Oracle® Enterprise Manager

Cloud Control Basic Installation Guide

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Oracle Enterprise Manager Cloud Control Basic Installation Guide, 12*c* Release 1 (12.1.0.1)

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Preface

Oracle Enterprise Manager Cloud Control Basic Installation Guide enables you to get started with the installation of a new Enterprise Manager system.

This preface covers the following topics:

- Audience
- Documentation Accessibility
- Related Documents
- Conventions

Audience

Oracle Enterprise Manager Cloud Control Basic Installation Guide is meant for system administrators who want to install a new Enterprise Manager system, an additional Oracle Management Service, or an additional Oracle Management Agent, especially in graphical mode.

Purpose of the Document

Oracle Enterprise Manager Cloud Control Basic Installation Guide describes how you can perform the following operations:

- Installing Enterprise Manager Cloud Control in graphical mode
- Installing an additional Oracle Management Service in graphical mode
- Installing Oracle Management Agent in graphical mode
- Installing JVM Diagnostics and Application Dependency and Performance

Oracle Enterprise Manager Cloud Control Basic Installation Guide does NOT cover the following procedures. These procedures are documented in the *Oracle Enterprise Manager Cloud Control Advanced Installation and Configuration Guide*.

- Installing the following in graphical mode:
  - Enterprise Manager Cloud Control software only so that you can configure it later
  - Oracle Management Agent using a shared Oracle home
- Installing the following in silent mode:
  - Enterprise Manager Cloud Control

- Enterprise Manager Cloud Control software only so that you can configure it later

- Oracle Management Agent

- Oracle Management Agent software only so that you can configure it later

- Oracle Management Agent using a shared Oracle home

- Cloning Oracle Management Agent in graphical and silent mode

- Deinstalling Enterprise Manager Cloud Control and Oracle Management Agent in graphical and silent mode

Also, *Oracle Enterprise Manager Cloud Control Basic Installation Guide* does NOT cover the procedure for upgrading your existing Enterprise Manager system. The upgrade procedure is documented in the *Oracle Enterprise Manager Cloud Control Upgrade Guide*.

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc.

Access to Oracle Support

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

Related Documents

For more information, see the following books in the Enterprise Manager Cloud Control documentation library:

- *Oracle Enterprise Manager Cloud Control Advanced Installation and Configuration Guide*

- *Oracle Enterprise Manager Cloud Control Upgrade Guide*

- *Oracle Enterprise Manager Cloud Control Administrator's Guide*

For the latest releases of these and other Oracle documentation, check the Oracle Technology Network at the following URL:

http://www.oracle.com/technetwork/indexes/documentation/index.html

Enterprise Manager also provides extensive online Help. Click **Help** at the top-right corner of any Cloud Control page to display the online help window.

Conventions

The following text conventions are used in this document:

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

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

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Part I

Introduction

This part contains the following chapters:

- Chapter 1, "Overview of Enterprise Manager Cloud Control"

1

Overview of Enterprise Manager Cloud Control

This chapter provides an overview of Oracle Enterprise Manager Cloud Control (Enterprise Manager Cloud Control) and helps you understand its architecture and the various core components that are integrated within the product.

This chapter contains the following sections:

- Overview of Enterprise Manager Cloud Control
- Enterprise Manager Cloud Control Architecture

1.1 Overview of Enterprise Manager Cloud Control

Enterprise Manager Cloud Control is system management software that delivers centralized monitoring, administration, and life cycle management functionality for the complete IT infrastructure, including systems running Oracle and non-Oracle technologies.

Your environment may comprise multiple Oracle Databases, Oracle WebLogic Servers, Web applications deployed on these servers, hosts running these targets, and so on. You can, of course, use the individual product consoles to monitor the status of each of these targets, but it becomes cumbersome to shuttle between multiple console windows and track the performance of each of these targets using so many windows.

Enterprise Manager Cloud Control offers a solution that allows you to monitor and manage the complete Oracle IT infrastructure from a single console. In addition, it provides support for business-driven IT management and business-centric top-down application management to manage your business services, user experience, and infrastructure. It also offers support for monitoring certain non-Oracle products, for example, IBM WebSphere Application Server, Microsoft SQL Server, Juniper Networks NetScreen Firewall, and so on.

> **Note:** Enterprise Manager Cloud Control does not require a private or public cloud.

Figure 1–1   Enterprise Manager Cloud Control Console
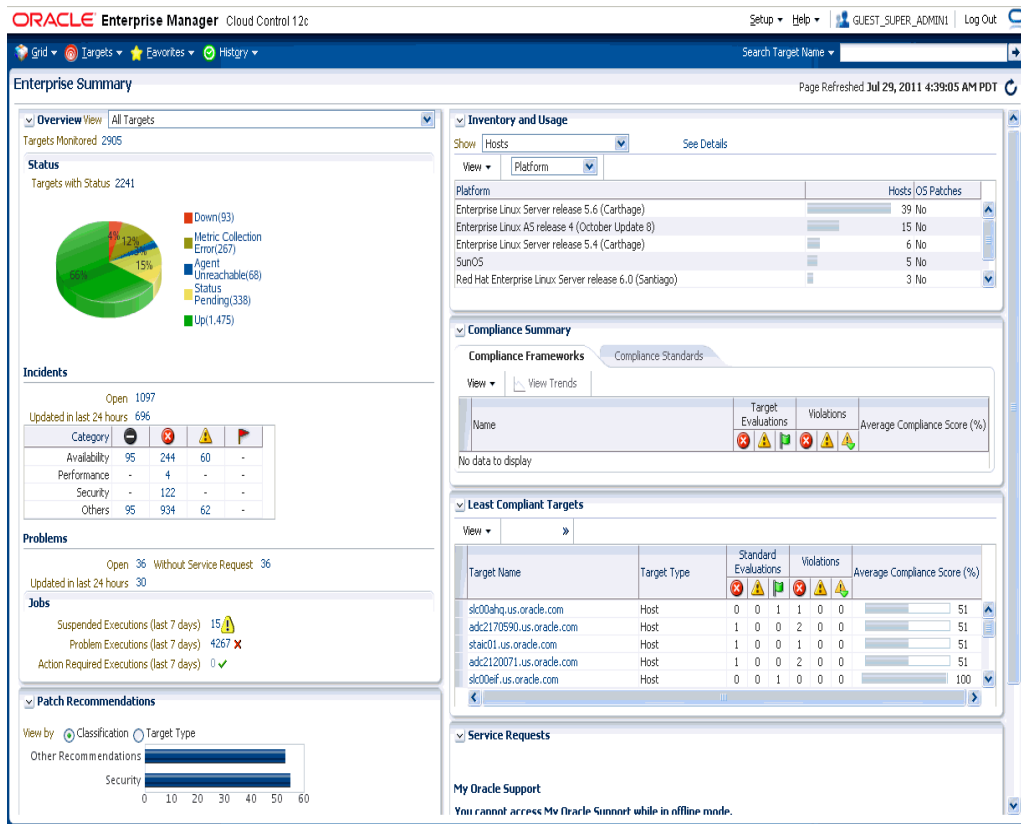
With a broad set of end-to-end monitoring, administration, configuration management, provisioning, and security capabilities, Enterprise Manager Cloud Control reduces the cost and complexity of managing computing environments. Robust service-level management functionality within Enterprise Manager Cloud Control dramatically improves service levels through rich transaction and end-user performance monitoring and deep diagnostics for multi-tier Internet applications.

For more information about Enterprise Manager Cloud Control, access the following URL:

http://www.oracle.com/us/products/enterprise-manager/index.html

1.2 Enterprise Manager Cloud Control Architecture

Enterprise Manager Cloud Control includes the following components:

- Oracle Management Agent

- Oracle Management Service

- Oracle Management Repository

- Oracle Management Plug-Ins

- Enterprise Manager Cloud Control Console

Figure 1–2 shows a sample Enterprise Manager Cloud Control architecture and illustrates how these core components fit into the architecture.

Figure 1–2   Enterprise Manager Cloud Control Architecture
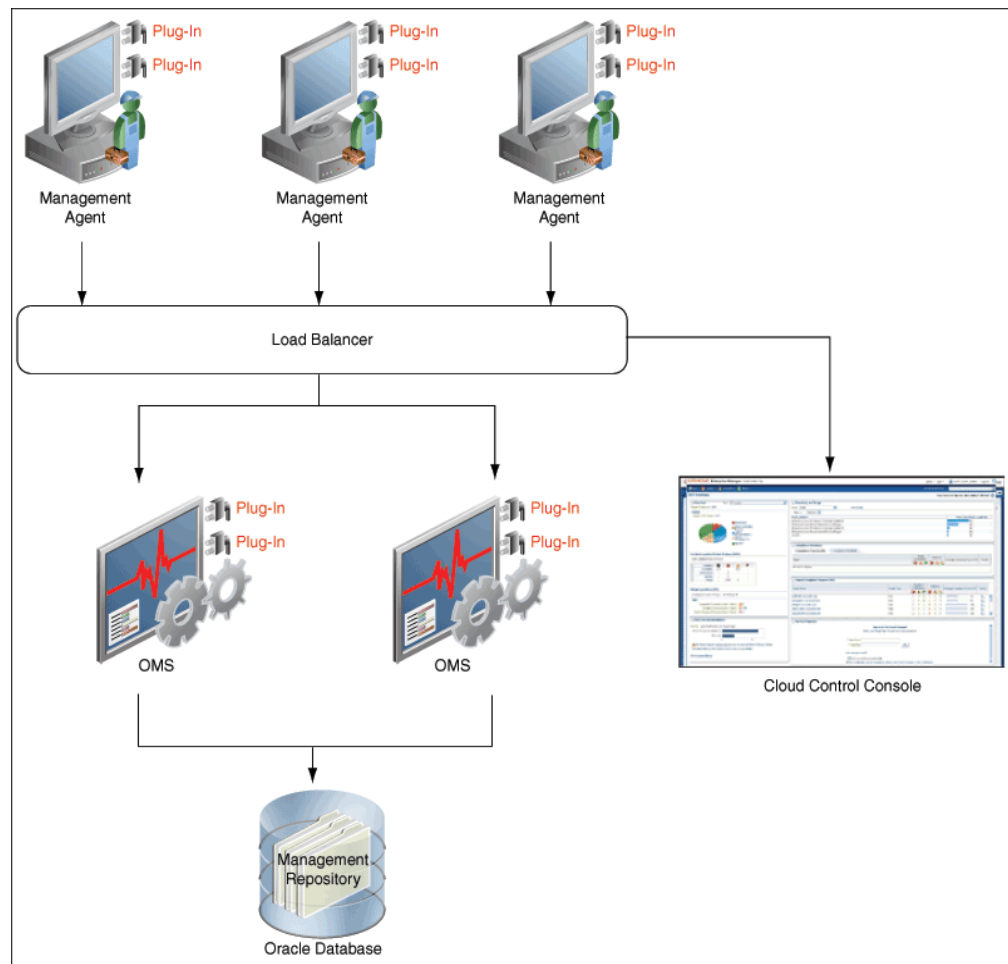
> **Note:**   In Figure 1–2, the load balancer and the multiple OMSes are depicted only to indicate how a sample Enterprise Manager Cloud Control architecture would look in a large organization. They are not a prerequisite or a requirement for an Enterprise Manager system installation. If you do not have a load balancer, then the Management Agents communicate directly with the OMSes.

The following sections describe the core components of Enterprise Manager Cloud Control.

Oracle Management Agent (Management Agent)

The Management Agent is an integral software component that enables you to convert an unmanaged host to a managed host in the Enterprise Manager system. The Management Agent works in conjunction with the plug-ins to monitor the targets running on that managed host.

Oracle Management Service (OMS)

The OMS is a Web-based application that orchestrates with the Management Agents and the Oracle Management Plug-Ins to discover targets, monitor and manage them,

and store the collected information in a repository for future reference and analysis. The OMS also renders the user interface for Enterprise Manager Cloud Control. The OMS is deployed to the Oracle Middleware Home (middleware home), which is the parent directory that has the Oracle WebLogic Server home, the OMS home, the Management Agent home, the plug-in home, the Java Development Kit (JDK), the OMS instance base directory, the Oracle WT directory, the Oracle Common directory, and other relevant configuration files and directories. While deploying the OMS, the Enterprise Manager Cloud Control Installation Wizard installs Oracle WebLogic Server if it does not already exist in your environment. As a result, a WebLogic Server admin console is also installed.

Oracle Management Repository (Management Repository)

The Management Repository is a storage location where all the information collected by the Management Agent gets stored. It consists of objects such as database jobs, packages, procedures, views, and tablespaces.

The OMS uploads the monitoring data it receives from the Management Agents to the Management Repository. The Management Repository then organizes the data so that it can be retrieved by the OMS and displayed in the Enterprise Manager Cloud Control console. Since data is stored in the Management Repository, it can be shared between any number of administrators accessing the Enterprise Manager Cloud Control.

At the time of installation, the Enterprise Manager Cloud Control Installation Wizard configures the Management Repository in your existing, certified database. The wizard, however, does not install a new database.

Oracle Management Plug-Ins (Plug-Ins)

Plug-Ins are pluggable entities that offer special management capabilities customized to suit specific target types. Unlike the earlier releases of Enterprise Manager, in Enterprise Manager Cloud Control, the plug-ins work in conjunction with the OMS and the Management Agent to monitor every target in your environment. Therefore, they are deployed to the OMS as well as the Management Agent. In the earlier releases, plug-ins enabled you to monitor only third-party targets, but in Enterprise Manager Cloud Control, plug-ins enable you to monitor all types of targets in your environment.

Plug-ins have independent release cycles, so every time you have a new version of an Oracle product released, you will have a new version of the plug-in released to support monitoring of that new product version in Enterprise Manager Cloud Control. This simplifies things because you no longer have to wait to upgrade your Enterprise Manager system to support a new product version; instead you can upgrade your plug-ins to monitor the new product version.

Table 1–1 lists the mandatory plug-ins that are installed by default with a new Enterprise Manager system. In addition to these mandatory plug-ins, you can optionally install other plug-ins available in the software kit (DVD, downloaded software bundle, and so on). The installer offers a screen where you can select the optional plug-ins and install them.

Table 1–1   Mandatory Plug-Ins Installed with Enterprise Manager Cloud Control

Name	Description
Oracle Database	Enables you to monitor and manage Oracle Database and related targets such as Oracle Real Application Clusters (Oracle RAC), Oracle Automatic Storage Management (Oracle ASM), and so on.

