you are logged in as a domain user, ensure sure that you are connected to the network before you install Oracle Database XE.

## 2.3 Windows Security Recommendations

Oracle recommends that you perform the following security-related tasks before installing Oracle Database XE on Windows:

- [Disable Simple File Sharing on Windows XP](#)
- [Install on Windows File Systems that Support Access Controls](#)

### 2.3.1 Disable Simple File Sharing on Windows XP

If you are installing on Windows XP, consider disabling simple file sharing on the computer where you plan to install Oracle Database XE. If simple file sharing is enabled, there is risk of unauthorized access to the data in your database.

To disable simple file sharing, go to the Microsoft Knowledge Base (<http://support.microsoft.com>) and search for article 307874.

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**Warning:** It is not possible to disable simple file sharing on Microsoft Windows XP Home. Oracle strongly recommends that you upgrade to one of the required operating systems identified in "[System Requirements](#)" on page 3. However, if you cannot upgrade, then Oracle recommends that you enable the firewall and ensure that port 1521 (or the Oracle listener port you configured during installation) is blocked. Note that blocking port 1521 blocks remote access to the database over TCP/IP.

To enable the firewall (or check that the firewall is enabled) on Microsoft Windows XP, see Microsoft Knowledge Base article number 283673, "How to turn on or turn off the firewall in Windows XP."

Note that enabling the firewall prevents all remote connections to your system by default. If you want to open specific ports, see Microsoft Knowledge Base article number 875357, "Troubleshooting Windows Firewall settings in Windows XP Service Pack 2" or article number 308127, "How to manually open ports in Internet Connection Firewall in Windows XP" for earlier Windows XP releases.

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### 2.3.2 Install on Windows File Systems that Support Access Controls

Install Oracle Database XE on a file system that supports access controls (for example, NTFS). If you install Oracle Database XE on a file system that does not support access controls, such as FAT, there is significant risk of unauthorized access to the data in your database. If necessary, you can convert a FAT partition to an NTFS partition.

**See Also:** Microsoft Support site (<http://support.microsoft.com>) for more information on FAT and NTFS file systems and how to convert from FAT to NTFS

### 3 Licensing Restrictions

This section covers the following topics:

- [Oracle Database XE CPU Limitations](#)
- [Oracle Database XE Installation and Execution Restrictions](#)
- [Oracle Database XE User Data Limitations](#)
- [Oracle Database XE RAM Limitation](#)
- [HTTPS Support](#)

#### 3.1 Oracle Database XE CPU Limitations

If Oracle Database XE is installed on a computer with more than one CPU (including dual-core CPUs), then it will consume, at most, processing resources equivalent to one CPU. For example, on a computer with two CPUs, if two Oracle database clients try to simultaneously execute CPU-intensive queries, then Oracle Database 11g Standard Edition, Oracle Database 11g Standard Edition One, or Oracle Database 11g Enterprise Edition will use both CPUs to efficiently process the queries. However, with Oracle Database XE, the Oracle database will process the queries at the rate of a single CPU even if concurrent processing on two CPUs would be faster. To use the full processing resources of your computer, upgrade to Oracle Database 11g Standard Edition, Oracle Database 11g Standard Edition One, or Oracle Database 11g Enterprise Edition.

#### 3.2 Oracle Database XE Installation and Execution Restrictions

Only one installation of Oracle Database XE can be performed on a single computer. This does not affect any existing installation or new installations of Oracle Database 11g Standard Edition, Oracle Database 11g Standard Edition One, or Oracle Database 11g Enterprise Edition. In addition, users can run only one instance of the Oracle Database XE database on each individual computer. To run more than one Oracle Database server instance or install more than one copy of the database software, upgrade to Oracle Database 11g Standard Edition, Oracle Database 11g Standard Edition One, or Oracle Database 11g Enterprise Edition.

#### 3.3 Oracle Database XE User Data Limitations

The maximum amount of user data in an Oracle Database XE database cannot exceed 11 gigabytes. If the user data grows beyond this limit, then an ORA-12592 error will appear. To use more than 11 gigabytes of user data, upgrade to Oracle Database 11g Standard Edition, Oracle Database 11g Standard Edition One, or Oracle Database 11g Enterprise Edition.

