Oracle® Application Server

Quick Installation Guide

10*g* Release 2 (10.1.2) for Linux x86

B19311-01

August 2005

ORACLE®

Oracle Application Server Quick Installation Guide 10*g* Release 2 (10.1.2) for Linux x86
B19311-01

1 Introduction

This guide describes how to install the following Oracle Application Server installation types:

- J2EE and Web Cache middle tier
- OracleAS Infrastructure
- Portal and Wireless middle tier
- Business Intelligence and Forms middle tier

Contents of this Guide

- Section 2, "Documentation Accessibility" on page 4
- Section 3, "Installation Types Covered in this Guide" on page 5
- Section 4, "Requirements" on page 7
- Section 5, "Starting up the Installer" on page 51
- Section 6, "Installing J2EE and Web Cache (Java Developer Topology)" on page 54

- Section 7, "Installing Portal and Wireless or Business Intelligence and Forms Developer Topology (includes OracleAS Infrastructure)" on page 59
- Section 8, "Accessing the Welcome Page" on page 74
- Section 9, "Installing OracleAS Metadata Repository in an Existing Oracle Database" on page 76
- Section 10, "Additional Resources" on page 76

2 Documentation Accessibility

Our goal is to make Oracle products, services, and supporting documentation accessible, with good usability, to the disabled community. To that end, our documentation includes features that make information available to users of assistive technology. This documentation is available in HTML format, and contains markup to facilitate access by the disabled community. Accessibility standards will continue to evolve over time, and Oracle is actively engaged with other market-leading technology vendors to address technical obstacles so that our documentation can be accessible to all of our customers. For more information, visit the Oracle Accessibility Program Web site at `http://www.oracle.com/accessibility/`.

Accessibility of Code Examples in Documentation

Screen readers may not always correctly read the code examples in this document. The conventions for writing code require that closing braces should appear on an otherwise empty line; however, some screen readers may not always read a line of text that consists solely of a bracket or brace.

Accessibility of Links to External Web Sites in Documentation

This documentation may contain links to Web sites of other companies or organizations that Oracle does not own or control. Oracle neither evaluates nor makes any representations regarding the accessibility of these Web sites.

TTY Access to Oracle Support Services

Oracle provides dedicated Text Telephone (TTY) access to Oracle Support Services within the United States of America 24 hours a day, seven days a week. For TTY support, call 800.446.2398.

3 Installation Types Covered in this Guide

This guide is intended for users who want to install Oracle Application Server in these configurations:

- Java Developer topology: Intended for Java developers. This topology installs a **J2EE and Web Cache** middle tier, on which you can deploy your applications.
- Portal and Wireless Developer topology: Intended for Java developers who want to use OracleAS Portal, Oracle Application Server Wireless, Oracle Internet Directory, or Oracle Application Server Single Sign-On features, in addition to J2EE and Web Cache features. This topology installs a **Portal and Wireless** middle tier and the **OracleAS Infrastructure**.
- Business Intelligence and Forms Developer topology: Intended for developers who want to use OracleAS Personalization, OracleBI Discoverer, OracleAS Reports Services, or OracleAS Forms Services features, in addition to J2EE and Web Cache and Portal and Wireless features. This topology installs a **Business Intelligence and Forms** middle tier and the **OracleAS Infrastructure**.

If you want more complex topologies, read the Oracle Application Server Installation Guide for complete installation instructions.

Before installing Oracle Application Server, you should read the Oracle Application Server Release Notes for the latest information.

4 Requirements

Check that your computer meets the minimum requirements:

- Section 4.1, "Check System Requirements"
- Section 4.2, "Check Software Requirements"
- Section 4.3, "Check Kernel Parameters Required by OracleAS Web Cache"
- Section 4.4, "Check Kernel Parameters Required by OracleAS Metadata Repository"
- Section 4.5, "Create an Operating System Group for the Inventory Directory"
- Section 4.6, "Create an Operating System Group for Database Administration"
- Section 4.7, "Create an Operating System User"
- Section 4.8, "Check Environment Variables"
- Section 4.9, "Check If Port 1521 Is in Use"

4.1 Check System Requirements

Your computer must meet the following requirements.

Operating Systems Supported

- Red Hat Enterprise Linux AS/ES 2.1
- Red Hat Enterprise Linux AS/ES 3.0
- Red Hat Enterprise Linux AS/ES 4.0
- SUSE Linux Enterprise Server 8
- SUSE Linux Enterprise Server 9

For the most current list of supported Linux Operating Systems, check Oracle*MetaLink*. Oracle does not support customized kernels or modules not supported by the Linux vendor.

Other System Requirements

The following table shows other system requirements.

Table 1 Minimum System Requirements

	J2EE and Web Cache	Portal and Wireless	Business Intelligence and Forms	OracleAS Infrastructure
Memory (see (1) below)	512 MB	1 GB	1 GB	1 GB
Disk space	900 MB	1.2 GB	2 GB	3.7 GB (see (2) below)
Space in TEMP directory	250 MB	250 MB	250 MB	250 MB
Space in TEMP directory	400 MB	400 MB	400 MB	400 MB
Swap space	1.5 GB	1.5 GB	1.5 GB	1.5 GB

Notes:

(1) If you plan to install OracleAS Infrastructure plus either Business Intelligence and Forms or Portal and Wireless on the same computer, you need to have at least 1.5 GB of memory .

(2) You can install the data files for the OracleAS Metadata Repository database on a disk that is different from the disk where you

are installing OracleAS Infrastructure. If you do this, make sure the disk for the data files has at least 1.3 GB of free space.

Complete the following steps to check these requirements:

1. To determine the physical RAM size, enter the following command:

   ```
   # grep MemTotal /proc/meminfo
   ```

2. To determine the amount of free disk space, enter the following command:

   ```
   prompt> df -k dir
   ```

   Replace *dir* with the Oracle home directory or with the parent directory if the Oracle home directory does not exist yet. For example, if you plan to install Oracle Application Server in `/opt/oracle/infra`, you can replace *dir* with `/opt/oracle` or `/opt/oracle/infra`.

3. To determine the amount of available swap space, enter the following command:

   ```
   # grep SwapTotal /proc/meminfo
   ```

If necessary, see your operating system documentation for information on how to configure additional swap space.

4.2 Check Software Requirements

Depending on your distribution of Linux, see one of the following sections for information on checking the software requirements:

- Software Requirements for Red Hat Enterprise Linux AS/ES 2.1 Systems
- Software Requirements for Red Hat Enterprise Linux AS/ES 3.0 Systems
- Software Requirements for Red Hat Enterprise Linux AS/ES 4.0 Systems
- Software Requirements for SUSE Linux Enterprise Server 8 Systems
- Software Requirements for SUSE Linux Enterprise Server 9 Systems

Note: Oracle Application Server 10g Release 2 (10.1.2) is certified to run as a 32-bit application on the following Linux x86-64 platforms:

- Red Hat Enterprise Linux AS/ES 3.0, Update 3 or higher (AMD64 and Intel EM64T)
- SUSE LINUX Enterprise Server 9 (AMD64 and Intel EM64T)

For the most current list of supported Operating System specific software, for example JDK version, Operating System version, check Oracle*MetaLink* (`http://metalink.oracle.com`)

4.2.1 Software Requirements for Red Hat Enterprise Linux AS/ES 2.1 Systems

Complete the following steps before installing Oracle Application Server on Red Hat Enterprise Linux AS/ES 2.1 systems:

1. Log in as the `root` user.
2. Check that Red Hat Enterprise Linux AS/ES 2.1 is installed:

```
# cat /etc/issue
Red Hat Linux Advanced Server release 2.1AS/\m
```

```
(Pensacola)
```

3. Check that Update 5 is installed:

   ```
   # cat /etc/redhat-release
   Red Hat Linux Advanced Server release 2.1AS/\m
   (Pensacola Update 5)
   ```

   If Update 5 is installed, errata 49 is installed and all the required software packages are installed.