Table 1–1   (Cont.) Mandatory Plug-Ins Installed with Enterprise Manager Cloud Control

Name	Description
Oracle Fusion Middleware	Enables you to monitor and manage Oracle Fusion Middleware products such as Oracle WebLogic Domain, Oracle WebLogic AdminServer, Oracle WebLogic Server, Oracle SOA Suite, Oracle Web Tier, and so on.
Oracle My Oracle Support	Enables you to log in to My Oracle Support from within the Cloud Control console, search the knowledge library for notes and documents, raise service requests, and create patch plans and templates for patching monitored targets.
Oracle Exadata	Enables you to monitor and manage Oracle Exadata targets.

Enterprise Manager Cloud Control Console

The Enterprise Manager Cloud Control console is the user interface you see after you install Enterprise Manager Cloud Control. With the help of the console, you can monitor and administer your entire computing environment from one location on the network. All the systems and services including enterprise application systems, databases, hosts, middleware application servers, listeners, and so on, are easily managed from one central location.

Part II

Preinstallation Requirements

This part describes the preinstallation requirements you must meet before installing any of the core components of Enterprise Manager Cloud Control. In particular, this part contains the following chapters:

- Chapter 2, "Meeting Hardware Requirements"

- Chapter 3, "Meeting Package, Kernel Parameter, and Library Requirements"

- Chapter 4, "Creating Operating System Groups and Users"

- Chapter 5, "Installing Cygwin and Starting SSH Daemon"

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Meeting Hardware Requirements

This chapter describes the hardware requirements you must meet before installing Oracle Management Service (OMS), a standalone Oracle Management Agent (Management Agent), and Oracle Management Repository (Management Repository). In particular, this chapter covers the following:

- CPU, RAM, Heap Size, and Hard Disk Space Requirements for OMS

- CPU, RAM, and Hard Disk Space Requirements for Standalone Management Agent

- CPU, RAM, and Hard Disk Space Requirements for Management Repository

2.1 CPU, RAM, Heap Size, and Hard Disk Space Requirements for OMS

Table 2–1 describes the CPU, physical memory (RAM), heap size, and hard disk space requirements for installing an OMS (including a Management Agent that comes with it).

Table 2–1   CPU, RAM, Heap Size, and Hard Disk Space Requirements Per OMS

	Small	Medium	Large
	(1 OMS, <=1000 targets, <100 agents)	*(2 OMSes for <=10,000 targets and <1000 agents)*	*(> 2 OMSes, >=10,000 targets, >=1000 agents)*
CPU Cores/Host	2	4	8
RAM	4 GB	6 GB	8 GB
RAM with ADP[1], JVMD[2]	6GB	10 GB	14 GB
Oracle WebLogic Server JVM Heap Size	512 MB	1 GB	2 GB
Hard Disk Space	7 GB	7 GB	7 GB
Hard Disk Space with ADP, JVMD	10 GB	12 GB	14 GB

[1]   ADP Manager is Application Dependency and Performance
[2]   JVMD is JVM Diagnostics

> **Note:**   While installing an additional OMS (by cloning an existing one), if you have installed BI publisher on the source host, then ensure that you have 7 GB of additional hard disk space on the destination host, so a total of 14 GB.

2.2 CPU, RAM, and Hard Disk Space Requirements for Standalone Management Agent

For a standalone Oracle Management Agent, ensure that you have 2 CPU cores per host, 512 BM of RAM, and 1 GB of hard disk space.

2.3 CPU, RAM, and Hard Disk Space Requirements for Management Repository

Table 2–2 describes the RAM and the hard disk space requirements for configuring a Management Repository:

Table 2–2   RAM and Hard Disk Space Requirements for Management Repository

	Small	Medium	Large
	(1 OMS, <=1000 targets, <100 agents)	*(2 OMSes for <=10,000 targets and <1000 agents)*	*(> 2 OMSes, >=10,000 targets, >=1000 agents)*
CPU Cores/Host[1]	2	4	8
RAM	4 GB	6 GB	8 GB
Hard Disk Space	50 GB	200 GB	400 GB

[1]   For high availability, Oracle Real Application Cluster (Oracle RAC) database must be setup.

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3

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Meeting Package, Kernel Parameter, and Library Requirements

This chapter describes the packages, kernel parameters settings, and libraries required on different platforms (32-bit and 64-bit) for installing a new Enterprise Manager system, an additional Oracle Management Service (OMS), and a standalone Oracle Management Agent (Management Agent).

In particular, this chapter covers the following:

- Package Requirements
- Kernel Parameter Requirements
- Library Requirements

Note:

- The packages and libraries are required for installation and operation, so do NOT remove them after installation.
- The packages and libraries are NOT required for Microsoft Windows platforms.

3.1 Package Requirements

This section lists the packages required on different platforms (32-bit and 64-bit) for installing an OMS or a Management Agent. In particular, this section covers the following:

- Identifying Installed Packages
- Package Requirements for Oracle Management Service
- Package Requirements for Oracle Management Agent

3.1.1 Identifying Installed Packages

To identify the packages already installed on your system, run the following command. If the command does not list the packages listed in Section 3.1.2 or Section 3.1.3, then install them manually.

```
rpm -qa --queryformat "%{NAME}-%{VERSION}-%{RELEASE}(%{ARCH})\n"
| grep  glibc
```

The command lists all the packages installed on the system. The 32-bit ones are appended with (i386) and the 64-bit ones are appended with (x86_64).

For example, if you run the command on a 32-bit system, you should see something similar to the following:

```
glibc-devel-2.3.4-2.43(i386)
glibc-headers-2.3.4-2.43(i386)
glibc-2.3.4-2.43(i686)
compat-glibc-headers-2.3.2-95.30(i386)
glibc-profile-2.3.4-2.43(i386)
glibc-utils-2.3.4-2.43(i386)
glibc-kernheaders-2.4-9.1.103.EL(i386)
glibc-common-2.3.4-2.43(i386)
compat-glibc-2.3.2-95.30(i386)
```

For example, if you run the command on a 64-bit system, you should see something similar to the following:

```
glibc-common-2.3.4-2.43(x86_64)
glibc-devel-2.3.4-2.43(x86_64)
glibc-profile-2.3.4-2.43(x86_64)
glibc-headers-2.3.4-2.43(x86_64)
glibc-utils-2.3.4-2.43(x86_64)
glibc-2.3.4-2.43(x86_64)
```

3.1.2 Package Requirements for Oracle Management Service

Table 3–1 lists the packages required on different platforms (32-bit and 64-bit) for installing a new Enterprise Manager system or an additional OMS.

Table 3–1 Package Requirements for Oracle Management Service

Platform	32-Bit Packages for 32-Bit Platform	64-Bit Packages for 64-Bit Platform
Oracle Linux 5.x Red Hat Enterprise Linux 5.x	- make-3.81 - binutils-2.17.50.0.6 - gcc-4.1.1 - libaio-0.3.106 - glibc-common-2.3.4 - compat-libstdc++296-2.96 - libstdc++ 4.1.1 - libstdc++devel-4.1.0 - setarch-1.6 - sysstat-5.0.5 - compat-db 4.1.25 - rng_utils-2.0 - libXtst-1.0.1-3.1(i386) - xorg-x11-utils *(This package is required only for GUI-based interactive installation, and not for silent installation)*	- make-3.81 - binutils-2.17.50.0.6 - gcc -4.1.1 - libaio-0.3.106 - glibc-common-2.3.4 - libstdc++ -4.1.1 - setarch-1.6 - sysstat-5.0.5 - rng-utils-2.0 - libXtst-1.0.1-3.1(x86_64) - xorg-x11-utils *(This package is required only for GUI-based interactive installation, and not for silent installation)* In addition, install the 32-bit version as well as the 64-bit version of glibc-devel-2.5-49.

Table 3–1   (Cont.) Package Requirements for Oracle Management Service

Platform	32-Bit Packages for 32-Bit Platform	64-Bit Packages for 64-Bit Platform
Oracle Linux 4.x Red Hat Enterprise Linux 4.x	■ make-3.80 ■ binutils-2.15.92.0.2 ■ gcc-3.4.5 ■ libaio-0.3.105 ■ glibc-common-2.3.4 ■ libstdc++-3.4.5 ■ libstdc++-devel-3.4.3 ■ pdksh-5.2.14 ■ setarch-1.6 ■ sysstat-5.0.5 ■ compat-db-4.1.25 ■ kernel-utils-2.4 ■ libXtst-1.0.1-3.1(i386) ■ xorg-x11-utils *(This package is required only for GUI-based interactive installation, and not for silent installation)*	*Not Supported*
SUSE Linux Enterprise 10	■ make-3.80 ■ binutils-2.16.91.0.5 ■ gcc-4.1.0 ■ libstdc++ 4.1.0	*Not Supported*
SUSE Linux Enterprise 11	■ make-3.81 ■ binutils-2.19-9.3 ■ gcc-4.3-62.198 ■ libstdc++ 43.4.3	■ make-3.80 ■ binutils-2.16.91.0.5 ■ gcc -4.1.0 ■ libstdc++ 43.4.3 In addition, install the 32-bit version as well as the 64-bit version of glibc-devel-2.5-49.

Table 3–1   (Cont.) Package Requirements for Oracle Management Service

Platform	32-Bit Packages for 32-Bit Platform	64-Bit Packages for 64-Bit Platform
Asianux Server 3	- make-3.81-3AXS3-i386 - binutils-2.17.50.0.6-9AXS3-i386 - gcc-4.1.2-44.1-i386 - libaio-0.3.106-3.2-i386 - glibc-common-2.5-34.1AXS3-i386 - compat-libstdc++-296-2.96-138.2AX-i386 - libstdc++-4.1.2-44.1-i386 - libstdc++-devel-4.1.2-44.1-i386 - setarch-2.0-1.1-i386 - sysstat-7.0.4-1AX-i386 - compat-db-4.2.52-5.1-i386 - libXtst-1.0.1-3.1(i386) - xorg-x11-utils *(This package is required only for GUI-based interactive installation, and not for silent installation)*	- make-3.81 - binutils-2.17.50.0.6 - gcc -4.1.1 - libaio-0.3.106 - glibc-common-2.3.4 - libstdc++ -4.1.1 - setarch-1.6 - sysstat-5.0.5 - libXtst-1.0.1-3.1(x86_64) - xorg-x11-utils *(This package is required only for GUI-based interactive installation, and not for silent installation)* In addition, install the 32-bit version as well as the 64-bit version of glibc-devel-2.5-49.
Solaris SPARC 5.9	*Not Supported*	- SUNWlibm - SUNWlibms - SUNWsprot - SUNWsprox - SUNWtoo - SUNWi1of - SUNWxwfnt
Solaris SPARC 5.10 *Also supported on Solaris Logical Domains (LDOM)*	*Not Supported*	SUNWbtool
Solaris SPARC 5.11	*Not Supported*	- SUNWbtool - SUNWarc - SUNWhea - SUNWlibm - SUNWlibms - SUNWsprot - SUNWtoo - SUNWmfrun - SUNWi1cs - SUNWi15cs - SUNWxwplt - SUNWlibC - SUNWcsl

Table 3–1 (Cont.) Package Requirements for Oracle Management Service

Platform	32-Bit Packages for 32-Bit Platform	64-Bit Packages for 64-Bit Platform
Solaris x86-64 5.11	*Not Supported*	■ SUNWbtool ■ SUNWarc ■ SUNWhea ■ SUNWlibm ■ SUNWlibms ■ SUNWsprot ■ SUNWtoo ■ SUNWlibC ■ SUNWcsl
Solaris x86-64 5.10	*Not Supported*	■ SUNWbtool ■ SUNWarc ■ SUNWhea ■ SUNWlibm ■ SUNWlibms ■ SUNWsprot ■ SUNWtoo ■ SUNWi1of ■ SUNWi1cs ■ SUNWi15cs ■ SUNWxwfnt
IBM AIX 5.3.00.04 **Note:** Maintenance level 4 and higher are supported for AIX 5.3. Check the maintenance level using the following command: `oslevel -r`	*Not Supported*	■ bos.perf.proctools(0.0) ■ bos.adt.base(0.0) ■ bos.adt.libm(0.0)
IBM AIX 6.1 **Note:** All maintenance levels are supported. Check the maintenance level using the following command: `oslevel -r`	*Not Supported*	■ bos.adt.base(0.0) ■ bos.adt.lib(0.0) ■ bos.adt.libm(0.0) ■ bos.perf.libperfstat(0.0) ■ bos.perf.perfstat(0.0) ■ bos.perf.proctools(0.0) ■ rsct.basic.rte(0.0) ■ rsct.compat.clients.rte(0.0) ■ xlC.aix61.rte.(9.0.0.0) ■ xlC.rte.(9.0.0.0)

Table 3–1   (Cont.) Package Requirements for Oracle Management Service

Platform	32-Bit Packages for 32-Bit Platform	64-Bit Packages for 64-Bit Platform
IBM AIX 7.1 **Note:** All maintenance levels are supported. Check the maintenance level using the following command: `oslevel -r`	*Not Supported*	■ bos.adt.base(0.0) ■ bos.adt.lib(0.0) ■ bos.adt.libm(0.0) ■ bos.perf.libperfstat(0.0) ■ bos.perf.perfstat(0.0) ■ bos.perf.proctools(0.0) ■ rsct.basic.rte(0.0) ■ rsct.compat.clients.rte(0.0) ■ xlC.aix61.rte.(9.0.0.0) ■ xlC.rte.(9.0.0.0)

3.1.3 Package Requirements for Oracle Management Agent

Table 3–2 lists the packages required on different platforms (32-bit and 64-bit) for installing a Management Agent.