#### 3.4 Oracle Database XE RAM Limitation

The maximum amount of RAM that an Oracle Database XE database uses cannot exceed 1 gigabyte, even if more is available. [Table 1, "Oracle Database XE](#)

[Requirements](#)" provides the minimum and recommended RAM that you should use. The exact amount of RAM that Oracle Database XE uses is computed automatically using Automatic Memory Management.

To use more than 1 gigabyte of RAM, upgrade to Oracle Database 11g Standard Edition, Oracle Database 11g Standard Edition One, or Oracle Database 11g Enterprise Edition.

For more information about managing memory, refer to *Oracle Database Express Edition 2 Day DBA*.

### 3.5 HTTPS Support

HTTPS is not supported natively with the HTTP listener built into Oracle Database XE. If you want HTTPS support, use an alternative Web listener, such as Apache, that does provide HTTPS support, and provide proxies for the URLs provided by Oracle Database XE.

For information about managing security in Oracle Database XE, refer to *Oracle Database Express Edition 2 Day DBA*.

## 4 Installing Oracle Database XE

This section covers the following topics:

- [Performing a Graphical User Interface Installation of the Server](#)
- [Performing a Silent Installation](#)
- [Enabling the Control Panel Services for .NET Stored Procedures and Oracle Services for Microsoft Transaction Server](#)
- [Making Oracle Database XE Available to Remote Clients](#)

### 4.1 Performing a Graphical User Interface Installation of the Server

Most users will install Oracle Database XE by downloading the installation executable, double-clicking it, and answering graphical user interface prompts as needed.

Before attempting to install Oracle Database XE 11.2 uninstall any existing Oracle Database XE or database with the SID XE from the target system.

If you have an existing version of Oracle Database XE, then save your data by exporting it to data files. After you install the new version of Oracle Database XE import this data into the new database. For more information see [Section 7, "Importing and Exporting Data between 10.2 XE and 11.2 XE"](#).

To perform a graphical user interface installation:

1. Log on to Windows with Administrative privileges.

You must be part of the Administrators group on Windows to install Oracle Database XE. If you are logged in as a domain user, ensure that you are connected to the network.

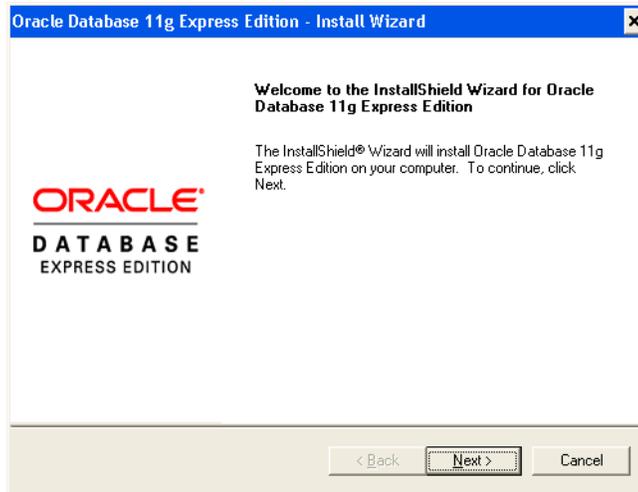
2. If the ORACLE\_HOME environment variable has been set, then use **System** in the Control Panel to delete it.
3. Go to the following Web site:

<http://www.oracle.com/technetwork/database/express-edition/downloads/index.html>