4. Check that the errata 49 patch, or a higher errata patch approved by Red Hat, is applied using the following command:

   ```
   # uname -r
   ```

   For example, depending on the version of Red Hat Enterprise Linux AS/ES installed, the errata 49 patch is listed in the output of the command as follows:

   ```
   kernel-2.4.9-e.49
   kernel-smp-2.4.9-e.49
   kernel-enterprise-2.4.9-e.49
   ```

   For information about Red Hat patches, see:

http://www.redhat.com

Note: You must have a Red Hat Network account to download errata files from the Red Hat web site.

---

5. Check that the following software packages, or higher versions, are installed:

```
glibc-2.2.4-32.17
glibc-common-2.2.4-32.17
gcc-2.96-128.7.2
gcc-c++-2.96-128.7.2
pdksh-5.2.14-22
openmotif-2.1.30-12
sysstat-4.0.1-15.2.1as
compat-glibc-6.2-2.1.3.2
compat-libstdc++-6.2-2.9.0.16
libstdc++-2.96-128.7.2
gnome-libs-1.2.13-16
binutils-2.11.90.0.8-12.4
make-3.79.1-8
db1-1.85-7
```

```
db3-3.3.11-5
```

To determine whether a package is installed, enter a command similar to the following:

```
# rpm -q package_name
```

If a package is missing, download it and install it using the following command:

```
# rpm -i package_name
```

When installing a package, make sure you are using the correct architecture and optimization rpm file. To check the architecture of an rpm file, run the following command:

```
# rpm -q package_name --queryformat "%{arch}\n"
```

In the following example, the glibc rpm file is suitable for an Intel architecture

```
# rpm -q glibc --queryformat "%{arch}\n"
i686
```

4.2.2 Software Requirements for Red Hat Enterprise Linux AS/ES 3.0 Systems

Complete the following steps before installing Oracle Application Server on Red Hat Enterprise Linux AS/ES 3.0 systems:

1. Log in as the `root` user.
2. Check that Red Hat Enterprise Linux AS/ES 3.0 is installed:

   ```
   # cat /etc/issue
   Red Hat Enterprise Linux AS release 3 (Taroon)
   ```

   The minimum supported kernel versions are:

   - kernel-2.4.21-20.EL
   - kernel-smp-2.4.21-20.EL
   - kernel-hugemem-2.4.21-20.EL

3. Check that Update 3 is installed:

   ```
   # cat /etc/redhat-release
   Red Hat Enterprise Linux AS release 3 (Taroon Update
   3)
   ```

4. Check that the following software packages, or higher versions, are installed:

```
glibc-2.3.2-95.27
glibc-common-2.3.2-95.27
binutils-2.14.90.0.4-35
compat-glibc-7.x-2.2.4.32.6
compat-libstdc++-7.3-2.96.128
compat-libstdc++-devel-7.3-2.96.128
gcc-3.2.3-42
gcc-c++-3.2.3-42
libstdc++-3.2.3-42
libstdc++-devel-3.2.3-42
openmotif21-2.1.30-8
pdksh-5.2.14-21
setarch-1.3-1
make-3.79.1-17
gnome-libs-1.4.1.2.90-34.1
sysstat-4.0.7-4.EL3.3
compat-db-4.0.14-5
```

Note: For Red Hat Enterprise Linux AS/ES 3.0, the equivalent version of openmotif 2.1.30-8 is openmotif21-2.1.30-8. The openmotif21-2.1.30-8 package can be installed from disk number 3 of the Red Hat Enterprise Linux AS/ES 3.0 distribution by entering:

```
$ rpm -ivh openmotif21-2.1.30-8
```

The following packages, or higher version) are required for Linux x86-64:

```
glibc-2.3.2-95.27.x86_64.rpm
glibc-3.2.3-95.27.i686.rpm (32-bit)
glibc-devel-3.2.3-95.27.x86_64.rpm
glibc-devel-3.2.3-95.27.i386.rpm (32-bit)
gcc-3.2.3-20.x86_64.rpm
libgcc-3.2.3-20.x86_64.rpm
libgcc-3.2.3-20.i386.rpm (32-bit)
setarch-1.3-1.x86_64.rpm
pdksh-5.2.14-21.x86_64.rpm
openmotif21-2.1.30-8.i386.rpm
compat-glibc-7.x-2.2.4.32.5.i386.rpm (32-bit)
compat-gcc-7.3-2.96.122.i386.rpm
sysstat-4.0.7-4.x86_64.rpm
gnome-libs-1.4.1.2.90-34.1.i386.rpm (32-bit)
compat-db-4.0.14-5.1.i386.rpm (32-bit)
```

Note the following:

- To install 32-bit packages on a 64-bit system, you may need to use the `--force` option and the `--nodeps` option of the `rpm` utility.
- Always use 32-bit shell emulation, use the following command before running the installer and any other Oracle Application Server commands or scripts:

  ```
  # linux32 bash
  ```

To determine whether a package is installed, enter a command similar to the following:

```
# rpm -q package_name
```

If a package is missing, download it and install it using the following command:

```
# rpm -i package_name
```

When installing a package, make sure you are using the correct architecture and optimization rpm file. To check the architecture of an rpm file, run the following command:

```
# rpm -q package_name --queryformat "%{arch}\n"
```

In the following example, the glibc rpm file is suitable for an Intel architecture

```
# rpm -q glibc --queryformat "%{arch}\n"
i686
```

5. If the hugemem kernel is used, set the architecture using following command:

```
prompt> setarch i386
```

4.2.3 Software Requirements for Red Hat Enterprise Linux AS/ES 4.0 Systems

Complete the following steps before installing Oracle Application Server on Red Hat Enterprise Linux AS/ES 4.0 systems:

1. Log in as the `root` user.
2. Check that Red Hat Enterprise Linux AS/ES 4.0 is installed

```
# cat /etc/issue
Red Hat Enterprise Linux AS release 4 (Nahant Update
1)
```

The minimum supported kernel versions are:

- kernel-2.6.9-11.EL
- kernel-smp-2.6.9-11.EL
- kernel-hugemem-2.6.9-11.EL

3. Check that Update 1 is installed:

```
# cat /etc/redhat-release
Red Hat Enterprise Linux AS release 4 (Nahant Update
1)
```