Table 3–2   Package Requirements for Oracle Management Agent

Platform	32-Bit Packages for 32-Bit Platform	64-Bit Packages for 64-Bit Platform
Oracle Linux 5.x Red Hat Enterprise Linux 5.x	■ make-3.81 ■ binutils-2.17.50.0.6 ■ gcc-4.1.1 ■ libstdc++-4.1.1 ■ libXtst-1.0.1-3.1(i386)	**Oracle Linux 5.x and Red Hat Enterprise Linux 5.x, where x <= 5 [for example, Oracle Linux 5.3]** ■ make-3.81 ■ binutils-2.17.50.0.6 ■ gcc -4.1.1 ■ libstdc++ -4.1.1 ■ libXtst-1.0.1-3.1(x86_64) **Oracle Linux 5.x and Red Hat Enterprise Linux 5.x, where x > 5 [for example, Oracle Linux 5.6]** ■ make-3.81 ■ binutils-2.17.50.0.6 ■ gcc -4.1.1 ■ libaio-0.3.106 ■ glibc-common-2.3.4 ■ libstdc++ -4.1.1 ■ setarch-1.6 ■ sysstat-5.0.5 ■ rng-utils-2 ■ libXtst-1.0.1-3.1(x86_64)

Table 3–2   (Cont.) Package Requirements for Oracle Management Agent

Platform	32-Bit Packages for 32-Bit Platform	64-Bit Packages for 64-Bit Platform
Oracle Linux 4.x Red Hat Enterprise Linux 4.x	■ make-3.80 ■ binutils-2.15.92.0.2 ■ gcc-3.4.5 ■ libstdc++-3.4.5 ■ kernel-utils-2.4 ■ libXtst-1.0.1-3.1(i386)	*64-bit Management Agent is NOT supported on 64-bit platform, but 32-bit Management Agent is supported, so install all 32-bit packages (listed in the previous column) on your 64-bit platform.*
SUSE Linux Enterprise 10	■ make-3.80 ■ binutils-2.16.91.0.5 ■ gcc-4.1.0 ■ libstdc++ 4.1.0	*Not Supported*
SUSE Linux Enterprise 11	■ make-3.81 ■ binutils-2.19-9.3 ■ gcc-4.3-62.198 ■ libstdc++ 43.4.3	■ make-3.80 ■ binutils-2.16.91.0.5 ■ gcc -4.1.0 ■ libstdc++ 43.4.3
Asianux Server 3	■ make-3.81-3AXS3-i386 ■ binutils-2.17.50.0.6-9AXS3-i386 ■ gcc-4.1.2-44.1-i386 ■ libstdc++-4.1.2-44.1-i386 ■ libXtst-1.0.1-3.1(i386)	■ make-3.81 ■ binutils-2.17.50.0.6 ■ gcc -4.1.1 ■ libstdc++ -4.1.1 ■ libXtst-1.0.1-3.1(x86_64)
Solaris SPARC 5.9	*Not Supported*	■ SUNWlibm ■ SUNWlibms ■ SUNWsprot ■ SUNWsprox ■ SUNWtoo ■ SUNWi1of ■ SUNWxwfnt
Solaris SPARC 5.10	*Not Supported*	SUNWbtool
Solaris SPARC 5.11	*Not Supported*	■ SUNWbtool ■ SUNWarc ■ SUNWhea ■ SUNWlibm ■ SUNWlibms ■ SUNWsprot ■ SUNWtoo ■ SUNWmfrun ■ SUNWi1cs ■ SUNWi15cs ■ SUNWxwplt ■ SUNWlibC ■ SUNWcsl

Table 3–2   (Cont.) Package Requirements for Oracle Management Agent

Platform	32-Bit Packages for 32-Bit Platform	64-Bit Packages for 64-Bit Platform
Solaris x86-64 5.11	*Not Supported*	■ SUNWbtool ■ SUNWarc ■ SUNWhea ■ SUNWlibm ■ SUNWlibms ■ SUNWsprot ■ SUNWtoo ■ SUNWlibC ■ SUNWcsl
Solaris x86-64 5.10	*Not Supported*	■ SUNWbtool ■ SUNWarc ■ SUNWhea ■ SUNWlibm ■ SUNWlibms ■ SUNWsprot ■ SUNWtoo ■ SUNWi1of ■ SUNWi1cs ■ SUNWi15cs ■ SUNWxwfnt
IBM AIX 5.3.00.04 **Note:** Maintenance level 4 and higher are supported for AIX 5.3. Maintenance level can be checked using the following command: `oslevel -r`	*Not Supported*	■ bos.perf.proctools(5.3.0.50) ■ bos.adt.base(0.0) ■ bos.adt.libm(0.0)
IBM AIX 6.1 **Note:** All maintenance levels are supported. Check the maintenance level using the following command: `oslevel -r`	*Not Supported*	■ bos.adt.base(0.0) ■ bos.adt.lib(0.0) ■ bos.adt.libm(0.0) ■ bos.perf.libperfstat(0.0) ■ bos.perf.perfstat(0.0) ■ bos.perf.proctools(0.0) ■ rsct.basic.rte(0.0) ■ rsct.compat.clients.rte(0.0) ■ xlC.aix61.rte.(9.0.0.0) ■ xlC.rte.(9.0.0.0)

Table 3–2   (Cont.) Package Requirements for Oracle Management Agent

Platform	32-Bit Packages for 32-Bit Platform	64-Bit Packages for 64-Bit Platform
IBM AIX 7.1 **Note:** All maintenance levels are supported. Check the maintenance level using the following command: `oslevel -r`	*Not Supported*	■ bos.adt.base(0.0) ■ bos.adt.lib(0.0) ■ bos.adt.libm(0.0) ■ bos.perf.libperfstat(0.0) ■ bos.perf.perfstat(0.0) ■ bos.perf.proctools(0.0) ■ rsct.basic.rte(0.0) ■ rsct.compat.clients.rte(0.0) ■ xlC.aix61.rte.(9.0.0.0) ■ xlC.rte.(9.0.0.0)
HP PA-RISC 11.23	*Not Supported*	BUNDLE11i(B.11.23.0409.3)
HP PA-RISC 11.31	*Not Supported*	■ OnlineDiag(B.11.31.01.03) ■ Base-VXFS(B.11.31)
HP-UX Itanium 11.23	*Not Supported*	BUNDLE11i(B.11.23.0409.3)
HP-UX Itanium 11.31	*Not Supported*	OS-Core(B.11.31)

3.2 Kernel Parameter Requirements

For installing an OMS or a Management Agent on Unix operating systems (32-bit or 64-bit), set the kernel.shmmax parameter to a value 1 byte less than 4 GB or 4294967295.

Oracle recommends this value to avoid lack of memory issues for other applications and to enable a complete and successful core file generation under any and all circumstances.

To verify the value assigned to kernel.shmmax parameter, run the following command:

```
cat /proc/sys/kernel/shmmax
```

To set the value for `kernel.shmmax` parameter, run the following command:

```
sysctl -w kernel.shmmax=<new value>
```

3.3 Library Requirements

This section lists the libraries required on different platforms (32-bit and 64-bit) for installing an OMS or a Management Agent. In particular, this section covers the following:

■ Library Requirements for Oracle Management Service

■ Library Requirements for Oracle Management Agent

3.3.1 Library Requirements for Oracle Management Service

Table 3–3 lists the libraries required on different platforms (32-bit and 64-bit) for installing a new Enterprise Manager system or an additional OMS.

Table 3–3   Library Requirements for Oracle Management Service

Platform	32-Bit Libraries for 32-Bit Platform	64-Bit Libraries for 64-Bit Platform
Oracle Linux 5.x Red Hat Enterprise Linux 5.x	glibc-2.5-12	glibc-2.5.12
Oracle Linux 4.x Red Hat Enterprise Linux 4.x	glibc-2.3.4-2.43.i386	-
SUSE Linux Enterprise 10	glibc-2.2.4-31.7	glibc-2.2.4-31.7
SUSE Linux Enterprise 11	glibc-2.9	-
Asianux Server 3	glibc-2.3.4-2.9	glibc-2.3.4-2.9

3.3.2 Library Requirements for Oracle Management Agent

There are no library requirements for Management Agent.

4

Creating Operating System Groups and Users

The chapter explains what operating system groups and users you need to create and how to create them. In particular, this chapter covers the following:

- What Operating System Groups and Users Are Required?
- How to Create the Operating System Groups and Users?

4.1 What Operating System Groups and Users Are Required?

The following operating system group and user are required for all installation types:

- The Oracle Inventory Group (typically, `oinstall`)

  You must create this group the first time you install Oracle software on the system. The default name chosen for this group is `oinstall`. This group owns the Oracle inventory that is a catalog of all Oracle software installed on the system.

  > **Note:** If Oracle software is already installed on the system, then the existing Oracle Inventory group must be the primary group of the operating system user that you use to install other Oracle software.

- The Oracle Software Owner User (typically, `oracle`)

  You must create this user the first time you install Oracle software on the system. This user owns all of the software installed during the installation. This user must have the Oracle Inventory group as its primary group.

  > **Note:** In Oracle documentation, this user is referred to as the `oracle` user.

A single Oracle Inventory group is required for all installations of Oracle software on the system. After the first installation of Oracle software, you must use the same Oracle Inventory group for all subsequent Oracle software installations on that system.

4.2 How to Create the Operating System Groups and Users?

The following sections describe how to create the required operating system users and groups:

- [Creating the Oracle Inventory Group](#)
- [Creating the Oracle Software Owner User](#)

> **Note:** As an alternative to creating local users and groups, you can create the appropriate users and groups in a directory service, for example, Network Information Services (NIS). For information about using directory services, contact your system administrator or refer to your operating system documentation.

4.2.1 Creating the Oracle Inventory Group

You must create the Oracle Inventory group if it does not already exist. The following subsections describe how to determine the Oracle Inventory group name if it exists, and how to create it if necessary.

4.2.1.1 Determining Whether the Oracle Inventory Group Exists

When you install Oracle software on the system for the first time, the `oraInst.loc` file is created. This file identifies the name of the Oracle Inventory group and the path to the Oracle Inventory directory.

To determine whether the Oracle Inventory group exists, enter the following command:

```
$ more /etc/oraInst.loc
```

If the `oraInst.loc` file exists, then the output from this command looks like:

```
inventory_loc=/u01/app/oracle/oraInventory
inst_group=oinstall
```

The `inst_group` parameter shows the name of the Oracle Inventory group, `oinstall`.

4.2.1.2 Creating the Oracle Inventory Group

If the `oraInst.loc` file does not exist, or if the file exists but the Oracle Inventory group is different, then create the Oracle Inventory group `oinstall` using the following command:

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

4.2.2 Creating the Oracle Software Owner User

You must create an Oracle software owner user in the following circumstances:

- If an Oracle software owner user does not exist, for example, if this is the first installation of Oracle software on the system
- If an Oracle software owner user exists, but you want to use a different operating system user, with different group membership, to give database administrative privileges to those groups in a new Oracle Database installation

4.2.2.1 Determining Whether an Oracle Software Owner User Exists

To determine whether an Oracle software owner user named `oracle` exists, run the following command:

```
$ id oracle
```

If the `oracle` user exists, then the output from this command looks like this:

```
uid=440(oracle) gid=200(oinstall) groups=201(dba),202(oper)
```

If the user exists, then determine whether you want to use the existing user or create another `oracle` user.

- To use the existing user, ensure that the user's primary group is the Oracle Inventory group.

- To modify an existing user, refer to the Section 4.2.2.3.

- To create a user, refer to Section 4.2.2.2.

> **Note:** If necessary, contact your system administrator before using or modifying an existing user.

4.2.2.2 Creating an Oracle Software Owner User

If the Oracle software owner user does not exist or if you require a new Oracle software owner user, then follow these steps to create one. In the following procedure, use the user name `oracle` unless a user with that name already exists.

1. To create the `oracle` user, enter a command similar to the following:

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

In this command, the `-g` option specifies the primary group, which must be the Oracle Inventory group, for example `oinstall`.

2. Set the password of the `oracle` user:

```
# passwd oracle
```

> **Note:** Oracle recommends you to use the same UIDs across all the OMSes, especially when you use Oracle Software Library. If the UIDs are different, then the files created by one OMS cannot be modified by another OMS.

4.2.2.3 Modifying an Oracle Software Owner User

If the `oracle` user exists, but its primary group is not `oinstall`, then enter a command similar to the following to modify it. Specify the primary group using the `-g` option.

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

5

Installing Cygwin and Starting SSH Daemon

This chapter explains how you can install Cygwin and start the SSH daemon on Microsoft Windows hosts. In particular, this chapter covers the following:

- Overview
- Installing Cygwin
- Setting Up the Timezone Variable on Remote Hosts

> **Note:** **This chapter is applicable only for the following cases:**
>
> - When the destination host on which you are installing a Management Agent is running on Microsoft Windows.
>
> - When the OMS host from where you are accessing the Add Host Targets Wizard is running on Microsoft Windows.

5.1 Overview

When you use the Add Host Targets Wizard to install Oracle Management Agent (Management Agent) on a destination host that is running on Microsoft Windows, as a prerequisite, you are expected to have Cygwin installed and the SSH Daemon started on that destination host.

Similarly, when you use the Add Host Targets Wizard to install from an OMS host that is running on Microsoft Windows, as a prerequisite, you are expected to have Cygwin installed on that source host.

The Add Host Targets Wizard is an application built into the Enterprise Manager Cloud Control console. It offers GUI-rich, interactive screens to enable you to install Management Agents on unmanaged hosts and convert them to managed hosts so that they can be monitored and managed in Enterprise Manager Cloud Control.

Cygwin is essentially a utility that offers a Linux-like environment on a Microsoft Windows operating system. Technically, it is a DLL (cygwin1.dll) that acts as a Linux API layer providing substantial Linux API functionality. Once you install Cygwin, you can configure the SSH Daemon on it.

The SSH Daemon enables the Add Host Targets Wizard to establish an SSH connectivity (Secure Shell) between the destination host and the host running Oracle Management Service (OMS). Using this connectivity, the wizard transfers the software binaries to the destination host over SSH protocol, and installs and configures the Management Agent.

> **Caution:** Ensure that your password-enabled SSH connection is set up between the host and OMS, and not between destination hosts.

In Enterprise Manager Cloud Control, the Add Host Targets Wizard automatically sets up and drops the SSH connectivity. Therefore, all you need to do is, manually install Cygwin on the destination host and start the SSH Daemon on it.

> **Note:** The Add Host Targets Wizard is certified and supported with Cygwin 1.7.

5.2 Installing Cygwin

To install Cygwin, follow these steps:

Before starting with the SSHD setup, ensure you are not using OpenSSH and MKSNT when using the Add Host Targets Wizard. The Add Host Targets Wizard uses the complete Cygwin suite (full collection of the software tools packaged in Cygwin).

To get the complete collection of Cygwin, do the following:

1. Ensure `OpenSSH\bin` and `mksnt` are not in your PATH environment variable. If they are, remove them by doing the following:

   a. Right-click on **My Computer** and go to **Properties**.

   b. In the System Properties window, click **Advanced.**

   c. In this tab, click **Environment Variables.**

   d. Here, search for the PATH system variable, select it, and if the `OpenSSH\bin` and `mksnt` are present in the PATH, click **Edit.**

   e. In the Edit System Variable dialog box, delete these two values from the PATH, and click **OK.**

2. Stop the SSH Daemon if it is running from `OpenSSH`:

   a. Right-click on **My Computer**, and select **Manage.**

   b. In the Computer Management window, in the left pane, expand **Services and Applications**, and select **Services**.

   c. In the right pane, right-click the SSH daemon service and click **Stop**.