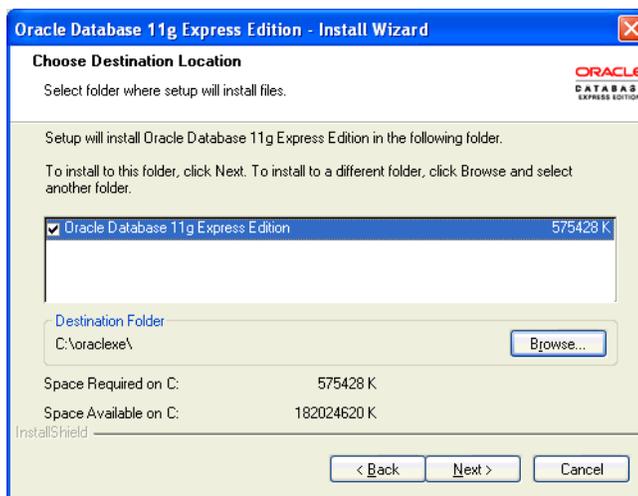
4. Click **Free Download** and follow the instructions to select and download the Microsoft Windows version of Oracle Database XE.
5. After downloading the Oracle Database XE installation executable, setup.exe, double-click it.

"Oracle Database XE Character and Language Configurations" on page 15 describes these character sets in detail.

6. In the Oracle Database 11g Express Edition - Install Wizard welcome window, click **Next**.



7. In the License Agreement window, select **I accept the terms in the license agreement** and then click **Next**.
8. In the Choose Destination Location window, either accept the default or click **Browse** to select a different installation directory. (Do not select a directory that has spaces in its name.) Then click **Next**.

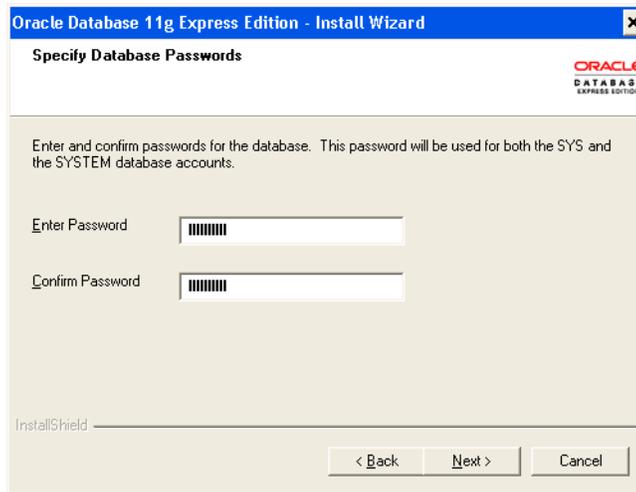


9. If you are prompted for a port number, then specify one.  
The following port numbers are the default values:

- **1521:** Oracle database listener
- **2030:** Oracle Services for Microsoft Transaction Server
- **8080:** HTTP port for the Oracle Database XE graphical user interface

If these port numbers are not currently used, then the installation uses them automatically without prompting you. If they are in use, then you will be prompted to enter an available port number.

10. In the Specify Database Passwords window, enter and confirm the password to use for the SYS and SYSTEM database accounts. Then click **Next**.

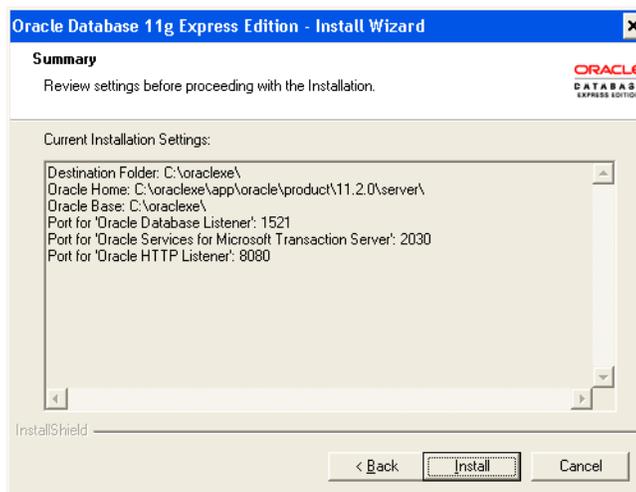



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**Note:** The password for the INTERNAL and ADMIN Oracle Application Express user accounts will be the same as the SYS and SYSTEM administrative user accounts.

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11. In the Summary window, review the installation settings, and if you are satisfied, click **Install**. Otherwise, click **Back** and modify the settings as necessary.