4. Check that the following software packages, or higher versions, are installed:

```
glibc-2.3.4-2.9
glibc-common-2.3.4-2.9
binutils-2.15.92.0.2-13
compat-libstdc++-296-2.96-132.7.2
gcc-3.4.3-22.1
gcc-c++-3.4.3-22.1
libstdc++-3.4.3-22.1
libstdc++-devel-3.4.3-22.1
openmotif21-2.1.30-11.RHEL4.4
pdksh-5.2.14-30
setarch-1.6-1
```

```
make-3.80-5
gnome-libs-1.4.1.2.90-44.1
sysstat-5.0.5-1
compat-db-4.1.25-9
control-center-2.8.0-12
xscreensaver-4.18-5.rhel4.2
```

For latest status on Red Hat Enterprise Linux AS/ES 4.0 (64-bit) certification on AMD64 and Intel EM64T, check the Certification status on Oracle Meta*link* (http://metalink.oracle.com)

To determine whether a package is installed, enter a command similar to the following:

```
# rpm -q package_name
```

If a package is missing, download it and install it using the following command:

```
# rpm -i package_name
```

When installing a package, make sure you are using the correct architecture and optimization rpm file. To check the architecture of an rpm file, run the following command:

```
# rpm -q package_name --queryformat "%{arch}\n"
```

In the following example, the `glibc` rpm file is suitable for an Intel architecture

```
# rpm -q glibc --queryformat "%{arch}\n"
i686
```

5. If the `hugemem` kernel is used, set the architecture using following command:

   ```
   prompt> setarch i386
   ```

4.2.4 Software Requirements for SUSE Linux Enterprise Server 8 Systems

Complete the following steps before installing Oracle Application Server on SUSE Linux Enterprise Server 8 systems:

1. Log in as the `root` user.
2. Check that SUSE Linux Enterprise Server 8 is installed:

   ```
   # cat /etc/issue
   Welcome to SuSE Linux 8.0 (i586) - Kernel \r (\l).
   ```

3. Check that SP3 is installed. To determine the service pack version, enter the following command:

```
# uname -r
k_smp-2.4.21-138
```

If the kernel version contains the string 2.4.21, SP3 is installed. SP3 is certified for Oracle Application Server *10g Release 2 (10.1.2)*.

For SP3, the minimum supported kernel versions are:

- k_smp-2.4.21-138
- k_deflt-2.4.21-138
- k_psmp-2.4.21-138

4. Check that the following software packages, or higher versions, are installed:

```
glibc-2.2.2-124
gcc-3.2.2-38
gcc-c++-3.2.2-38
pdksh-5.2.14
openmotif-2.1.30MLI4
sysstat-4.0.3
libstdc++-3.2.2
make-3.79.1-407
binutils-2.12.90.0.15-50
```

```
compat-2003.1.10-0
```

To determine whether a package is installed, enter a command similar to the following:

```
# rpm -q package_name
```

If a package is missing, download it and install it using the following command:

```
# rpm -i package_name
```

When installing a package, make sure you are using the correct architecture and optimization rpm file. To check the architecture of an rpm file, run the following command:

```
# rpm -q package_name --queryformat "%{arch}\n"
```

In the following example, the glibc rpm file is suitable for an Intel architecture

```
# rpm -q glibc --queryformat "%{arch}\n"
i686
```

5. Create the following symbolic link for the perl executable if it does not already exist:

```
prompt> ln -sf /usr/bin/perl /usr/local/bin/perl
```

6. Create the following symbolic link for the fuser executable if it does not already exist:

   ```
   prompt> ln -sf /bin/fuser /sbin/fuser
   ```

7. If the `orarun` package was installed, complete the following steps to reset the environment:

   a. Enter the following commands as the `root` user :

      ```
      prompt> cd /etc/profile.d
      prompt> mv oracle.csh oracle.csh.bak
      prompt> mv oracle.sh oracle.sh.bak
      prompt> mv alljava.sh alljava.sh.bak
      prompt> mv alljava.csh alljava.csh.bak
      ```

   b. Log into the `oracle` user account.

   c. Use any text editor to comment out the following line from the `$HOME/.profile` file if the file exists:

      ```
      . ./.oracle
      ```

   d. Log out of the `oracle` user account.

e. Log into the `oracle` user account for the changes to take effect.

8. If any Java packages are installed on the system, unset the Java environment variables, for example JAVA_HOME.

Note: Oracle recommends that you do not install any of the Java packages supplied with the SLES 8 distribution.

---

9. Check the `/etc/services` file to make sure that the following port ranges are available:

   - Ports 3060-3129 required for Oracle Internet Directory
   - Ports 3130-3199 required for Oracle Internet Directory (SSL)
   - Ports 1812-1829 required for Oracle Enterprise Manager (console)
   - Ports 1830-1849 required for Oracle Enterprise Manager (agent)
   - Ports 1850-1869 required for Oracle Enterprise Manager (RMI)

If necessary, remove entries from the `/etc/services` file and reboot the system. To remove the entries, you can use the perl script included in the `utils/3167528/` directory of CD-ROM disk 1 and the DVD-ROM. Run the script as the `root` user. This script is also available as patch 3167528. This patch is available from:

`http://metalink.oracle.com`

If these ports are not available, the associated configuration assistants will fail during the installation.

10. If you use Network Information Service (NIS):

    a. Make sure that the following line exists in the `/etc/yp.conf` file:

    ```
    hostname.domainname broadcast
    ```

    b. Make sure that the following line exists in the `/etc/nsswitch.conf` file:

    ```
    hosts: files nis dns
    ```

11. Make sure that the `localhost` entry in the `/etc/hosts` file is an IPv4 entry. If the IP entry for `localhost` is IPv6 format,

installation cannot succeed. The following example shows an IPv6 entry:

```
# special IPv6 addresses
::1             localhost ipv6-localhost
ipv6-loopback
::1             ipv6-localhost ipv6-loopback
```

To correct this example `/etc/hosts` file, comment the localhost entry as follows:

```
# special IPv6 addresses
# ::1             localhost ipv6-localhost
ipv6-loopback
::1             ipv6-localhost ipv6-loopback
```

To comment the entries, you can use the perl script included in the `utils/4015045/` directory of CD-ROM Disk 1 and in the `application_server/utils/4015045/` directory on the DVD-ROM. Run the script as the `root` user. This script is also available as patch 4015045. This patch is available from:

`http://metalink.oracle.com`

4.2.5 Software Requirements for SUSE Linux Enterprise Server 9 Systems

Complete the following steps before installing Oracle Application Server on SUSE Linux Enterprise Server 9 systems:

1. Log in as the `root` user.
2. Check that SUSE Linux Enterprise Server 9 is installed:

   ```
   # cat /etc/issue
   Welcome to SuSE Linux 9.0 (i686) - Kernel \r (\l).
   ```

3. Check that Linux kernel version kernel-bigsmp-2.6.5-7.97, kernel-default-2.6.5-7.97 or kernel-smp-2.6.5-7.97 is installed, enter the following command:

   ```
   # uname -r
   kernel-bigsmp-2.6.5-7.97
   ```

4. Check that the following software packages, or higher versions, are installed:

   ```
   glibc-2.3.3-98.28
   gcc-3.3.3-43.24
   gcc-c++-3.3.3-43.24
   libstdc++-3.3.3-43.24
   libstdc++-devel-3.3.3-43.24
   ```

```
openmotif21-libs-2.1.30MLI4-119.1
pdksh-5.2.14-780.1
make-3.80-184.1
gnome-libs-1.4.1.7-671.1
gnome-libs-devel-1.4.1.7-671.1
sysstat-5.0.1-35.1
binutils-2.15.90.0.1.1-32.5
db1-1.85-85.1
compat-2004.7.1-1.2
```