   > **Note:** Ensure you rename the installation directories of `OpenSSH` and `mksnt.`

3. Visit the following Web site, and install the Cygwin software in the `C:\cygwin` directory:

   http://www.cygwin.com

Note: If you install Cygwin in a different directory on the destination host, then do the following:

(a) Ensure that you update the `$<OMS_ HOME>/oui/prov/resources/ssPaths_msplats.properties` file with the proper Cygwin binary values after installing the Enterprise Manager system.

(b) If the OMS as well as the target is on Microsoft Windows, ensure that Cygwin is installed in the same location on the OMS host.

While installing Cygwin, ensure that you select the following packages in the Select Packages screen:

a. From the **Archive** category, select `unzip` and `zip`.

Figure 5–1 Zip Unzip Binaries
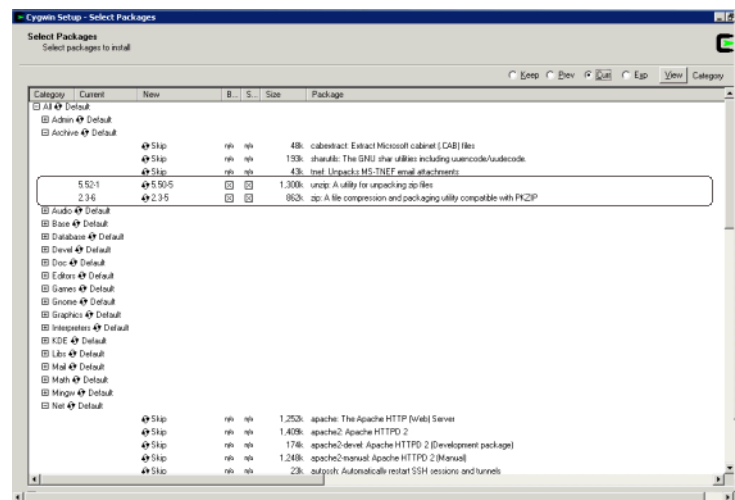
b. From the **Net** category, select `openssh`.

Figure 5–2   Net Packages
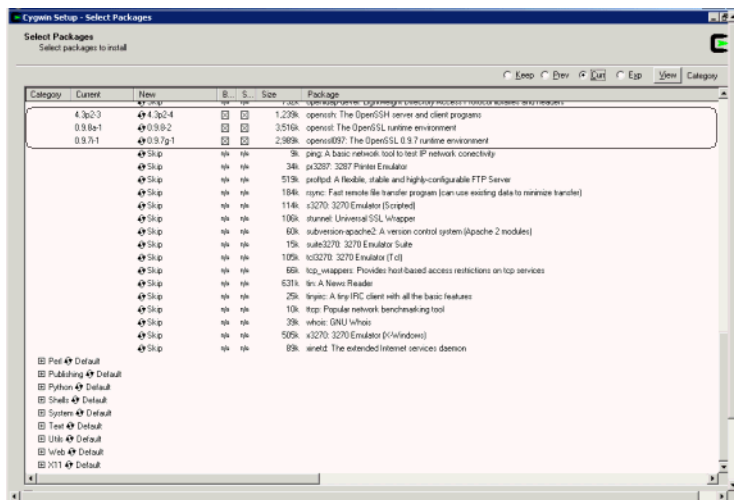
4. After you install Cygwin, navigate to the `C:\cygwin` directory, open the `cygwin.bat` file using the Notepad utility, and edit it to add the following line:

```
set CYGWIN=binmode tty ntsec
```

5. Open the Cygwin Bash Shell and verify whether `cygrunsrv` is installed:

```
bash
cygrunsrv -h
```

> **Note:**   If you are prompted to provide a Cygwin value, enter `binmode tty ntsec`. If this returns an error message stating *service does not exist*, you are on the right track, and can proceed to the next step.

6. Open a new command prompt and run the following:

```
-bash
-ssh-host-config
```

> **Note:**   Enter *no* when prompted to create sshd user account (message reads *sshd user account needs to be created*).
>
> Enter *yes* for all other prompts.
>
> When prompted to answer the question *Which value should the environment variable CYGWIN have when sshd starts?*, Oracle recommends that you set the value to at least *ntsec* as shown in the following example. This will enable you to change the user context without having to specify the password.
>
> As an answer to the previously mentioned question, specify a value that is similar to the following and press **Enter**:
>
> ```
> CYGWIN="binmode tty ntsec"
> ```

7. Now, open the `/etc/passwd` file, and remove only those entries of the user that you will use to connect to the OMS machine.

For example,

- If the user that you are employing to connect to the OMS machine is a local user, execute the following:

```
/bin/mkpasswd -l -u <USER> >> /etc/passwd
```

- If the user you are employing to connect to the OMS machine is a domain user, execute the following:

```
/bin/mkpaswd.exe -d -u <USER> >> /etc/passwd
/bin/mkgroup.exe -d >> /etc/group


mkdir -p /home/<USER>  (for example, mkdir -p /home/pjohn)
chown <USER> /home/<USER> (for example, chown pjohn /home/pjohn)
```

8. Start the SSH daemon.

If the user you are employing to connect to the OMS machine is a domain user, do the following:

a. Right-click on **My Computer**, and select **Manage**.

b. In the Computer Management dialog box that appears, go to Services and Applications, and select **CYGWIN sshd**.

c. Right-click **CYGWIN sshd** and select **Properties**.

d. In the Properties dialog box, go to the **Log On** tab.

e. Here, specify the domain/user name and password. Click **Apply.**

f. Change the permission of `/etc/ssh_host_rsa_key`. It is recommended that you do not allow private key files to be accessible by others.

Now, go to the CYGWIN command prompt, and execute the following:

```
chmod 644 /etc/ssh*
   chown <USERNAME> /var/empty
   chmod 755 /var/empty
   chmod 644 /var/log/sshd.log
```

> **Note:** If `/var/log/sshd.log` does not exist, you do not have to execute the following command:
>
> ```
> chmod 644 /var/log/sshd.log
> ```

g. Start the SSH daemon by executing:

```
/usr/sbin/sshd
```

Alternatively, from the same BASH prompt, you can also execute:

```
cygrunsrv -S sshd
```

> **Note:** Use `cygrunsrv -E sshd` to stop the SSH daemon.

9. You can now test your `cygwin` setup.

To do this, go to a different machine (that has the `ssh` client running), and execute the following command:

```
ssh -l <USERNAME> <localhost> 'date'

OR

ssh -l <USERNAME> <this node> 'date'
```

For example,

```
ssh -l pjohn example.com 'date'
```

This command will prompt you to specify the password. When you specify the correct password, the command should return the accurate date.

5.3 Setting Up the Timezone Variable on Remote Hosts

To verify if the timezone environment variable (`TZ`) is accessible by the SSH server on the remote hosts, execute the following command from the OMS host:

```
ssh -l <user_name> -n <remote_node> 'echo $TZ'
```

If this command does not return the `TZ` environment variable value, you must set the `TZ` variable and ensure this is accessible by the SSH server. You can set the `TZ` environment variable on remote hosts in the following sections:

5.3.1 Set the TZ variable and Restart the SSH Daemon

If the shell being used is BASH, add the following line to the `.bashrc` file in the home directory of the user (being used) for `ssh` access:

```
export TZ=<your machine's timezone>
```

If you are using a CSH shell, then add the following line to the `.cshrc` file in that directory:

```
setenv TZ <your machine's timezone>
```

1. Depending on the shell that is present on the host, set the TZ variable by running the following command. In the following command, `PST8PDT` is only an example.

```
For a CSH Shell, specify:
setenv TZ PST8PDT
```

2. Restart the SSH daemon by executing:

```
sudo /etc/init.d/sshd restart
```

3. Now, execute the following command from the OMS home to verify if the SSH server can access the TZ variable.

```
ssh -l <user_name> -n <node_name> 'echo $TZ'
```

5.3.2 Set the TZ Variable in the "Shell rc" File

The timezone variable must be set in the `rc` file of the shell that the host is using.

For example, if the host is using a BASH shell, go to the user's home directory ($HOME) and add the following to the ~/.bashrc file to set the TZ variable:

```
TZ=PST8PDT; export TZ
```

If the host is using a CSH shell, go to $HOME and add the following to the ~/.cshrc file:

```
setenv TZ PST8PDT
```

Now, execute the following command from the OMS home to verify if the SSH server can access the TZ variable.

```
ssh -l <user_name> -n <node_name> 'echo $TZ'
```

Part III

Installation

This part describes how you can install Enterprise Manager Cloud Control. In particular, this part contains the following chapters:

- Chapter 6, "Installing Enterprise Manager System"
- Chapter 7, "Adding Additional Oracle Management Service"
- Chapter 8, "Installing Oracle Management Agent"
- Chapter 9, "Installing Application Dependency and Performance"
- Chapter 10, "Installing JVM Diagnostics"

6

Installing Enterprise Manager System

This chapter describes how you can install a new Enterprise Manager system while utilizing an existing, certified Oracle Database to store Oracle Management Repository (Management Repository). In particular, this chapter covers the following:

- Overview
- Before You Begin
- Prerequisites
- Installation Procedure
- After You Install

6.1 Overview

You can install Enterprise Manager Cloud Control with either simple or advanced configuration.

Simple	Installs with typical, default configuration. As the name suggests, it is simple and quick — you are prompted to enter only the administrator password and the database connection details.
	While the database connection details are used for connecting to your existing, certified Oracle Database, the administrator password is used as a common password for SYSMAN user account, WebLogic user account, node manager user account, and also for authenticating new Oracle Management Agents that join the Enterprise Manager system.
	The rest of the installation comes with default settings and preferences that Oracle believes you will need for a complete Enterprise Manager system.
	This option is meant for administrators who do not worry about the granular control of the installer and want to install the Enterprise Manager System quickly.
Advanced	Installs with custom or advanced configuration, and is more flexible — you are prompted to enter WebLogic Server details, database connection details, data file locations for tablespaces, a password for creating the SYSMAN user account, and also customize ports according to your environment.

As part of a new Enterprise Manager system, the installation wizard does the following:

- Installs the following components in the middleware home you enter in the installation wizard:

  - Java Development Kit (JDK) 1.6 v24

  - Oracle WebLogic Server 11g Release 1 (10.3.5)

  - Oracle Management Service 12*c* Release 1 (12.1.0.1)

  - Oracle Management Agent 12*c* Release 1 (12.1.0.1)

  - Oracle JRF 11g Release (11.1.1.4.0), which includes `oracle_common` directory

  - Oracle Web Tier 11g Release (11.1.1.4.0), which includes `Oracle_WT` directory

  - Oracle Management Plug-Ins

    * Oracle Database Management Plug-In

    * Oracle Fusion Middleware Management Plug-In

    * Oracle My Oracle Support Management Plug-In

    * Oracle Exadata Management Plug-In

  Note:

  - Java Development Kit (JDK) 1.6 v24 and Oracle WebLogic Server 11g Release 1 (10.3.5) are installed only if they do not exist in your environment.

  - If you want to manually install Oracle WebLogic Server 11g Release 1 (10.3.5), then follow the guidelines outlined in Section 6.2.

  - In addition to the mandatory plug-ins listed above, you can optionally install other plug-ins available in the software kit (DVD, downloaded software). The installer offers a screen where you can select the optional plug-ins and install them. However, if you want to install some plug-ins that are not available in the software kit (DVD, downloaded software), then refer to Section 6.4.2.1.

- Creates an Oracle WebLogic domain called `GCDomain`. For this WebLogic Domain, a default user account, `weblogic`, is used as the administrative user. You can choose to change this, if you want, in the installer.

- Creates a Node Manager user account called `nodemanager`. A Node Manager enables you to start, shut down, or restart an Oracle WebLogic Server instance remotely, and is recommended for applications with high availability requirements.

- Configures an Oracle Management Service Instance Base location (`gc_inst`) in the Oracle Middleware Home (middleware home), for storing all configuration details related to Oracle Management Service 12*c*. You can choose to change this, if you want, in the installer.

  For example, if the middleware home is `/u01/app/Oracle/Middleware/`, then the instance base location is `/u01/app/Oracle/Middleware/gc_inst`. You can choose to change this, if you want, in the installer. However, you can change it for only advanced installation and not for simple installation.

- Configures Oracle Management Repository in the existing, certified Oracle Database.

- Runs the following configuration assistants to configure the installed or upgraded components:

  - Plugins Prerequisites Check

  - Repository Configuration Assistant

  - MDS Schema Configuration Assistant

  - OMS Configuration Assistant

  - Plugins Deployment and Configuration Assistant

  - Start Oracle Management Service Configuration Assistant

  - Plugins Inventory Migration Configuration Assistant

  - Oracle Configuration Manager Repeater Configuration Assistant

  - Oracle Configuration Manager for OMS Configuration Assistant

  - Agent Configuration Assistant

By default, the following are the contents of the middleware home for this type of installation:

```
<middleware_home>
        |_____wlserver_10.3
        |_____jdk16
        |_____oms
        |_____plugins
             |_____oracle.sysman.db.oms.plugin_12.1.0.1.0
             |_____oracle.sysman.emas.oms.plugin_12.1.0.1.0
             |_____oracle.sysman.mos.oms.plugin_12.1.0.1.0
        |_____agent
             |_____plugins
                    |_____oracle.sysman.db.agent.plugin_12.1.0.1.0
                    |_____oracle.sysman.db.discovery.plugin_12.1.0.1.0
                    |_____oracle.sysman.emas.agent.plugin_12.1.0.1.0
                    |_____oracle.sysman.emas.discovery.plugin_12.1.0.1.0
             |_____core
                    |_____12.1.0.1.0
             |_____agent_inst
             |_____sbin
             |_____agentimage.properties
        |_____gc_inst
        |_____Oracle_WT
        |_____oracle_common
        |_____utils
        |_____logs
        |_____modules
        |_____user_project
        |_____ocm.rsp
        |_____registry.dat
        |_____domain-registry.xml
        |_____registry.xml
```

6.2 Before You Begin

Before you begin, keep these points in mind:

- You must ensure that you have the latest Enterprise Manager Cloud Control software:

  - Ensure that you have the Enterprise Manager Cloud Control software released in February 2012 - *Enterprise Manager Cloud Control 12c Release 1 (12.1.0.1) (With Bundle Patch 1).* You can download it from the following URL:

    http://www.oracle.com/technetwork/oem/enterprise-manager/downloads/index.html

  - If you had downloaded and installed the Enterprise Manager Cloud Control software released in October 2011, then apply the following patches, which are part of the Bundle Patch 1 released in February 2012, on the OMS and the Management Agent. In this case, you do not have to download the one released in February 2012.