12. In the InstallShield Wizard Complete window, click **Finish**.

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**Note:** Logs for the server component installation are in the `OracleDatabaseXE\ServerInstall.log` file, located in the system root directory, which is typically `c:\WINDOWS`. You can find the database creation logs in the `install_directory\app\oracle\product\11.2.0\server\config\log` directory. (`install_directory` is typically `c:\oracle\exe`.)

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## 4.2 Performing a Silent Installation

If you plan to install Oracle Database XE on multiple computers or bundle it with a third-party application, then you may want to perform a silent installation, in which you download the installation executable and run it at a command line using the provided response files.

If you have an existing version of Oracle Database XE, you can save your data by exporting it to data files. After you install the new version of Oracle Database XE, you can import this data into the new database.

To perform a silent installation of Oracle Database XE:

1. Log on to Windows with Administrative privileges.

You must be part of the Administrators group on Windows to install Oracle Database XE. If you are logged in as a domain user, ensure that you are connected to the network.

2. Go to the following Web site:

<http://www.oracle.com/technology/products/database/xe>

3. Click **Free Download** and follow the instructions to select and download `setup.exe`, the Microsoft Windows version of Oracle Database XE.

Under **Silent Install Response File Templates**, select the OracleXE response files that you want to use. These files allow you to perform silent installations, repairs (upgrades), and deinstallations.

4. Check the response file and modify the settings if necessary.

- `szDir`: A valid path
- `TNSPort`: A valid listener numeric port value, so that you can connect to the Oracle Database XE database
- `MTSPort`: A valid available port number
- `HTTPPort`: A valid listener numeric port value, so that you can connect to Oracle Database XE
- `SYSPassword`: A password value for the SYS and SYSTEM administrative user accounts

5. If the `ORACLE_HOME` environment variable has been set, then use **System** in the Control Panel to delete it.

6. Run the installation executable with the appropriate response file.

For example, if you downloaded the `setup.exe` executable and its response files to a directory called `xe_temp`, you would enter the following command:

```
c:\xe_temp> setup.exe /s /f1"c:\xe_temp\response\OracleXE-Install.iss"
```

```
/f2 "c:\xe_temp\setup.log"
```

If you wanted to repair the Oracle Database XE installation, you would enter the following command:

```
c:\xe_temp> setup.exe /s /f1 "c:\xe_temp\response\OracleXE-repair.iss"  
/f2 "c:\xe_temp\setup.log"
```

After the installation is complete, Oracle Database XE starts.

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**Note:** The `setup.log` file indicates the success of the installation. A result code of 0 means the installation succeeded. Logs for the server component installation are in the `\OracleDatabaseXEServerInstall.log` file, located in the system root directory, which is typically `c:\WINDOWS`. You can find the database creation logs in the `install_directory\app\oracle\product\11.2.0\server\config\log` directory. (`install_directory` is typically `c:\oracle\xe`.)

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### 4.3 Enabling the Control Panel Services for .NET Stored Procedures and Oracle Services for Microsoft Transaction Server

If you plan to use .NET stored procedures or Oracle Services for Microsoft Transaction Server (OraMTS), you need to enable their services on the computer where you installed Oracle Database XE, if you want them to start automatically. .NET stored procedures are installed on Oracle Database XE Server. Immediately after you install Oracle Database XE, their services are set to Manual.

To enable the .NET stored procedures and MTS services:

1. Select **Start**, then **Control Panel**.
2. In the Control Panel, double-click **Administrative Tools**, and then **Services**.
3. Right-click each of the following services, and then select **Properties** from the menu. Then set the start-up type of the service to **Automatic**.
  - **OracleXEClrAgnt** (for .NET stored procedures)
  - **OracleMTSRecoveryService** (Oracle Services for Microsoft Transaction Server)
4. Click **OK**.
5. Start each service by right-clicking its name and selecting **Start** from the menu.