The following packages, or higher version) are required for Linux x86-64:

```
glibc-2.3.3-98.28.x86_64.rpm
glibc-32bit-9-200407011233.x86_64.rpm
glibc-devel-32bit-9-200407011229.x86_64.rpm
gcc-3.3.3-43.24.x86_64.rpm
gcc-c++-3.3.3-43.24.x86_64.rpm
libstdc++-3.3.3-43.24.x86_64.rpm
libstdc++-devel-3.3.3-43.24.x86_64.rpm
libstdc++-devel-32bit-9-200407011229.x86_64.rpm
gnome-libs-1.4.1.7-671.1.x86_64.rpm
gnome-libs-devel-1.4.1.7-671.1.x86_64.rpm
gnome-libs-32bit-9-200407011229.x86_64.rpm
```

```
binutils-2.15.90.0.1.1-32.5.x86_64.rpm
binutils-32bit-9-200407011229.x86_64.rpm
compat-32bit-9-200407011229.x86_64.rpm
compat-sles8-1.3-93.3.x86_64.rpm
compat-2004.7.1-1.2.x86_64.rpm
pdksh-5.2.14-780.1.x86_64.rpm
make-3.80-184.1.x86_64.rpm
sysstat-5.0.1-35.1.x86_64.rpm
perl-32bit-9-200407011229.x86_64.rpm
libaio-devel-32bit-9-200407011229.x86_64.rpm
XFree86-devel-32bit-9-200407011229.x86_64.rpm
linux32-1.0-341.1.x86_64.rpm
db-32bit-9-200407011229.x86_64.rpm
db1-32bit-9-200407011229.x86_64.rpm
compat-32bit-9-200407011229.x86_64.rpm
```

Note: Always use 32-bit shell emulation, use the following command before running the installer and any other Oracle Application Server commands or scripts:

```
# linux32 bash
```

To determine whether a package is installed, enter a command similar to the following:

```
# rpm -q package_name
```

If a package is missing, download it and install it using the following command:

```
# rpm -i package_name
```

When installing a package, make sure you are using the correct architecture and optimization rpm file. To check the architecture of an rpm file, run the following command:

```
# rpm -q package_name --queryformat "%{arch}\n"
```

In the following example, the glibc rpm file is suitable for an Intel architecture

```
# rpm -q glibc --queryformat "%{arch}\n"
i686
```

5. Create the following symbolic link for the perl executable if it does not already exist:

```
prompt> ln -sf /usr/bin/perl /usr/local/bin/perl
```

6. Create the following symbolic link for the fuser executable if it does not already exist:

```
prompt> ln -sf /bin/fuser /sbin/fuser
```

7. If the `orarun` package was installed, complete the following steps to reset the environment:

   a. Enter the following commands as the `root` user :

   ```
   prompt> cd /etc/profile.d
   prompt> mv oracle.csh oracle.csh.bak
   prompt> mv oracle.sh oracle.sh.bak
   prompt> mv alljava.sh alljava.sh.bak
   prompt> mv alljava.csh alljava.csh.bak
   ```

   b. Log into the `oracle` user account.

   c. Use any text editor to comment out the following line from the `$HOME/.profile` file if the file exists:

   ```
   . ./.oracle
   ```

   d. Log out of the `oracle` user account.

   e. Log into the `oracle` user account for the changes to take effect.

8. If any Java packages are installed on the system, unset the Java environment variables, for example JAVA_HOME.

Note: Oracle recommends that you do not install any of the Java packages supplied with the SLES 9 distribution.

9. Check the `/etc/services` file to make sure that the following port ranges are available:

   - Ports 3060-3129 required for Oracle Internet Directory
   - Ports 3130-3199 required for Oracle Internet Directory (SSL)
   - Ports 1812-1829 required for Oracle Enterprise Manager (console)
   - Ports 1830-1849 required for Oracle Enterprise Manager (agent)
   - Ports 1850-1869 required for Oracle Enterprise Manager (RMI)

   If necessary, remove entries from the `/etc/services` file and reboot the system. To remove the entries, you can use the perl script included in the `utils/3167528/` directory of CD-ROM disk 1 and the DVD-ROM. Run the script as the

root user. This script is also available as patch 3167528. This patch is available from:

http://metalink.oracle.com

If these ports are not available, the associated configuration assistants will fail during the installation.

10. If you use Network Information Service (NIS):

    a. Make sure that the following line exists in the /etc/yp.conf file:

    hostname.domainname broadcast

    b. Make sure that the following line exists in the /etc/nsswitch.conf file:

    ```
    hosts: files nis dns
    ```

11. Make sure that the localhost entry in the /etc/hosts file is an IPv4 entry. If the IP entry for localhost is IPv6 format, installation cannot succeed. The following example shows an IPv6 entry:

    ```
    # special IPv6 addresses
    ::1             localhost ipv6-localhost
    ```

```
ipv6-loopback
::1             ipv6-localhost ipv6-loopback
```

To correct this example `/etc/hosts` file, comment the localhost entry as follows:

```
# special IPv6 addresses
# ::1             localhost ipv6-localhost
ipv6-loopback
::1             ipv6-localhost ipv6-loopback
```

To comment the entries, you can use the perl script included in the `utils/4015045/` directory of CD-ROM Disk 1 and in the `application_server/utils/4015045/` directory on the DVD-ROM. Run the script as the `root` user. This script is also available as patch 4015045. This patch is available from:

`http://metalink.oracle.com`

4.3 Check Kernel Parameters Required by OracleAS Web Cache

This section applies if you are installing OracleAS Web Cache:

- If you are installing the J2EE and Web Cache middle tier, the OracleAS Web Cache component is optional.

- If you are installing the Portal and Wireless or Business Intelligence and Forms middle tier, the OracleAS Web Cache component is always installed.

1. Run the following command to check that the `rlim_fd_max` kernel parameter is set to at least 65536:

   ```
   prompt> ulimit -Hn
   ```

2. Run the following command to check that the `nofile` kernel parameter is set to at least 65536:

   ```
   prompt> ulimit -Hn
   ```

3. If the command returns a value less than 65536, add this line to the `/etc/security/limits.conf` file (use a text editor to edit the file):

   ```
   *       hard    nofile  65536
   ```

   You need to be the root user to edit the `/etc/security/limits.conf` file.

4. Reboot the computer for the new value to take effect.

4.4 Check Kernel Parameters Required by OracleAS Metadata Repository

This section applies only if you are installing the OracleAS Infrastructure.

Verify that the kernel parameters shown in the following table are set either to the formula shown, or to values greater than or equal to the recommended value shown. The procedures following the table describe how to verify and set the values.

Note: The Linux threads model creates a process for each thread. Oracle Application Server is highly multi-threaded to improve performance. On Linux, this requires that the kernel can handle many hundreds of processes.