    * On OMS, apply the patch 13242773.

    * On Management Agent, apply the patches 13242776, 13491785, 13550565, and 13550561.

      To apply these patches, you can either read the *My Oracle Support* note 1395505.1 or the ReadMes packaged with the patches.

  - If you had downloaded the Enterprise Manager Cloud Control software released in October 2011, but not installed it yet, then discard that software and download the one released in February 2012 - *Enterprise Manager Cloud Control 12c Release 1 (12.1.0.1) (With Bundle Patch 1.* You can download it from the following URL:

    http://www.oracle.com/technetwork/oem/enterprise-manager/downloads/index.html

- *(Only for Microsoft Windows)* Ensure that there are no white spaces in the name of the directory where you download the Enterprise Manager Cloud Control software. For example, do not download the software to a directory titled `Program Files` because there is a white space between the two words of the directory name.

- You can install Enterprise Manager Cloud Control using the installation wizard only on a single host, that is, locally on the server where the wizard is invoked. You cannot install on multiple or remote hosts.

- Enterprise Manager Cloud Control can communicate only with Oracle Management Agent 12c and not with any earlier release of the Management Agent.

- While installing on hosts that have multiple host names (for example, virtual hosts), you can pass the fully qualified host name using the `ORACLE_HOSTNAME` argument. Ensure that the host name you enter does not have underscores.

  For example:

  `./runInstaller ORACLE_HOSTNAME=example.com`

- You must not set the `ORACLE_HOME` and `ORACLE_SID` environment variables. You must ensure that the Oracle directories do NOT appear in the PATH.

- You must set the `DISPLAY` environment variable.

  - In bash terminal, run the following command:

    `export DISPLAY=<hostname>:<vnc port>.0`

    For example, `export DISPLAY=example.com:1.0`

- In other terminals, run the following command:

  `setenv DISPLAY <hostname>:1.0`

  For example, `setenv DISPLAY example.com:1.0`

■ The Enterprise Manager Cloud Control Installation Wizard installs Java Development Kit (JDK) 1.6 v24 and Oracle WebLogic Server 11g Release 1 (10.3.5) only if they do not exist in your environment.

■ If Oracle WebLogic Server 11g Release 1 (10.3.5) does not exist and if you want to manually install it, then ensure that you install it using JDK 1.6 v24+ (64-bit version for 64-bit platforms and 32-bit version for 32-bit platforms).

- Download JDK 1.6 v24+ for your platform from the platform vendor's Web site. For example, download SUN JDK 1.6 v24+ for Linux platforms from Oracle Web site. Similarly, download the JDK for other platforms from other vendors' trusted Web sites.

- If you already have JDK, then verify its version by navigating to the `<JDK_ Location>/bin` directory and running the following command:

  `"./java -fullversion"`

  To verify whether it is a 32-bit or a 64-bit JDK, run the following command:

  `"file *"`

- JROCKIT is not supported.

- If you want to manually install Oracle WebLogic Server 11g Release 1 (10.3.5) on Linux 64-bit platforms, first install the 64-bit JDK for that platform, and then download and use the `wls1035_generic.jar` file to install Oracle WebLogic Server.

  For example,

  `<JDK home>/bin/java -d64 -jar <absolute_path _to_wls1035_ generic.jar>`

- If you want to manually install Oracle WebLogic Server 11g Release 1 (10.3.5) on Linux 32-bit platforms, then download and use either the `wls1035_ linux32.bin` file or the `wls1035_generic.jar` file.

  For example,

  `<JDK home>/bin/java  -jar <absolute_path _to_wls1035_ generic.jar>`

- You must download the Oracle WebLogic Server software from Oracle Web site, and follow the instructions outlined in the *Oracle® Fusion Middleware Installation Guide for Oracle WebLogic Server* to install it. The guide is available in the Fusion Middleware documentation library available at:

  http://www.oracle.com/technetwork/middleware/weblogic/docu mentation/index.html

- You must ensure that the Oracle WebLogic Server installation is a typical installation, and even if you choose to perform a custom installation, ensure that components chosen for custom installation are the same as the ones associated with a typical installation.

- You must ensure that the user installing the WebLogic Server is the same as the one installing Enterprise Manager Cloud Control.

- You must not install Enterprise Manager Cloud Control in a middleware home that is on an NFS-mounted drive. Installing Enterprise Manager on an NFS-mounted drive causes the Oracle HTTP Server to restart frequently, which in turn makes the OMS inaccessible.

  If you are forced to install on such a shared drive, then perform an advanced installation as described in Section 6.4.2 so that you can enter a non-NFS-mounted location for the OMS instance base directory (`gc_inst`). In simple installation, you have no control over the OMS instance base directory location, as the default location is set by the installation wizard.

- You must ensure that the Oracle WebLogic Server 11g Release 1 (10.3.5) installed by the Enterprise Manager Cloud Control Installation Wizard or by you is dedicated for Enterprise Manager Cloud Control. You must not have any other Oracle Fusion Middleware product installed in that middleware home.

  Enterprise Manager Cloud Control cannot coexist with any Oracle Fusion Middleware product in the same middleware home because the `ORACLE_COMMON` property is used by both the products.

- Oracle offers bug fixes for a product based on the *Oracle Lifetime Support Policy*. When the license period expires for a particular product, the support for bug fixes offered by Oracle also ends. For more information, see the *Oracle Lifetime Support Policy* available at:

  http://www.oracle.com/support/library/brochure/lifetime-support-technology.pdf

  When determining supportability and certification combinations for an Enterprise Manager Cloud Control installation, you must consider Enterprise Manager Cloud Control's framework components as well as the targets monitored by Enterprise Manager Cloud Control. Oracle recommends keeping your Cloud Control components and targets updated to the latest certified versions in order to receive code fixes without having to purchase an Extended Support license.

- You must upgrade all *existing* EMCLI clients of the earlier release to 12c Release 1 so that they can work with Enterprise Manager Cloud Control. This means, you must discard the old one and set up a new one.

  For information about setting up a new EMCLI client, see the *Enterprise Manager Command Line Interface Download* page within the Cloud Control console. To access that page, in Cloud Control, from the **Setup** menu, select **My Preferences**, and then, click **Command Line Interface**.

- In addition to the mandatory plug-ins listed above, you can optionally install other plug-ins available in the software kit (DVD, downloaded software). The installer offers a screen where you can select the optional plug-ins and install them. However, if you want to install some plug-ins that are not available in the software kit (DVD, downloaded software), then refer to Section 6.4.2.1.

- You can find the OMS and Management Agent entries in the `/etc/oragchomelist` file for all UNIX platforms except HPUNIX, HPia64, Solaris Sparc.

  On HPUNIX, HPia64, Solaris Sparc platforms, the entries are present in `/var/opt/oracle/oragchomelist`.

- As a prerequisite, you must have an existing Oracle Database to configure the Management Repository. This database can also have the Automatic Memory Management (AMM) feature enabled.

6.3 Prerequisites

Table 6–1 lists the prerequisites you must meet before installing Enterprise Manager Cloud Control.

Table 6–1   Prerequisites for Installing Enterprise Manager Cloud Control

Requirement	Description
Hardware Requirements	Ensure that you meet the hard disk space and physical memory requirements as described in Chapter 2.
Operating System Requirements	Ensure that you install Enterprise Manager Cloud Control only on certified operating systems as mentioned in the Enterprise Manager Certification Matrix available on *My Oracle Support*.
	To access this matrix, follow these steps:
	1. Log in to *My Oracle Support*, and click the **Certifications** tab.
	2. On the Certifications page, in the **Certification Search** region, from the **Product** list, select **Enterprise Manager Cloud Control**.
	3. From the **Release** list, select **12.1.0.1.0**, and click **Search**.
	Note: If you use Oracle Solaris 10, then ensure that you have update 9 or higher installed. To verify whether it is installed, run the following command:
	`cat /etc/release`
	You should see the output similar to the following. Here, `s10s_u6` indicates that update 6 is already installed.
	`Solaris 10 10/08 s10s_u6wos_07b SPARC`
Package Requirements	Ensure that you install all the operating system-specific packages as described in Chapter 3.
Operating System Groups and Users Requirements	Ensure that you create the required operating system groups and users as described in Chapter 4.
Unique Host Name and Static IP Address Requirements	Ensure that you check the network configuration to verify that the host on which you are installing resolves to a *unique* host name and a *static* IP address that are visible to other hosts in the network.
	Note: You must use only a *static* IP address. If you use a dynamic IP address, the installation will fail.
Temporary Directory Space Requirements	Ensure that you allocate 400 MB of space for a temporary directory where the executables can be copied.
	By default, the temporary directory location set to the environment variable `TMP` or `TEMP` is honored. If both are set, then TEMP is honored. If none of them are set, then the following default values are honored: `/tmp` on UNIX hosts and `c:\Temp` on Microsoft Windows hosts.
Central Inventory Requirements	Ensure that you allocate 100 MB of space for the central inventory directory.
	Also ensure that the central inventory directory is not on a shared file system. If it is already on a shared file system, then switch over to a non-shared file system by following the instructions outlined in *My Oracle Support* note 1092645.1.

Table 6–1   (Cont.) Prerequisites for Installing Enterprise Manager Cloud Control

Requirement	Description
UMASK Value Requirements	Ensure that you set the default file mode creation mask (umask) to 022 in the shell startup file.
	For example:
	■ **Bash Shell**
	`$ . ./.bash_profile`
	■ **Bourne or Korn Shell**
	`$ . ./.profile`
	■ **C Shell**
	`% source ./.login`
File Descriptor Requirements	Ensure that you set the file descriptor to a minimum of 4096.
	To verify the current value set to the file descriptors, run the following command:
	`/bin/sh -c "ulimit -n"`
	If the current value is not 4096 or greater, then as a *root* user, update the `/etc/security/limits.conf` file with the following entries:
	`<UID> soft nofile 4096`
	`<UID> hardnofile 4096`
Existing Database Version Requirements	Ensure that the existing database is a certified database as mentioned in the Enterprise Manager Certification Matrix available on *My Oracle Support*.
	To access this matrix, follow these steps:
	1. Log in to *My Oracle Support*, and click the **Certifications** tab.
	2. On the Certifications page, in the **Certification Search** region, from the **Product** list, select **Enterprise Manager Cloud Control**.
	3. From the **Release** list, select **12.1.0.1.0**, and click **Search**.
	Important:
	■ Ensure that the database is patched with all the Patch Set Updates (PSU) or Critical Patch Updates (CPU) released for that release. Also ensure that you apply the patches
	■ If you use Oracle Database 11*g* Release 2 (11.2.0.1), then ensure that you apply the patches for bugs 10014178 and 8799099.
	■ If you use Oracle Database 11g Release 1 (11.1.0.7), then ensure that you apply Patch Set Update 2 and the patches for bugs 8644757 and 7525072.
	■ The database can also have the Automatic Memory Management (AMM) feature enabled.

Table 6–1   (Cont.) Prerequisites for Installing Enterprise Manager Cloud Control

Requirement	Description

Host File Requirements	Ensure that the host name specified in the /etc/hosts file is unique, and ensure that it maps to the correct IP address of that host. Otherwise, the installation can fail on the product-specific prerequisite check page.
	
	The following is the recommended format of the /etc/hosts file:
	
	`<ip> <fully_qualified_host_name> <short_host_name>`
	
	For example,
	
	`172.16.0.0 example.com host1`
	
	According to RFC 952, the following are the assumptions: A *name* (Net, Host, Gateway, or Domain name) is a text string up to 24 characters drawn from the alphabet (A-Z), digits (0-9), minus sign (-), and period (.). Note that periods are only allowed when they serve to delimit components of *domain style names*. No blank or space characters are permitted as part of a name. No distinction is made between upper and lower case. The first character must be an alpha character.
	
	Also, if DNS server is configured in your environment, then you should be able to use DNS to resolve the name of the host on which you want to install the OMS.
	
	For example, all these commands must return the same output:
	
	`nslookup host1`
	
	`nslookup example.com`
	
	`nslookup 172.16.0.0`

Installing User Requirements	Ensure that you meet the following requirements: ■ (For UNIX only) The installation must NOT be run by a *root* user. ■ (For Microsoft Windows only) User must be part of the ORA-DBA group and have administrator permissions. ■ (For Microsoft Windows only) User must belong to the DBA group, and have permissions to perform the following: Act as part of the operating system, Create a token object, Log on as a batch job, and Adjust memory quotas for a process. To verify whether the install user has these rights, from the Start menu, click **Settings** and then select **Control Panel**. From the Control Panel window, select **Administrative Tools**, and from the Administrative Tools window, select **Local Security Settings**. In the Local Security Settings window, from the tree structure, expand **Local Policies**, and then expand **User Rights Assignment**.

Table 6–1   (Cont.) Prerequisites for Installing Enterprise Manager Cloud Control

Requirement	Description
Permission Requirements	■ Ensure that you have *write* permission in the middleware home and the Oracle Management Service Instance Base location.
	■ Ensure that you have *write* permission in the temporary directory where the executables will be copied. For example, /tmp or c:\Temp.
	■ Ensure that you have *write* permission in the location where you want to create the Central Inventory (oraInventory) if it does not already exist. If the Central Inventory already exists, then ensure that you have *write* permission in the inventory directory.
	■ Ensure that the user who installed the existing Oracle Database has *write* permission in the data file locations where the data files for the new tablespaces will be copied.
	These tablespaces and data files are created while configuring Enterprise Manager Cloud Control. While installing with simple configuration (Section 6.4.1), the installer automatically honors the default locations so you are not prompted for them. However, while installing with custom configuration (Section 6.4.2), the installer prompts you to validate or enter the locations explicitly.
Central Inventory Location Requirements	Ensure that the Central Inventory (oraInventory) is not in a shared location. When you use the /etc/oraInst.loc file, ensure that the inventory location specified there is not pointing to a shared location. If it is, change it to a non-shared location.
Proximity Requirements	Ensure that the host on which the OMS is being installed and the host on which the Management Repository is being configured are located in close proximity to each other. Ideally, the round trip network latency between the two should be less than 1 millisecond.
Port Requirements	Ensure that the ports you assign (within the given range) to the following components are free and available:
	■ Admin Server HTTP SSL Port = 7101 - 7200
	■ Enterprise Manager Upload HTTP Port = 4889 - 4898
	■ Enterprise Manager Upload HTTP SSL Port = 1159, 4899 - 4908
	■ Enterprise Manager Central Console HTTP Port = 7788 - 7798
	■ Enterprise Manager Central Console HTTP SSL Port = 7799 - 7809
	■ Oracle Management Agent Port = 3872, 1830 - 1849
	To verify if a port is free, run the following command:
	■ On Unix:
	netstat -anp | grep <port no>
	■ On Microsoft Windows:
	netstat -an|findstr <port_no>
Internet Connection Requirements	Oracle recommends that the host from where you are running the installer have a connection to the Internet so that the configuration information can be automatically collected and uploaded to My Oracle Support.