#### See Also:

- *Oracle Database Express Edition 2 Day Plus .NET Developer Guide* for more information on .NET stored procedures
- *Oracle Services for Microsoft Transaction Server Developer's Guide*
- *Oracle Database Extensions for .NET Developer's Guide for Microsoft Windows*

## 4.4 Making Oracle Database XE Available to Remote Clients

After you install Oracle Database XE, the **Get Started With Oracle Database 11g Express Edition** home page is only available from the local server, not remotely.

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**Security Note:** With remote HTTP access to Oracle Database XE, all information exchanged between the browser and the database is in clear text—that is, unencrypted—including database user names and passwords. If this is cause for concern, do not enable remote HTTP connection to the database.

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To use the SQL Command Line, follow these steps:

1. Start SQL\*Plus and log in as SYSTEM:

```
SYSTEM_DRIVE:\> sqlplus system
Enter password: SYSTEM_password
```

Or, if you are logging in remotely:

```
SYSTEM_DRIVE:\> sqlplus system@xe_server_host_name
Enter password: SYSTEM_password
```

2. At the SQL prompt, enter the following command:

```
SQL> EXEC DBMS_XDB.SETLISTENERLOCALACCESS (FALSE);
```

## 5 Starting Oracle Database XE

After you have installed Oracle Database XE, the database is up and running and you can begin using it right away.

1. If the database is currently stopped, start it as follows: from the **Start** menu, select **Programs** (or **All Programs**), then **Oracle Database 11g Express Edition**, and then click **Start Database**.
2. From the **Start** menu, select **Programs** (or **All Programs**), then **Oracle Database 11g Express Edition**, and then click **Run SQL Command Line**. Connect to the database using the user name `SYSTEM`, and supply the password that you created during installation.
3. To begin learning about Oracle Database XE, use the following documents:
  - *Oracle Database Express Edition Getting Started Guide* introduces the Oracle Database XE user interface, and gets you started using database accounts and creating database objects.
  - *Oracle Database Express Edition 2 Day Plus .NET Developer Guide* serves as a quick start guide, which describes Oracle technologies for the Microsoft .NET Framework, including the key features of Oracle Data Provider for .NET and Oracle Developer Tools for Visual Studio.

To access the Oracle Database XE Documentation, from the **Start** menu, select **Programs** (or **All Programs**), then **Oracle Database 11g Express Edition**, then **Get Help**, and then click **Read Documentation**.

## 6 Deinstalling Oracle Database XE

When you deinstall Oracle Database XE, all components, including data files, the database, and the software, are removed.

Because the deinstallation process removes all files from the directory in which Oracle Database XE is installed, back up any files from the directory (if needed) before you deinstall.

This section covers the following topics:

- [Deinstalling the Oracle Database XE Software](#)

### 6.1 Deinstalling the Oracle Database XE Software

To deinstall Oracle Database XE by using **Add or Remove Programs**:

1. In the Windows Control Panel, select **Add or Remove Programs**.
2. Select **Oracle Database 11g Express Edition**.
3. Click **Change/Remove**.
4. In the Oracle Database 11g Express Edition - Install Wizard, select **Remove**, click **Next**, and then click **Yes** in the confirmation window. When the deinstallation completes, click **Finish**.

To perform a silent deinstallation of Oracle Database XE:

1. Log on to Windows with Windows administrative privileges.
2. Go to the following Web site:  
<http://www.oracle.com/technology/products/database/xe>
3. Click **Free Download** and follow the instructions to select and download the Microsoft Windows version of Oracle Database XE.

The installation executable, `setup.exe`, comes with a set of response files that you can use to perform silent installations, repairs (upgrades), and deinstallations.

4. Run the `setup.exe` executable with the `OracleXERemove.iss` response file.

For example, if you downloaded the `setup.exe` executable and its response files to a directory called `xe_temp`, you would enter the following command to deinstall Oracle Database XE:

```
c:\xe_temp> setup.exe /s /f1"c:\xe_temp\response\OracleXE-Remove.iss"  
/f2"c:\xe_temp\setup.log"
```

The `setup.log` file indicates whether the deinstallation was successful. A result code of 0 means the deinstallation succeeded.