Parameter	Value	File
semmsl	256	`/proc/sys/kernel/sem`
semmns	32000	
semopm	100	
semmni	142	
shmall	2097152	`/proc/sys/kernel/shmall`

Parameter	Value	File
shmmax	2147483648	/proc/sys/kernel/shmmax
shmmni	4096	/proc/sys/kernel/shmmni
msgmax	8192	/proc/sys/kernel/msgmax
msgmnb	65535	/proc/sys/kernel/msgmnb
msgmni	2878	/proc/sys/kernel/msgmni
file-max	131072	/proc/sys/fs/file-max
ip_local_ port_range	10000 65000	/proc/sys/net/ipv4/ip_local_port_range

Note: If the current value for any parameter is higher than the value listed in this table, do not change the value of that parameter.

To view the current value specified for these kernel parameters, and to change them if necessary, follow these steps:

1. Enter commands similar to the following to view the current values of the kernel parameters:

Note: Make a note of the current values and identify any values that you must change.

Parameter	Command
semmsl, semmns, semopm, and semmni	`# /sbin/sysctl -a | grep sem` This command displays the value of the semaphore parameters in the order listed.
shmall, shmmax, and semmni	`# /sbin/sysctl -a | grep shm`
msgmax, msgmnb, and msgmni	`# /sbin/sysctl -a | grep msg`
file-max	`# /sbin/sysctl -a | grep file-max`
ip_local_port_range	`# /sbin/sysctl -a | grep ip_local_port_range` This command displays a range of port numbers.

2. If the value of any kernel parameter is different from the recommended value, complete the following steps:

   a. Using any text editor, create or edit the `/etc/sysctl.conf` file and add or edit lines similar to the following:

Note: Include lines only for the kernel parameter values that you want to change. For the semaphore parameters (`kernel.sem`), you must specify all four values. However, if any of the current values are larger than the recommended value, specify the larger value.

```
kernel.shmall = 2097152
kernel.shmmax = 2147483648
kernel.shmmni = 4096
# semaphores: semmsl, semmns, semopm, semmni
kernel.sem = 256 32000 100 142
fs.file-max = 131072
net.ipv4.ip_local_port_range = 10000 65000
kernel.msgmni = 2878
kernel.msgmax = 8192
```

```
kernel.msgmnb = 65535
```

By specifying the values in the `/etc/sysctl.conf` file, they persist when you reboot the system.

b. Enter the following command to change the current values of the kernel parameters.

```
# /sbin/sysctl -p
```

Review the output from this command to verify that the values are correct. If the values are incorrect, edit the `/etc/sysctl.conf` file, then enter this command again.

c. On SUSE Linux Enterprise Server systems only, enter the following command to make the system read the `/etc/sysctl.conf` file when it reboots:

```
# chkconfig boot.sysctl on
```

Set Shell Limits for the oracle User

To improve the performance of the software on Linux systems, you must increase the following shell limits for the `oracle` user, depending on the user's default shell:

Bourne or Bash Shell Limit	Korn Shell Limit	C or tcsh Shell Limit	Hard Limit
nofile	nofile	descriptors	16384
noproc	processes	maxproc	16384

To increase the shell limits:

1. Add the following lines to `/etc/security/limits.conf` file:

```
*         soft    nproc          2047
*         hard    nproc          16384
*         soft    nofile         2048
*         hard    nofile         65536
```

2. Add the following line to the `/etc/pam.d/login` file, if it does not already exist:

```
session    required     /lib/security/pam_limits.so
```

3. Depending on the `oracle` user's default shell, make the following changes to the default shell start-up file:

For the Bourne, Bash, or Korn shell, add the following lines to the `/etc/profile` file:

```
if [ $USER = "oracle" ]; then
        if [ $SHELL = "/bin/ksh" ]; then
              ulimit -p 16384
              ulimit -n 65536
        else
              ulimit -u 16384 -n 65536
        fi
fi
```

For the C or tcsh shell, add the following lines to the `/etc/csh.login` file:

```
if ( $USER == "oracle" ) then
        limit maxproc 16384
        limit descriptors 65536
endif
```

4.5 Create an Operating System Group for the Inventory Directory

If this is the first Oracle product to be installed on the computer, create an operating system group for the "inventory" directory.

The installer creates files in the inventory directory to keep track of the Oracle products that are installed on the computer.

This guide uses the name `oinstall` for this group.

In Section 4.7, "Create an Operating System User", you will create an operating system user, and set this group to be the user's primary group.

By having a separate group for the inventory directory, you allow different users to install Oracle products on the computer. Users need write permission for the inventory directory. They can achieve this by belonging to the `oinstall` group.

The default name of the inventory directory is `oraInventory`.

If you are unsure if there is already an inventory directory on the computer, look in the `/etc/oraInst.loc` file. This file lists the location of the inventory directory and the group who owns it. If the file does not exist, the computer does not have Oracle products installed on it.

How to Create a Group

To create the `oinstall` group, enter the following as the `root` user:

```
# /usr/sbin/groupadd oinstall
```

4.6 Create an Operating System Group for Database Administration

Using the same steps in the previous section, create an operating system group called "dba". When you create an operating system user in the next step, you will set this dba group to be the user's secondary group.

4.7 Create an Operating System User

Create an operating system user to install and upgrade Oracle products. This guide refers to this user as the oracle user.

How to Create a User

To create the oracle operating system user as part of the oinstall group, enter the following command as the root user:

```
# /usr/sbin/useradd -g oinstall oracle
```

For more information about operating system users and groups, see your operating system documentation or contact your system administrator.

Set the password for the oracle user by entering the following command and follow the instructions on screen:

```
# passwd oracle
```

4.8 Check Environment Variables

The operating system user who will be installing Oracle Application Server needs to set (or unset) the following environment variables.

Table 2 Environment Variables

Environment Variable	Set or Unset
DISPLAY	Set it to the monitor where you want to the installer window to appear.
ORACLE_HOME	Must not be set.
ORACLE_SID	Must not be set.
TNS_ADMIN	Must not be set.
PATH, CLASSPATH, and LD_LIBRARY_PATH	Must not contain references to directories in any Oracle home directories.

Table 2 (Cont.) Environment Variables

Environment Variable	Set or Unset
TMP	Optional. If unset, defaults to `/tmp`.
ORA_NLS33	Must not be set.
LD_BIND_NOW	Must not be set.
LD_ASSUME_KERNEL (SLES 9 only)	2.4.21

4.8.1 How to Set Environment Variables This section describes how to set environment variables:

Using the C shell:

```
% setenv variable_name value
```

Example (C shell):

```
% setenv DISPLAY test.mycompany.com:0.0
```

Using the Bourne or Korn shell:

```
$ variable_name=value; export variable_name
```

Example (Bourne or Korn shell):

```
$ DISPLAY=test.mydomain.com:0.0; export DISPLAY
```

4.8.2 Environment Variable Tips This section describes some things to look out for when setting environment variables:

- If you set environment variables in the `.profile` file, they might not be read. To ensure environment variables are set to the correct values, check their values in the shell where you will be running the installer.
- To check the value of environment variables, use the `env` command. This displays all the currently defined environment variables and their values.

  ```
  % env
  ```

- If you use the `su` command to switch users (for example, switching from the root user to the `oracle` user), check the environment variables when you are the new user because the environment variables might not be passed to the new user. This can happen even if you run `su` with the `-` parameter (`su - user`).

  ```
  # /* root user */
  ```

```
# su - oracle
% env
```

4.9 Check If Port 1521 Is in Use

This section is applicable only if you are installing the OracleAS Infrastructure.