6.4 Installation Procedure

This section describes the following:

- Installing with Simple Configuration

- Installing with Advanced Configuration

6.4.1 Installing with Simple Configuration

To install Enterprise Manager Cloud Control with simple configuration, follow these steps:

> **Note:** Oracle recommends you to run the EM Prerequisite Kit before invoking the installer to ensure that you meet all the repository requirements beforehand. This helps you set up your Management Repository beforehand without starting the installation or upgrade process. For information on the kit, to understand how to run it, and to know about the prerequisite checks it runs, see Appendix A.

1. **Invoke the Enterprise Manager Cloud Control Installation Wizard**

   Invoke the installation wizard as a user who belongs to the `oinstall` group you created following the instructions in Chapter 4.

   `<Software_Location>/runInstaller`

   In this command, `<Software_Location>` is either the DVD location or the location where you have downloaded the software kit.
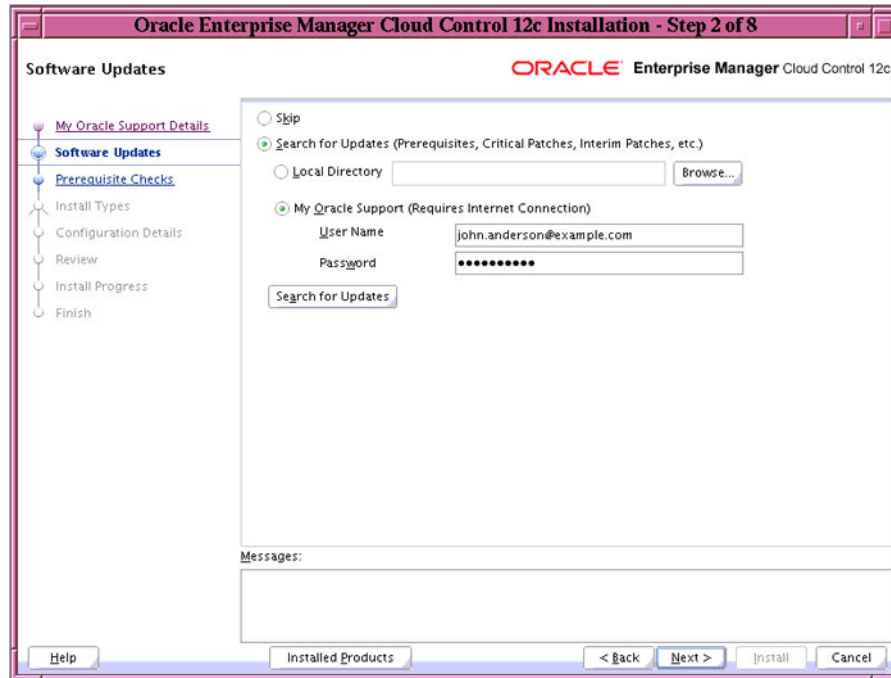
2. **Enter My Oracle Support Details**

   (Optional) On the My Oracle Support Details screen, enter your *My Oracle Support* credentials to enable Oracle Configuration Manager. If you do not want to enable Oracle Configuration Manager now, go to Step (3).

   If the host from where you are running the installation wizard does not have a connection to the Internet, then enter only the e-mail address and leave the other

fields blank. After you complete the installation, manually collect the configuration information and upload it to *My Oracle Support*.

3. Click **Next**.

4. **Install Software Updates**

On the Software Updates screen, select one of the following sources from where the software updates can be installed while the installation of the Enterprise Manager system is in progress. If you do not want to apply them now, then select **Skip**.

- (Recommended) Select **Search for Updates**, and then, select **Local Directory** if you have already manually downloaded the software updates to an accessible local or remote location. Enter the location where the updates are available, and click **Search for Updates**. To search the computer and select the location, click **Browse**. Once the search results appear with patch numbers and their details, click the patch number to view the ReadMe associated with that patch.

    - If the updates have been downloaded to the default location, then select or enter the full path to the scratch path location. For example, if the scratch path location is `/scratch/OracleHomes` and if the software updates are available in `/scratch/OracleHomes/Updates`, then enter `/scratch/OracleHomes/Updates`.

    - If the software updates have been downloaded to a custom location, then select or enter the full path to the custom location. For example, if the custom location is `/home/john` and if the software updates are available in `/home/john/Updates`, then enter `/home/john/Updates`.

- Select **Search for Updates**, and then, select **My Oracle Support** if you want the installer to connect to *My Oracle Support* and automatically download the updates from there.

    Enter the My Oracle Support account user name and password, and click **Search for Updates**. Once the search results appear with patch numbers and

their details, click the patch number to view the ReadMe associated with that patch

> **Note:** If you choose to skip installing the software updates during installation by not providing the My Oracle Support credentials, you can always register the credentials later using the Enterprise Manager Cloud Control console and view the recommended security patches. To do so, log in to Enterprise Manager Cloud Control, and from the **Setup** menu, select **My Oracle Support**, and then, click **Set Credentials**. On the My Oracle Support Preferred Credentials page, enter the credentials and click **Apply**.

5. Click **Next**.

    If Enterprise Manager Cloud Control is the first Oracle product you are installing on the host that is running on UNIX operating system, then the Oracle Inventory screen appears. For details, see step (6). Otherwise, the Check Prerequisites screen appears. For details, see step (8).

    If Enterprise Manager Cloud Control is the first Oracle product you are installing on the host that is running on Microsoft Windows operating system, then the Oracle Inventory screen does not appear. On Microsoft Windows, the following is the default inventory directory:

    ```
    <system drive>\Program Files\Oracle\Inventory
    ```

6. **Enter Oracle Inventory Details**

    On the Oracle Inventory screen, do the following. You will see this screen only if this turns out to be your first ever installation of an Oracle product on the host.

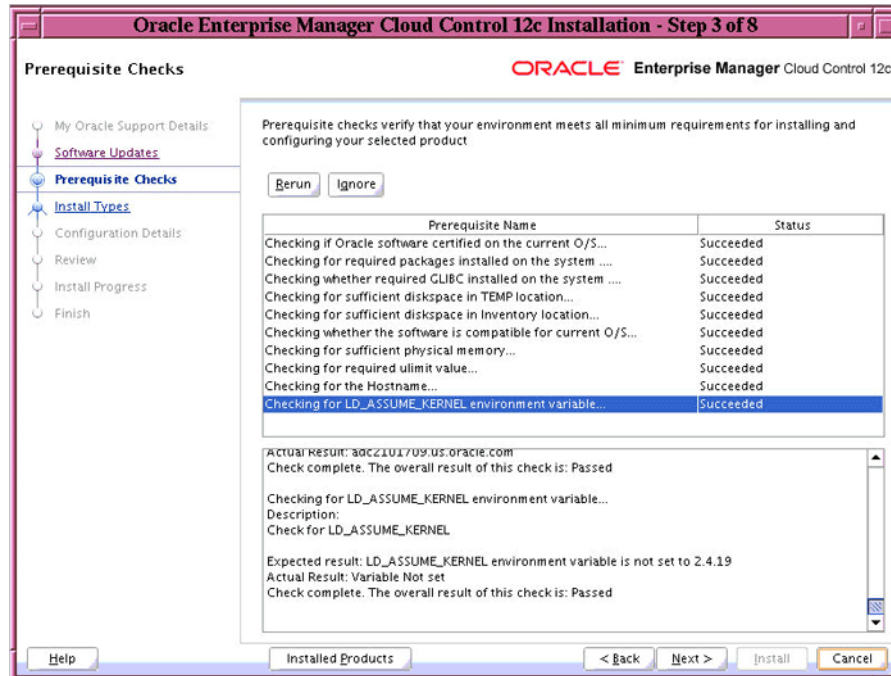   a. Enter the full path to a directory where the inventory files and directories can be placed.

        > **Note:**
        >
        > - The central inventory location you enter must NOT be on a shared file system. If it is already on a shared file system, then switch over to a non-shared file system by following the instructions outlined in *My Oracle Support* note 1092645.1
        >
        > - If this is the first Oracle product on the host, then the default central inventory location is `<home directory>/oraInventory`. However, if you already have some Oracle products on the host, then the central inventory location can be found in the `oraInst.loc` file. The `oraInst.loc` file is located in the `/etc` directory for Linux and AIX, and in the `/var/opt/oracle` directory for Solaris, HP-UX, and Tru64.

    b. Select the appropriate operating system group name that will own the Oracle inventory directories. The group that you select must have *write* permissions on the Oracle Inventory directories.

7. Click **Next**.

8. **Check Prerequisites**

On the Prerequisite Checks screen, check the status of the prerequisite checks run by the installation wizard, and verify whether your environment meets all the minimum requirements for a successful installation.

The installation wizard runs the prerequisite checks automatically when you come to this screen. It checks for the required operating system patches, operating system packages, and so on.

The status of the prerequisite check can be either **Warning**, **Failed**, or **Succeeded**.

■ If some checks result in **Warning** or **Failed** status, then investigate and correct the problems before you proceed with the installation. The screen provides details on why the prerequisites failed and how you can resolve them. After you correct the problems, return to this screen and click **Rerun** to check the prerequisites again.

■ Although Oracle recommends you to investigate and correct the problems, if you are compelled to proceed without resolving them, then select **Ignore** to ignore the warnings and failures.

   However, all package requirements must be met or fixed before proceeding any further. Otherwise, the installation might fail.

9. Click **Next**.

10. **Select Installation Type**
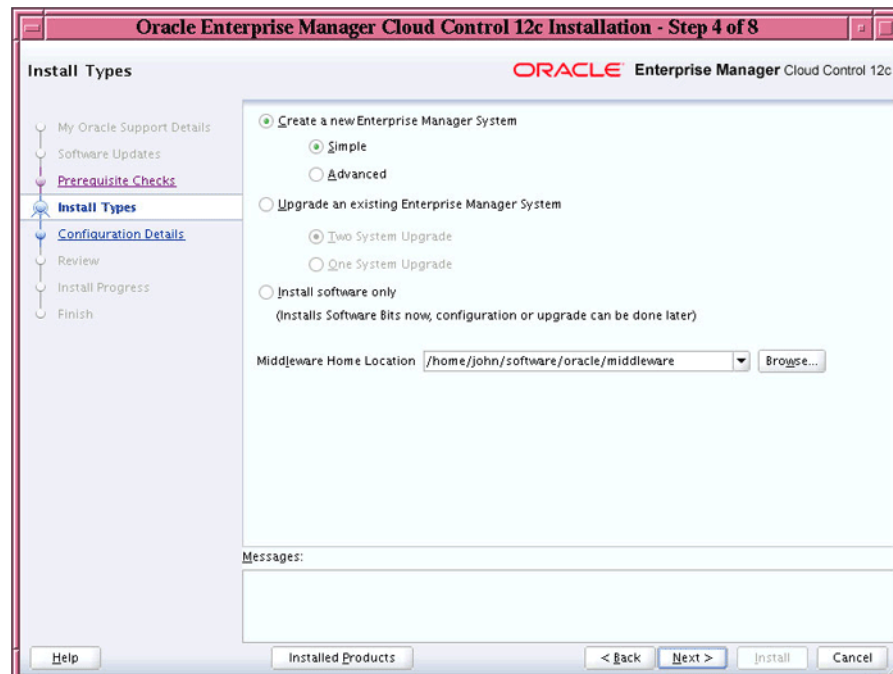
On the Install Types screen, do the following:

a. Select **Create a New Enterprise Manager System**, and then, select **Simple**.

b. Validate or enter the middleware home where you want to install the OMS and other core components.

Note:

- If you have Oracle WebLogic Server and Java Development Kit already installed, then ensure that they are of the supported releases—Oracle WebLogic Server 11g Release 1 (10.3.5) and JDK 1.6 v24+. If you have the supported releases, the installer automatically detects them and displays the absolute path to the middleware home where they are installed. In this case, validate the middleware home. If the location is incorrect, then enter the path to the correct location. Ensure that the middleware home you select or enter is a middleware home that does not have any Oracle homes for Oracle Management Service and Oracle Management Agent.

- If you do not have Oracle WebLogic Server 11g Release 1 (10.3.5) and JDK 1.6 v24+, then the installer automatically installs them for you while installing the Enterprise Manager system. In this case, enter the absolute path to a directory where you want to have them installed. For example, `/oracle/software/`. Ensure that the directory you enter does not contain any files or subdirectories.

- If you manually install Oracle WebLogic Server 11g Release 1 (10.3.5), then follow the guidelines outlined in Section 6.2.

---

11. Click **Next**.

12. **Enter Configuration Details**

On the Configuration Details screen, do the following:

a. Enter an administrator password, which can be used as a common password for configuring the Enterprise Manager Cloud Control.

Note: Ensure that your password contains at least 8 characters without any spaces, begins with a letter, and includes at least one numeric value.

The administrator password is used as a common password for SYSMAN user account, WebLogic user account, node manager user account, and also for authenticating new Oracle Management Agents that join the Enterprise Manager system.

b. Enter the fully qualified name of the host where the existing database resides, the database's listener port and its service name or system ID (SID), and the SYS user account's password.

Note: Oracle Real Application Cluster (Oracle RAC) nodes are referred to by their virtual IP (vip) names. The `service_name` parameter is used instead of the system identifier (SID) in `connect_ data` mode, and failover is turned on. For more information, refer to *Oracle Database Net Services Administrator's Guide*.

The installer uses this information to connect to the existing, certified Oracle Database for creating the SYSMAN schema. SYSMAN schema holds most of the relational data used in managing Enterprise Manager Cloud Control.

> **Note:** If any repository-related prerequisite check fails, see
> Appendix A to manually run the prerequisite check.