## 7 Importing and Exporting Data between 10.2 XE and 11.2 XE

To import and export data between 10.2 XE and 11.2 XE, perform the following steps:

1. Copy the `gen_inst.sql` file from the upgrade directory of 11.2 XE shiphome to your local directory.

2. Connect to 10.2 XE database as SYS user and run `gen_inst.sql`. This will generate `install.sql`, `gen_apps.sql` and other `.sql` files. The files will be generated in the folder containing `gen_inst.sql`.

```
SQL> @gen_inst.sql
```

3. To export the data from 10.2 XE database, perform the following steps:

- a. Connect to 10.2 XE database as SYS user.
- b. Create a dump folder `dump_folder` on the local file system.
- c. Create directory object DUMP\_DIR with READ and WRITE privilege to SYSTEM user.

```
SQL> CREATE DIRECTORY DUMP_DIR AS '/<dump_folder>';  
SQL> GRANT read, write ON DIRECTORY DUMP_DIR TO system;
```

- d. Export data from 10.2 XE database to the dump folder.

```
expdp system/system_password full=Y  
EXCLUDE=SCHEMA:"LIKE \'APEX_%\'",SCHEMA:"LIKE \'FLOWS_%\'"  
directory=DUMP_DIR dumpfile=DB10G.dmp logfile=expdpDB10G.log  
expdp system/system_password  
TABLES=FLows_FILES.WWV_FLOW_FILE_OBJECTS$ directory=DUMP_DIR  
dumpfile=DB10G2.dmp logfile=expdpDB10G2.log
```

4. Deinstall 10.2 XE if installation of 11.2 XE is planned on the same system.

5. Install 11.2 XE database. For more information see [Section 4, "Installing Oracle Database XE"](#).

6. To import data to the 11.2 XE database, perform the following steps:

- a. Connect to 11.2 XE database as SYS user.
- b. Create directory object DUMP\_DIR with READ and WRITE privilege to SYSTEM user.

```
SQL> CREATE DIRECTORY DUMP_DIR AS '/<dump_folder>';  
SQL> GRANT read, write ON DIRECTORY DUMP_DIR TO system;
```

- c. Import data to 11.2 XE database from the dump folder.

```
impdp system/system_password full=Y directory=DUMP_DIR  
dumpfile=DB10G.dmp logfile=expdpDB10G1.log  
impdp system/system_password directory=DUMP_DIR  
TABLE_EXISTS_ACTION=APPEND TABLES=FLows_FILES.WWV_FLOW_FILE_OBJECTS$  
dumpfile=DB10G2.dmp logfile=expdpDB10G1b.log
```

7. Connect to 11.2 XE database as SYS user and run the script `install.sql`, which was generated in Step 2. This will trigger the execution of `ws.sql`, `gen._apps.sql`, and other `.sql` files.

## 8 Reporting Security Vulnerabilities

If you find any security vulnerabilities with Oracle Database XE, then send a description of the problem to Oracle at the following e-mail address:

`secalert_us@oracle.com`

Include the following information in your e-mail:

- A complete description of the problem you encountered
- The version of Oracle Database XE you were using
- The platform on which you were running Oracle Database XE
- Any scripts or examples that may be helpful in tracking down the security problem

For more information on how Oracle handles security issues, visit:

<http://www.oracle.com/technology/deploy/security/index.html>

## 9 Oracle Database XE Character and Language Configurations

Oracle Database XE is available only in Universal character set and language configurations:

- The database is created using Unicode(AL32UTF8) character set, which is suitable for global data in any language.
- Japanese, Brazilian Portuguese, and Simplified Chinese language message files are installed in ORACLE\_HOME.
- The Oracle Application Express user interface and database error messages are available in English, Japanese, Brazilian Portuguese, and Simplified Chinese.

"Globalization Support: Configuring Locale and Character Sets with the NLS\_LANG Parameter" on page 15 provides additional character and language information.