The OracleAS Infrastructure installs an Oracle database, which uses port 1521 by default. To check if port 1521 is in use:

```
prompt> netstat -an | grep 1521
```

If port 1521 is in use by a third-party application, you need to configure the application to use a different port.

If port 1521 is in use by an existing Oracle database listener, you need to stop the listener before installing the OracleAS Infrastructure.

See the Oracle Application Server Installation Guide for details.

5 Starting up the Installer

To start the installer:

1. Log in to the computer as a user who is a member of the Administrators group.
2. Insert the disk:

   CD-ROM: Insert Oracle Application Server Disk 1.

   DVD-ROM: Insert the Oracle Application Server DVD-ROM.
3. If your computer does not have automount, see Section 5.1, "Mounting the CD-ROM or DVD-ROM" for steps on mounting the CD-ROM or DVD-ROM manually.

   To check whether the disc mounted automatically on Red Hat Enterprise Linux AS/ES systems, enter the following command:

   ```
   # ls /mnt/cdrom
   ```

   To check whether the disc mounted automatically on SUSE Linux Enterprise Server systems, enter the following command:

   ```
   # ls /media/cdrom
   ```
4. Start up the installer where *mountpoint* is `/mnt/cdrom` on Red Hat Enterprise Linux AS/ES and `/media/cdrom` on SUSE Linux Enterprise Server:

Note: Do not run the installer from the mount point directory. Note the "cd" command below; it changes your current directory to your home directory so that you do not start up the installer from the mount point.

CD-ROM:

```
prompt> cd
prompt> mountpoint/1012disk1/runInstaller
```

DVD-ROM:

```
prompt> cd
prompt> mountpoint/application_server/runInstaller
```

This starts Oracle Universal Installer, through which you can install Oracle Application Server.

5.1 Mounting the CD-ROM or DVD-ROM

Follow these steps if your computer does not automount the CD-ROM or DVD-ROM:

1. Place the CD-ROM or DVD-ROM in the disc drive.

2. Log in as the `root` user and create a disc mount point directory accessible by all users:

```
% su
Password:
# mkdir /cdrom
# chmod 777 /cdrom
```

3. Mount the disc drive on the disc mount point directory.

   For Red Hat Enterprise Linux AS/ES systems, enter:

```
# mount -t iso9660 /dev/cdrom /mnt/cdrom
```

   For SUSE Linux Enterprise Server systems, enter:

```
# mount -t iso9660 /dev/cdrom /media/cdrom
```

4. Exit the root account.

```
# exit
```

6 Installing J2EE and Web Cache (Java Developer Topology)

This topology installs the J2EE and Web Cache middle tier, which provides the following components:

- Oracle HTTP Server - this is the Web server.
- Oracle Application Server Containers for J2EE ("OC4J") - this is a J2EE container that you can use for deploying and testing your J2EE applications.
- OracleAS Web Cache - this component caches objects to reduce the load on Oracle HTTP Server and improve performance.

To install a J2EE and Web Cache middle tier:

1. Start up the installer. See Section 5, "Starting up the Installer" for details.
2. Welcome screen

   Click **Next**.
3. If this is the first Oracle product to be installed on this computer, the installer displays these additional screens:

   a. Specify Inventory directory and credentials screen

      Enter the full path of the inventory directory: Enter a full path to the inventory directory. This directory is different from the Oracle home directory for the product files.

      Example: `/opt/oracle/oraInventory`

Specify Operating System group name: Select the operating system group that will have write permission for the inventory directory.

Example: `oinstall`

Click **Next**.

b. Run orainstRoot.sh dialog

When prompted, run the `orainstRoot.sh` script as the root user in a different shell. The script is located in the inventory directory.

After running the script, click **Continue**.

4. Specify File Locations screen

Name: Enter a name to identify this Oracle home.

Example: `OH_J2EE`

Path: Enter the full path to the destination directory. This is the Oracle home. If the destination directory does not exist, the installer creates it.

Example: `/opt/ora_j2ee`

Click **Next**.

5. Select a Product to Install screen

   Select **Oracle Application Server 10*g*** and click **Next**.

6. Select Installation Type screen

   Select **J2EE and Web Cache** and click **Next**.

7. Product-specific Prerequisite Checks screen

   Check that the system meets the requirements listed on this screen, and click **Next**. A warning is displayed if the system does not meet the requirements. If you need to change a kernel parameter, clicking **Retry** does not allow you to continue. Instead, exit the installer and start the installation again.

8. Confirm Pre-Installation Requirements screen

   Check that you meet the requirements listed on this screen, select all the checkboxes, and click **Next**.

9. Select Configuration Options screen

   Select **Oracle Application Server 10*g* Web Cache** if you want to use caching capabilities with this Oracle Application Server instance.

   Do not select **Oracle Application Server 10*g* Farm Repository**.

Do not select **Identity Management Access**.

Click **Next**.

10. Specify Port Configuration Options screen

    Select **Automatic** and click **Next**.

11. Specify Instance Name and ias_admin Password screen

    Instance Name: Enter a name for this instance. Instance names can contain alphanumeric and _ (underscore) characters. If you have more than one Oracle Application Server instance on a computer, the instance names must be unique.

    Example: `J2EE`

    ias_admin Password and Confirm Password: Enter and confirm the password for the ias_admin user. This is the administrative user for this instance.

    Passwords must consist of at least five characters, and one of the characters must be a number.

    Click **Next**.

12. Summary screen

Verify your selections and click **Install**. The installer now installs the files.

13. Run root.sh dialog

    Note: do not run this script until you see the dialog.

    In a different window, log in as the root user and run the `root.sh` script. The script is located in this instance's Oracle home directory.

    After you have run the `root.sh` script, click **OK**.

14. Configuration Assistants screen

    This screen displays the progress of configuration assistants, which configure Oracle Application Server components.

15. End of Installation screen

    Click **Exit** to quit the installer.

7 Installing Portal and Wireless or Business Intelligence and Forms Developer Topology (includes OracleAS Infrastructure)

These topologies enable you to deploy applications that use components such as OracleAS Portal, Oracle Application Server Wireless, and OracleBI Discoverer.

To set up the Portal and Wireless Developer Topology, you need to install:

1. OracleAS Infrastructure
2. Portal and Wireless middle tier

To set up the Business Intelligence and Forms Developer Topology, you need to install:

1. OracleAS Infrastructure
2. Business Intelligence and Forms middle tier

The Portal and Wireless and Business Intelligence and Forms middle tiers use services from the OracleAS Infrastructure, so you have to install the OracleAS Infrastructure first.

> **Tip:** You can install the OracleAS Infrastructure and the Portal and Wireless or Business Intelligence and Forms middle tier on different computers.

7.1 Install OracleAS Infrastructure

To install OracleAS Infrastructure with a new database and a new Oracle Internet Directory:

1. Start up the installer. See Section 5, "Starting up the Installer" for details.

2. Welcome screen

   Click **Next**.

3. If this is the first Oracle product to be installed on this computer, the installer displays these additional screens:

   a. Specify Inventory directory and credentials screen

      Enter the full path of the inventory directory: Enter a full path to the inventory directory. This directory is different from the Oracle home directory for the product files.