13. Click **Next**.

> **Note:**
>
> - If you are connecting to an Oracle RAC database, and if you have
>   specified the virtual IP address of one of its nodes, then the
>   installation wizard prompts you with a Connection String dialog
>   and requests you to update the connection string with
>   information about the other nodes that are part of the cluster.
>   Update the connection string and click **OK**. If you want to test the
>   connection, click **Test Connection**.
>
> - If your Oracle RAC database is configured with Single Client
>   Access Name (SCAN) listener, then you can enter a connection
>   string using the SCAN listener.
>
> - Oracle Real Application Cluster (Oracle RAC) nodes are referred
>   to by their virtual IP (vip) names. The `service_name` parameter
>   is used instead of the system identifier (SID) in `connect_data`
>   mode, and failover is turned on. For more information, refer to
>   *Oracle Database Net Services Administrator's Guide*.
>
> - If you see an error stating that the connection to the database
>   failed with ORA-01017 invalid user name/password, then follow
>   these steps to resolve the issue:
>
>   (1) Verify that SYS password provided is valid.
>
>   (2) Verify that the database initialization parameter `REMOTE_`
>   `LOGIN_PASSWORDFILE` is set to Shared or Exclusive.
>
>   (3) Verify that password file with the file name `orapw<SID>`
>   exists in the `<ORACLE_HOME>/dbs` directory of the database
>   home. If it does not, create a password file using the `ORAPWD`
>   command.

14. Review and Install

On the Review screen, review the details you provided for the selected installation type.

- If you want to change the details, click **Back** repeatedly until you reach the screen where you want to make the changes.

- After you verify the details, if you are satisfied, click **Install** to begin the installation process.

15. On the Install Progress screen, view the overall progress (in percentage) of the installation and the status of each of the configuration assistants. Configuration assistants are run for configuring the installed components of Enterprise Manager Cloud Control.

Note:

- If a configuration assistant fails, the installer stops and none of the subsequent configuration assistants are run. Resolve the issue and rerun the configuration assistant.

  For more information, see the appendix on troubleshooting tips in the *Oracle Enterprise Manager Cloud Control Advanced Installation and Configuration Guide*.

- If you accidently exit the installer before clicking **Retry**, then do NOT restart the installer to reach the same screen; instead, invoke the `runConfig.sh` script from the OMS home to rerun the Configuration Assistant in silent mode. For Microsoft Windows platforms, invoke `runConfig.bat` script.

  ```
  $<OMS_HOME>/oui/bin/runConfig.sh ORACLE_
  HOME=<absolute_path_to_OMS_home> MODE=perform
  ACTION=configure COMPONENT_XML={encap_oms.1_0_0_
  0_0.xml}
  ```

16. Once the software binaries are copied and configured, you are prompted to run the `allroot.sh` script, and the `oraInstRoot.sh` script if this is the first Oracle product installation on the host. Open another window, log in as `root`, and manually run the scripts.

    If you are installing on Microsoft Windows operating system, then you will NOT be prompted to run this script.

17. On the Finish screen, you should see information pertaining to the installation of Enterprise Manager. Review the information and click **Close** to exit the installation wizard.

    For more information about this installation, refer to the following file in the OMS home:

    `$<OMS_HOME>/install/setupinfo.txt`

> **Note:** If the installation fails for some reason, review the log files available in the following locations of the OMS home:
>
> - `$oraInventory/logs/installActions<timestamp>.log`
>
> - `$oraInventory/logs/emdbprereqs/LATEST`
>
> - `$<OMS_ HOME>/cfgtoollogs/oui/installActions<timestamp>.l og`
>
> - `$<OMS_HOME>/cfgtoollogs/cfgfw/CfmLogger_ <timestamp>.log`
>
> - Configuration Assistant-Related Log Files:
>
>   The OMS Configuration Assistant-related log files are available at:
>
>   `$<OMS_HOME>/cfgtoollogs/omsca/*.*`
>
>   The Repository Configuration Assistant-related log files are available at:
>
>   `$<OMS_HOME>/sysman/log/schemamanager`

6.4.2 Installing with Advanced Configuration

To install Enterprise Manager Cloud Control with advanced configuration, follow these steps:

> **Note:** Oracle recommends you to run the EM Prerequisite Kit before invoking the installer to ensure that you meet all the repository requirements beforehand. This helps you set up your Management Repository beforehand without starting the installation or upgrade process. For information on the kit, to understand how to run it, and to know about the prerequisite checks it runs, see Appendix A.

1. **Invoke the Enterprise Manager Cloud Control Installation Wizard**

    Invoke the installation wizard as a user who belongs to the `oinstall` group you created following the instructions in Chapter 4.

    `<Software_Location>/runInstaller`

    In this command, `<Software_Location>` is either the DVD location or the location where you have downloaded the software kit.

    > **Note:** For information about the additional, advanced options you can pass while invoking the installer, refer to Section 6.4.2.1. To make yourself aware of some installation-related known issues, see Section 6.4.2.2.

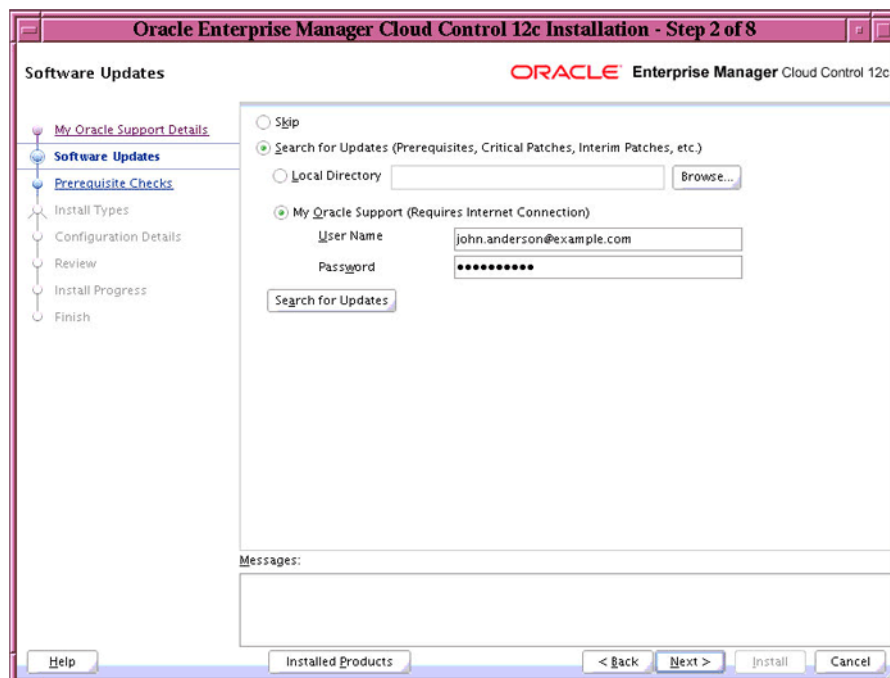2. **Enter My Oracle Support Details**

(Optional) On the My Oracle Support Details screen, enter your *My Oracle Support* credentials to enable Oracle Configuration Manager. If you do not want to enable Oracle Configuration Manager now, go to Step (3).

If the host from where you are running the installation wizard does not have a connection to the Internet, then enter only the e-mail address and leave the other fields blank. After you complete the installation, manually collect the configuration information and upload it to *My Oracle Support*.

3. Click **Next**.

4. **Install Software Updates**

On the Software Updates screen, select one of the following sources from where the software updates can be installed while the installation of the Enterprise Manager system is in progress. If you do not want to apply them now, then select **Skip**.

■ (Recommended) Select **Search for Updates**, and then, select **Local Directory** if you have already manually downloaded the software updates to an accessible local or remote location.

Enter the location where the updates are available, and click **Search for Updates**. To search the computer and select the location, click **Browse**. Once the search results appear with patch numbers and their details, click the patch number to view the ReadMe associated with that patch.

– If the updates have been downloaded to the default location, then select or enter the full path to the scratch path location. For example, if the scratch path location is /scratch/OracleHomes and if the software updates are available in /scratch/OracleHomes/Updates, then enter /scratch/OracleHomes/Updates.

– If the software updates have been downloaded to a custom location, then select or enter the full path to the custom location. For example, if the custom location is /home/john and if the software updates are available in /home/john/Updates, then enter /home/john/Updates.

■ Select **Search for Updates**, and then, select **My Oracle Support** if you want the installer to connect to *My Oracle Support* and automatically download the updates from there.

Enter the My Oracle Support account user name and password, and click **Search for Updates**. Once the search results appear with patch numbers and their details, click the patch number to view the ReadMe associated with that patch

> **Note:** If you choose to skip installing the software updates during installation by not providing the My Oracle Support credentials, you can always register the credentials later using the Enterprise Manager Cloud Control console and view the recommended security patches. To do so, in Cloud Control, from the **Setup** menu, select **Security**, and then, click **Preferred Credentials**. On the Preferred Credentials page, click **Set MOS Credentials** and register the credentials.

5. Click **Next**.

   If Enterprise Manager Cloud Control is the first Oracle product you are installing on the host that is running on UNIX operating system, then the Oracle Inventory screen appears. For details, see step (6). Otherwise, the Check Prerequisites screen appears. For details, see step (8).

   If Enterprise Manager Cloud Control is the first Oracle product you are installing on the host that is running on Microsoft Windows operating system, then the Oracle Inventory screen does not appear. On Microsoft Windows, the following is the default inventory directory:

   ```
   <system drive>\Program Files\Oracle\Inventory
   ```

6. **Enter Oracle Inventory Details**

   On the Oracle Inventory screen, do the following. You will see this screen only if this turns out to be your first ever installation of an Oracle product on the host.

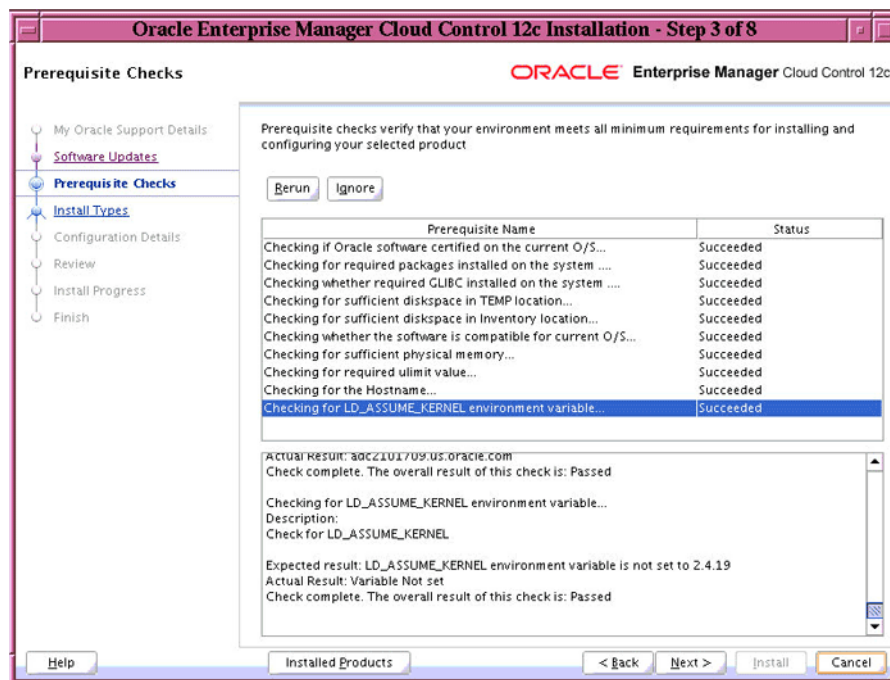   a. Enter the full path to a directory where the inventory files and directories can be placed.

      > **Note:**
      >
      > - The central inventory location you enter must NOT be on a shared file system. If it is already on a shared file system, then switch over to a non-shared file system by following the instructions outlined in *My Oracle Support* note 1092645.1
      >
      > - If this is the first Oracle product on the host, then the default central inventory location is `<home directory>/oraInventory`. However, if you already have some Oracle products on the host, then the central inventory location can be found in the `oraInst.loc` file. The `oraInst.loc` file is located in the `/etc` directory for Linux and AIX, and in the `/var/opt/oracle` directory for Solaris, HP-UX, and Tru64.

   b. Select the appropriate operating system group name that will own the Oracle inventory directories. The group that you select must have *write* permissions on the Oracle Inventory directories.

7. Click **Next**.

8. **Check Prerequisites**

On the Prerequisite Checks screen, check the status of the prerequisite checks run by the installation wizard, and verify whether your environment meets all the minimum requirements for a successful installation.

The installation wizard runs the prerequisite checks automatically when you come to this screen. It checks for the required operating system patches, operating system packages, and so on.

The status of the prerequisite check can be either **Warning**, **Failed**, or **Succeeded**.

If some checks result in **Warning** or **Failed** status, then investigate and correct the problems before you proceed with the installation. The screen provides details on why the prerequisites failed and how you can resolve them. After you correct the problems, return to this screen and click **Rerun** to check the prerequisites again.

> **Note:** You can choose to ignore the checks with **Warning** status by clicking **Ignore**. However, all package requirements must be met or fixed before proceeding any further.

9. Click **Next**.

10. **Select Installation Type**
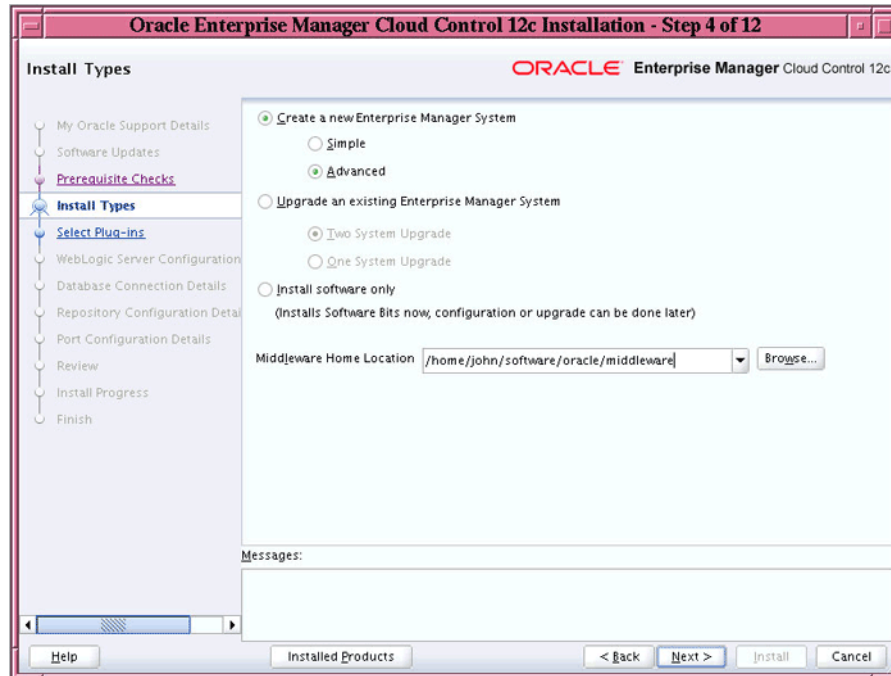
On the Install Types screen, do the following:

a.   Select **Create a New Enterprise Manager System**, and then, select **Advanced**.

b.   Validate or enter the middleware home where you want to install the OMS and other core components.