## 10 Globalization Support: Configuring Locale and Character Sets with the NLS\_LANG Parameter

This section explains how to configure globalization settings for Oracle Database XE. It covers the following topics:

- [About the NLS\\_LANG Parameter](#)
- [Default Values for NLS\\_LANG](#)
- [Supported Character Sets](#)
- [NLS\\_LANG Settings in MS-DOS Mode and Batch Mode](#)

### 10.1 About the NLS\_LANG Parameter

Oracle provides globalization support that enables users to interact with a database in their preferred locale and character set settings, as defined by the NLS\_LANG parameter. When you install Oracle Database XE, the installation process sets the NLS\_LANG parameter in the registry. The NLS\_LANG parameter is stored in the registry under the HKEY\_LOCAL\_MACHINE\SOFTWARE\ORACLE\key\_XE\NLS\_LANG subkey.

The locale setting of your operating system determines the value of the NLS\_LANG parameter at installation. [Table 2](#) on page 16 lists the operating system locale and NLS\_LANG value mappings.

The NLS\_LANG parameter uses the following format:

NLS\_LANG = LANGUAGE\_TERRITORY.CHARACTER\_SET

This format is explained in the following table:

Parameter	Description
LANGUAGE	Specifies the language for displaying product messages, day names, and month names in SQL. <i>Oracle Database Globalization Support Guide</i> provides more information about languages.
TERRITORY	Specifies the cultural-specific conventions for date, number, time, and monetary formatting. <i>Oracle Database Globalization Support Guide</i> provides more information about territory conventions.
CHARACTER_SET	Specifies the encoding used by the client application, which is usually the character set of the source data being processed, and the character set used in displaying the output. <a href="#">"Supported Character Sets"</a> on page 16 provides a list of supported character sets.

*Oracle Database Globalization Support Guide* provides information about the NLS\_LANG parameter and Globalization Support initialization parameters.

## 10.2 Default Values for NLS\_LANG

[Table 2](#) lists the default NLS\_LANG values for various Windows locales.

**Table 2 NLS\_LANG Parameter Values for Windows Locales**

Operating System Locale	NLS_LANG Value
Chinese (PRC)	SIMPLIFIED_CHINESE_CHINA.ZHS16GBK
English (United Kingdom)	ENGLISH_UNITED_KINGDOM.WE8MSWIN1252
English (United States)	AMERICAN_AMERICA.WE8MSWIN1252
Japanese	JAPANESE_JAPAN.JA16SJISTILDE
Portuguese (Brazil)	BRAZILIAN_PORTUGUESE_BRAZIL.WE8MSWIN1252

## 10.3 Supported Character Sets

[Table 3](#) lists the supported character sets in Oracle Database XE.

The character set AL16UTF16 can be used only as an NCHAR character set, and not as a database character set.

**Table 3 Supported Universal Character Sets**

Name	Description
AL16UTF16	Unicode 4.0 UTF-16 Universal character set
AL32UTF8	Unicode 4.0 UTF-8 Universal character set
UTF8	Unicode 3.0 UTF-8 Universal character set, CESU-8 compliant

## 10.4 NLS\_LANG Settings in MS-DOS Mode and Batch Mode

The installation process sets the client character set in the NLS\_LANG parameter to the appropriate Windows code page, and this is the correct setting for running applications on Windows. However, this NLS\_LANG setting may not operate correctly when running command-line utilities such as SQL\*Plus and SQL\*Loader in MS-DOS mode. This is because MS-DOS, with a few exceptions, uses a different character set (or code page) than Windows. It is important that you set the character set in the NLS\_LANG parameter for the MS-DOS session correctly. Setting it incorrectly can lead to invalid character conversion, which can corrupt error messages and data.

Similarly, in batch mode, set the correct character set value of NLS\_LANG by inserting a SET NLS\_LANG command at the start of the batch procedure, according to the character set of the files to be processed in the procedure.

Table 4 lists the Oracle character sets that correspond to the MS-DOS mode for various operating system locales.

**Table 4 Oracle Character Sets for Windows Locales**

Operating System Locale	Character Set
Chinese (PRC)	ZHS16GBK
English (United Kingdom)	WE8PC850
English (United States)	US8PC437
Japanese	JA16SJISTILDE
Portuguese	WE8PC850

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