      Example: `/opt/oracle/oraInventory`

      Specify Operating System group name: Select the operating system group that will have write permission for the inventory directory.

      Example: `oinstall`

      Click **Next**.

   b. Run orainstRoot.sh dialog

When prompted, run the `orainstRoot.sh` script as the root user in a different shell. The script is located in the inventory directory.

After running the script, click **Continue**.

4. Specify File Locations screen

   Name: Enter a name to identify this Oracle home.

   Example: `OH_INFRA`

   Path: Enter the full path to the destination directory. This is the Oracle home. If the destination directory does not exist, Oracle Universal Installer creates it.

   Example: `/opt/oracle/oraInfra`

   Click **Next**.

5. Select a Product to Install screen

   Select **OracleAS Infrastructure** and click **Next**.

6. Select Installation Type screen

   Select **Identity Management and OracleAS Metadata Repository** and click **Next**.

7. Product-specific Prerequisite Checks screen

Check that the system meets the requirements listed on this screen, and click **Next**. A warning is displayed if the system does not meet the requirements. If you need to change a kernel parameter, clicking **Retry** does not allow you to continue. Instead, exit the installer and start the installation again.

8. Confirm Pre-Installation Requirements screen

   Check that you meet the requirements listed on this screen, select all the checkboxes, and click **Next**.

9. Select Configuration Options screen

   Select **Oracle Internet Directory**.

   Select **OracleAS Single Sign-On**.

   Select **OracleAS Delegated Administration Service**.

   Select **OracleAS Directory Integration and Provisioning**.

   Do not select **OracleAS Certificate Authority**.

   Do not select **High Availability and Replication**.

   Click **Next**.

10. Specify Port Configuration Options screen

Select **Automatic** and click **Next**.

11. Specify Namespace in Internet Directory screen

    Select **Suggested Namespace** and click **Next**.

12. Specify Database Configuration Options screen

    Global Database Name: Enter a name for the OracleAS Metadata Repository database, and append your domain name to the database name.

    The database name portion of the global database name:

    - can contain only alphanumeric characters
    - must not be longer than eight characters
    - must not contain the word "`PORT`" or "`HOST`" in uppercase characters. If you need to use these words, use lowercase characters.

    The domain name portion of the global database name:

    - can contain alphanumeric, underscore (_), minus (-), and pound (#) characters
    - must not be longer than 128 characters

    Example: `orcl.yourcompany.com`

SID: Enter the system identifier for the OracleAS Metadata Repository database. Typically this is the global database name, but without the domain name. The SID must be unique across all databases.

The SID name has the same naming restrictions as the database name portion of the global database name (listed above).

Example: `orcl`

Select Database Character Set: Select the character set that you want to use for the database.

Database File Location: Specify the full path to the parent directory for the data files directory. The directory you specify must exist, and you must have write permissions in it.

The installer installs the data files in a subdirectory of the path you specify. The installer uses the database name for the name of the subdirectory. For example, if you specify `orcl.yourcompany.com` for the global database name and `/data/dbfiles` for the database file location, the installer places database files in the following directory: `/data/dbfiles/orcl`.

The file system that contains the directory must have at least 1.3 GB of free disk space. Additional disk space is required for production databases, depending on the amount of data that you plan to store.

Click **Next**.

13. Specify Database Schema Passwords screen

    Set the passwords for the administrative database users, which are privileged accounts used for database administration. You can use the same password for all users, or specify different passwords for each user.

    Click **Next**.

14. Specify Instance Name and ias_admin Password screen

    Instance Name: Enter a name for this instance. Instance names can contain alphanumeric and _ (underscore) characters. If you have more than one Oracle Application Server instance on a computer, the instance names must be unique.

    Example: `infra`

ias_admin Password and Confirm Password: Enter and confirm the password for the ias_admin user. This is the administrative user for this instance.

Passwords must consist of at least five characters, and one of the characters must be a number.

Example: `welcome99`

Click **Next**.

15. Summary screen

    Verify your selections and click **Install**. The installer now installs the files.

16. Run root.sh dialog

    Note: do not run this script until you see the dialog.

    In a different window, log in as the root user and run the `root.sh` script. The script is located in this instance's Oracle home directory.

    After you have run the `root.sh` script, click **OK**.

17. Configuration Assistants screen

    This screen displays the progress of configuration assistants, which configure Oracle Application Server components.

18. End of Installation screen

    Click **Exit** to quit the installer.

7.2 Install Portal and Wireless or Business Intelligence and Forms Middle tier

The following procedure installs a Portal and Wireless or Business Intelligence and Forms middle tier and configures it to use the OracleAS Infrastructure installed in Section 7.1, "Install OracleAS Infrastructure".

1. Start up the installer. See Section 5, "Starting up the Installer" for details.
2. Welcome screen

   Click **Next**.
3. If this is the first Oracle product to be installed on this computer, the installer displays these additional screens:

   a. Specify Inventory directory and credentials screen

      Enter the full path of the inventory directory: Enter a full path to the inventory directory. This directory is different from the Oracle home directory for the product files.

      Example: `/opt/oracle/oraInventory`

Specify Operating System group name: Select the operating system group that will have write permission for the inventory directory.

Example: `oinstall`

Click **Next**.

b. Run orainstRoot.sh dialog

When prompted, run the `orainstRoot.sh` script as the root user in a different shell. The script is located in the inventory directory.

After running the script, click **Continue**.

4. Specify File Locations screen

Name: Enter a name to identify this Oracle home.

Example: `OH_PORTAL`

Path: Enter the full path to the destination directory. This is the Oracle home. If the destination directory does not exist, Oracle Universal Installer creates it.

Example: `/opt/oracle/oraPortal`

Click **Next**.

5. Select a Product to Install screen

   Select **Oracle Application Server 10*g*** and click **Next**.

6. Select Installation Type screen

   Select **Portal and Wireless** or **Business Intelligence and Forms** and click **Next**.

7. Product-specific Prerequisite Checks screen

   Check that the system meets the requirements listed on this screen, and click **Next**. A warning is displayed if the system does not meet the requirements. If you need to change a kernel parameter, clicking **Retry** does not allow you to continue. Instead, exit the installer and start the installation again.

8. Confirm Pre-Installation Requirements screen

   Check that you meet the requirements listed on this screen, select all the checkboxes, and click **Next**.

9. Select Configuration Options screen

   For Portal and Wireless, select:

   - **Oracle Application Server Portal**
   - **Oracle Application Server Wireless**

For Business Intelligence and Forms, select:

- **Oracle Application Server Portal**
- **Oracle Application Server Wireless**
- **Oracle Business Intelligence Discoverer**
- **Oracle Application Server Personalization**
- **Oracle Application Server Reports Services**
- **Oracle Application Server Forms Services**

Click **Next**.

10. Specify Port Configuration Options screen

    Select **Automatic** and click **Next**.

11. Enter connect information for Oracle Internet Directory, which you installed when you installed the OracleAS Infrastructure:

    a. Register with Oracle Internet Directory screen

       Hostname: Enter the name of the computer where Oracle Internet Directory is running.

       Port: Enter the port number at which Oracle Internet Directory is listening. To determine Oracle Internet Directory's port number, look in the `ORACLE_`

`HOME/install/portlist.ini` file, where `ORACLE_HOME` is where you installed the OracleAS Infrastructure.

If you select **Use only SSL connections with this Oracle Internet Directory**, then you must obtain the port number from "Oracle Internet Directory (SSL)" parameter in the `portlist.ini` file.

Click **Next**.

b. Specify OID Login

Username: Enter `orcladmin`. This is the name of the Oracle Internet Directory administrator.

Password: The password for the orcladmin user is the same as the password for the ias_admin user in the infrastructure. You entered this password when you installed the infrastructure (see step 14 in Section 7.1, "Install OracleAS Infrastructure").

Click **Next.**

12. Select Oracle Application Server 10g Metadata Repository screen

Repository: Select the OracleAS Metadata Repository that you want to use for this middle-tier instance and click **Next**.

13. Provide Outgoing Mail Server Information

    This screen appears only if you selected a Business Intelligence and Forms installation.

    Enter the name of the outgoing mail (SMTP) server for use by OracleAS Reports Services. You can leave it blank and configure it later. Click **Next**.

14. Specify Instance Name and ias_admin Password screen

    Instance Name: Enter a name for this instance. Instance names can contain alphanumeric and _ (underscore) characters. If you have more than one Oracle Application Server instance on a computer, the instance names must be unique.

    Example: `PORTAL`

    ias_admin Password and Confirm Password: Enter and confirm the password for the ias_admin user. This is the administrative user for this instance.

    Passwords must consist of at least five characters, and one of the characters must be a number.

    Example: `welcome99`

    Click **Next**.

15. Summary screen

    Verify your selections and click **Install**. The installer now installs the files.

16. Run root.sh dialog

    Note: do not run this script until you see the dialog.

    In a different window, log in as the root user and run the `root.sh` script. The script is located in this instance's Oracle home directory.

    After you have run the `root.sh` script, click **OK**.

17. Configuration Assistants screen

    This screen displays the progress of configuration assistants, which configure Oracle Application Server components.

18. End of Installation screen

    Click **Exit** to quit the installer.

8 Accessing the Welcome Page

After installation, access the Oracle Application Server Welcome page to verify that the installation was successful. The URL for the Welcome page is:

`http://hostname.domainname:http_port`

Determine the *http_port* by looking in the `ORACLE_HOME/install/portlist.ini` file. The port is listed on the `"Oracle HTTP Server listen port"` line.

Note: If you have multiple instances of Oracle Application Server installed on a computer, each instance has its own set of port numbers. Check the `portlist.ini` file in the correct Oracle home directory to be sure you are using the correct port numbers.

The Welcome page provides links to these useful pages:

- New features in Oracle Application Server 10*g* Release 2 (10.1.2)
- Oracle Enterprise Manager Application Server Control ("Application Server Control"), which is a browser-based administrative tool
- Release Notes
- What's Next

- Demos

9 Installing OracleAS Metadata Repository in an Existing Oracle Database

If you want to install OracleAS Metadata Repository in an existing Oracle database, you run a tool called the Oracle Application Server Metadata Repository Creation Assistant.

You can find Oracle Application Server Metadata Repository Creation Assistant on the "OracleAS Metadata Repository Creation Assistant" CD-ROM.

See the Oracle Application Server Metadata Repository Creation Assistant User's Guide for details on how to use this tool.

10 Additional Resources

For more information, see these Oracle resources:

- Oracle Application Server Documentation Library CD-ROM
- Oracle Application Server platform-specific documentation on Oracle Application Server Disk 1 CD-ROM

Printed documentation is available for sale in the Oracle Store at http://oraclestore.oracle.com.

You can also contact your Oracle representative to purchase printed documentation.

To download free release notes, installation documentation, white papers, or other collateral, visit Oracle Technology Network (OTN). You must register online before using OTN; registration is free and can be done at http://www.oracle.com/technology/membership/.

If you already have a username and password for OTN, then you can go directly to the documentation section of OTN at http://www.oracle.com/technology/documentation.

10.1 Oracle Support Services

If you purchased Oracle Product Support, you can call Oracle Support Services for assistance. Oracle Support Services include phone assistance, version updates and access to our service offerings. You have access to phone support 24 hours a day, 7 days a week. In the U.S.A., you can call Product Support at **1-800-223-1711**.

Make sure you have your CSI (CPU Support Identifier) number ready when you call. Keep the CSI number for your records, because it is your key to Oracle Support Services. The Oracle Store sends the CSI number to you in an e-mail alert when it processes your order. If you do not have your CSI number and you are in the U.S.A., you can look up your CSI number by accessing our online Order Tracker which provides detailed order information. Go to the Oracle Store and click on Order Tracker located above the top navigation bar.

For Oracle Support Services locations outside the U.S.A., call your local support center for information on how to access support. To find the local support center in your country, visit the Support Web Center at `http://www.oracle.com/support`.

At the Support Web Center you will find information on Oracle Support Services, such as:

- contact information
- instructions on how to access electronic services
- helpful Web sites
- Support Resources
- Oracle Support Portfolio

- Oracle Support Services news

With Oracle Product Support, you have round-the-clock access to Oracle*MetaLink*, Oracle Support Services premier Web support offering. Oracle*MetaLink* offers you access to installation assistance, product documentation, and a technical solution knowledge base.

It has technical forums, where you can post questions about your Oracle products and receive answers from Oracle Technical Support Analysts and other Oracle users. The questions and answers remain posted for the benefit of all users.

Oracle*MetaLink* options include:

- Technical Assistance Request (TAR) access
- patch downloads
- bug database query access
- product life-cycle information

You can access Oracle*MetaLink* at `http://metalink.oracle.com`.

10.2 Version Updates

If you do not have a currently supported license, you can purchase the most recent version of an Oracle product from the Oracle Store at:

http://oraclestore.oracle.com

If you do have a currently supported license, you can place non-urgent requests for version update shipments through the iTAR feature on Oracle*MetaLink*. You will need to log the iTAR type as a U.S. Client Relations/Non-Technical Request.

You can also request Version Update shipments in the U.S.A. by calling Client Relations. When requesting a Version Update, provide the following information to the Client Relations Analyst:

- CSI number
- contact information
- platform
- product name
- shipping address
- version number of the product

Outside the U.S.A., call your local Oracle Support Center.

10.3 Premium Services

For information on our Premium Services, including onsite support, Oracle*GOLD*, remote services, and upgrade packages, visit the Support Web Center at
http://www.oracle.com/support

or call your Support Sales Representative in the U.S.A at **1-800-833-3536**.

10.4 Quick Reference

Resource	Contact Information or Web Site
Purchase additional products, full-use licenses, version updates, and documentation in the U.S.A.	http://oraclestore.oracle.com
Access technical resources for developers	http://www.oracle.com/technology
Access installation documentation	http://www.oracle.com/technology/documentation

Resource	Contact Information or Web Site
Access information about technical support	http://www.oracle.com/support
Locate local Oracle Support Centers outside the U.S.A.	http://www.oracle.com/support
Locate local Oracle offices outside the U.S.A	http://www.oracle.com/global
Call Client Relations in the U.S.A	1-800-223-1711
Speak with your sales representative in the U.S.A.	1-800-ORACLE-1
TTY Access to technical support in the U.S.A.	1-800-446-2398