Note:

■   If you have Oracle WebLogic Server and Java Development Kit already installed, then ensure that they are of the supported releases—Oracle WebLogic Server 11g Release 1 (10.3.5) and JDK 1.6 v24+. If you have the supported releases, the installer automatically detects them and displays the absolute path to the middleware home where they are installed. In this case, validate the middleware home. If the location is incorrect, then enter the path to the correct location. Ensure that the middleware home you select or enter is a middleware home that does not have any Oracle homes for Oracle Management Service and Oracle Management Agent.

■   If you do not have Oracle WebLogic Server 11g Release 1 (10.3.5) and JDK 1.6 v24+, then the installer automatically installs them for you while installing the Enterprise Manager system. In this case, enter the absolute path to a directory where you want to have them installed. For example, `/oracle/software/`. Ensure that the directory you enter does not contain any files or subdirectories.

■   If you manually install Oracle WebLogic Server 11g Release 1 (10.3.5), then follow the guidelines outlined in Section 6.2.

---

11. Click **Next**.

12. Select Plug-Ins
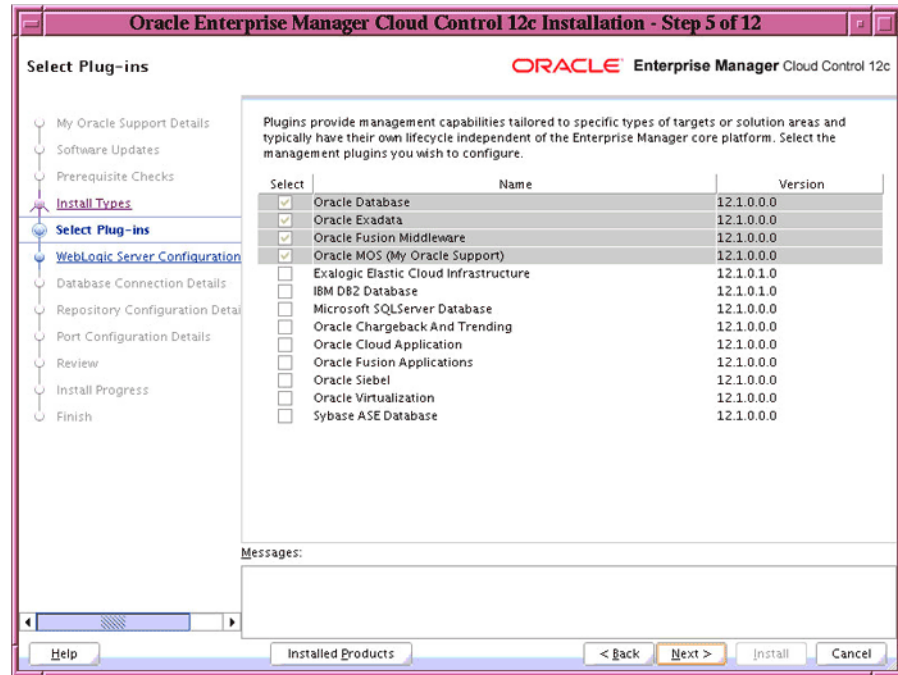
On the Select Plug-Ins screen, select the optional plug-ins you want to install from the software kit (DVD, downloaded software) while installing the Enterprise Manager system. The screen lists the mandatory plug-ins as well as the optional plug-ins. The grayed rows indicate the mandatory plug-ins that will be installed.

Note: During installation, if you want to install a plug-in that is not available in the software kit, then refer to Section 6.4.2.1 for the point that describes how you can install additional plug-ins.

---

13. Click **Next**.

**14. Enter WebLogic Server Configuration Details**
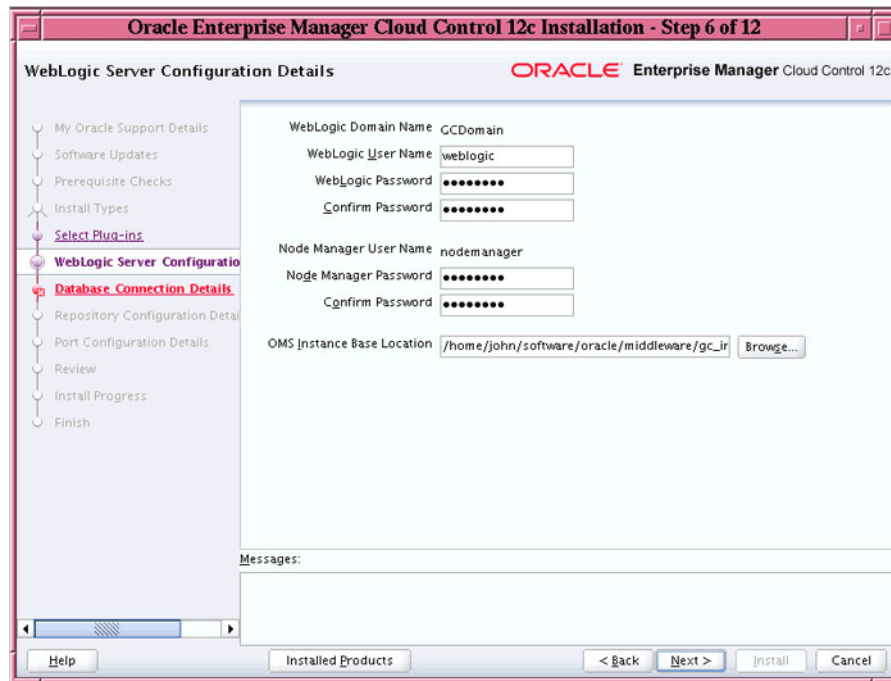
On the WebLogic Server Configuration Details screen, enter the credentials for the WebLogic Server user account and the Node Manager user account, and validate the path to the Oracle Management Service instance base location.

> **Note:** Ensure that your password contains at least 8 characters without any spaces, begins with a letter, and includes at least one numeric value.

By default, the WebLogic Domain name is `GCDomain`, and the Node Manager name is `nodemanager`. These are non-editable fields. The installer uses this information for creating Oracle WebLogic Domain and other associated components such as the admin server, the managed server, and the node manager. A Node Manager enables you to start, shut down, or restart an Oracle WebLogic Server instance remotely, and is recommended for applications with high availability requirements.

15. Click **Next**.

16. **Enter Database Connection Details**
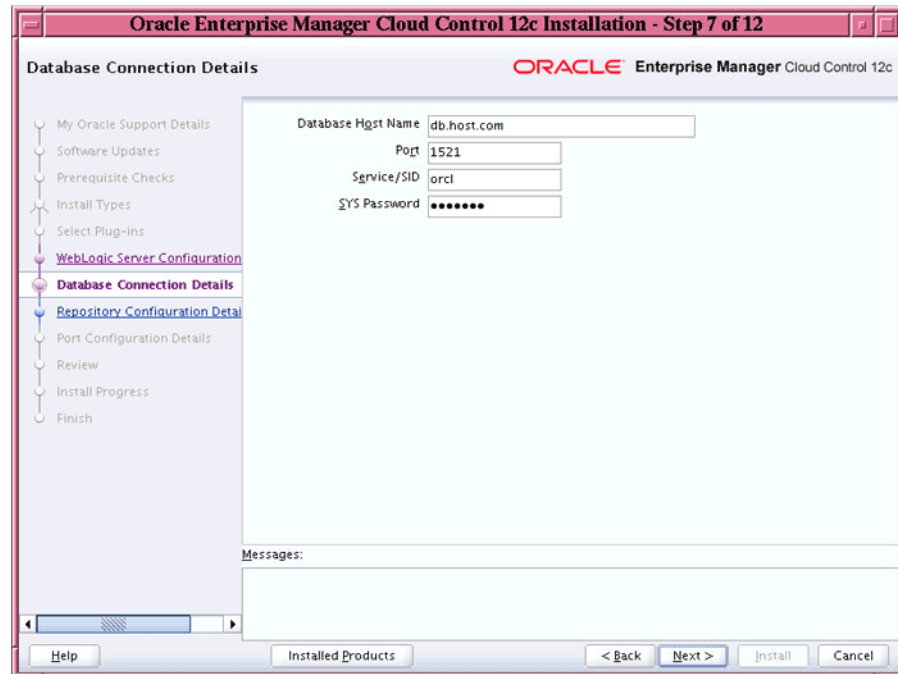
On the Database Connection Details screen, enter the fully qualified name of the host where your existing, certified Oracle Database resides, its listener port and its service name or system ID (SID), and the SYS user account's password.

> **Note:** Oracle Real Application Cluster (Oracle RAC) nodes are referred to by their virtual IP (vip) names. The `service_name` parameter is used instead of the system identifier (SID) in `connect_data` mode, and failover is turned on. For more information, refer to *Oracle Database Net Services Administrator's Guide*.

The installer uses this information to connect to the existing, certified Oracle Database for creating the SYSMAN schema. SYSMAN schema holds most of the relational data used in managing Enterprise Manager Cloud Control.

> **Note:** If any repository-related prerequisite check fails, see Appendix A to manually run the prerequisite check.

17. Click **Next**.

> **Note:**
>
> - If you are connecting to an Oracle RAC database, and if you have specified the virtual IP address of one of its nodes, then the installation wizard prompts you with a Connection String dialog and requests you to update the connection string with information about the other nodes that are part of the cluster. Update the connection string and click **OK**. If you want to test the connection, click **Test Connection**.
>
> - If your Oracle RAC database is configured with Single Client Access Name (SCAN) listener, then you can enter a connection string using the SCAN listener.
>
> - Oracle Real Application Cluster (Oracle RAC) nodes are referred to by their virtual IP (vip) names. The `service_name` parameter is used instead of the system identifier (SID) in `connect_data` mode, and failover is turned on. For more information, refer to *Oracle Database Net Services Administrator's Guide*
>
> - If you see an error stating that the connection to the database failed with ORA-01017 invalid user name/password, then follow these steps to resolve the issue:
>
>   (1) Verify that SYS password provided is valid.
>
>   (2) Verify that the database initialization parameter `REMOTE_LOGIN_PASSWORDFILE` is set to Shared or Exclusive.
>
>   (3) Verify that password file with the file name `orapw<SID>` exists in the `<ORACLE_HOME>/dbs` directory of the database home. If it does not, create a password file using the `ORAPWD` command.

18. **Enter Repository Configuration Details**
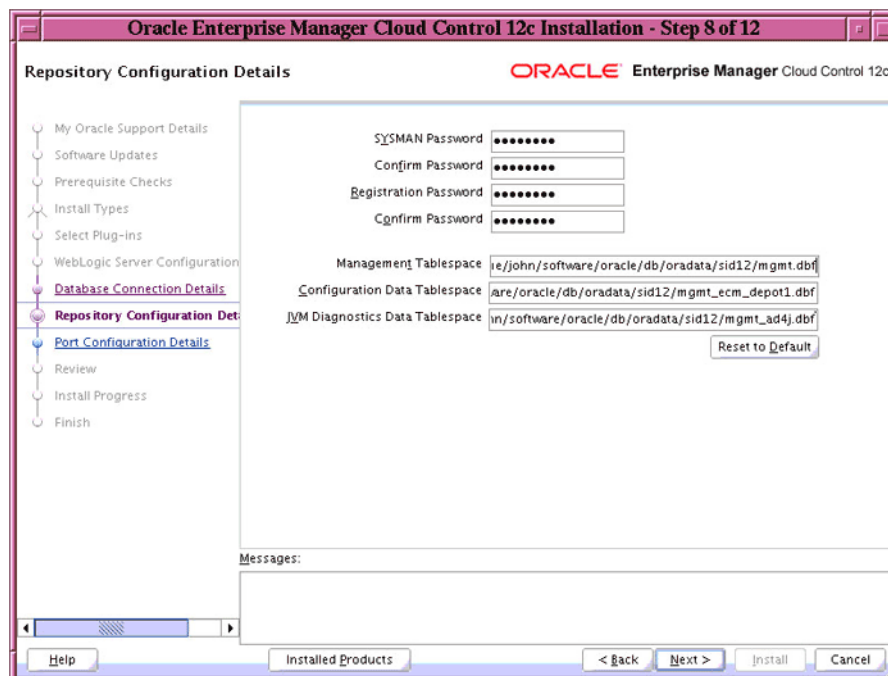
On the Repository Configuration Details screen, do the following:

a. For **SYSMAN Password**, enter a password for creating the SYSMAN user account. The SYSMAN user account is used for creating the SYSMAN schema, which holds most of the relational data used in managing Enterprise Manager Cloud Control. SYSMAN is also the super administrator for Enterprise Manager Cloud Control.

> **Note:** Ensure that your password contains at least 8 characters without any spaces, begins with a letter, and includes at least one numeric value.

b. For **Registration Password**, enter a password for registering the new Management Agents that join the Enterprise Manager system.

> **Note:** Ensure that your password contains at least 8 characters without any spaces, begins with a letter, and includes at least one numeric value.

c. For **Management Tablespace**, enter the full path to the location where the data file for management tablespace (`mgmt.dbf`) can be stored. The installer uses this information for storing data about the monitored targets, their metrics, and so on. Ensure that the specified path leads up to the file name.

For example, `/u01/oracle/prod/oradata/mgmt.dbf`

d. For **Configuration Data Tablespace**, enter the full path to the location where the data file for configuration data tablespace (`mgmt_ecm_depot1.dbf`) can be stored. This is required for storing configuration information collected from the monitored targets. Ensure that the specified path leads up to the file name.

For example, `/u01/oracle/prod/oradata/mgmt_ecm_depot1.dbf`

e. For **JVM Diagnostics Data Tablespace**, enter the full path to a location where the data file for JVM Diagnostics data tablespace (`mgmt_ad4j.dbf`) can be stored. Ensure that the specified path leads up to the file name. Enterprise Manager Cloud Control requires this data file to store monitoring data related to JVM Diagnostics and Application Dependency Performance (ADP).

For example, `/u01/oracle/prod/oradata/mgmt_ad4j.dbf`

> **Note:** If you are configuring the Management Repository on a database that uses Oracle Automatic Storage Management (Oracle ASM) for storage, then when you enter the data file location, only the disk group is used for creating the tablespaces. For example, if you specify `+DATA/a.dbf`, then only `+DATA` is used for creating the tablespaces on Oracle ASM, and the exact location of the data file on the disk group is decided by Oracle Managed Files.

---

19. Click **Next**.

20. **Customize Ports**
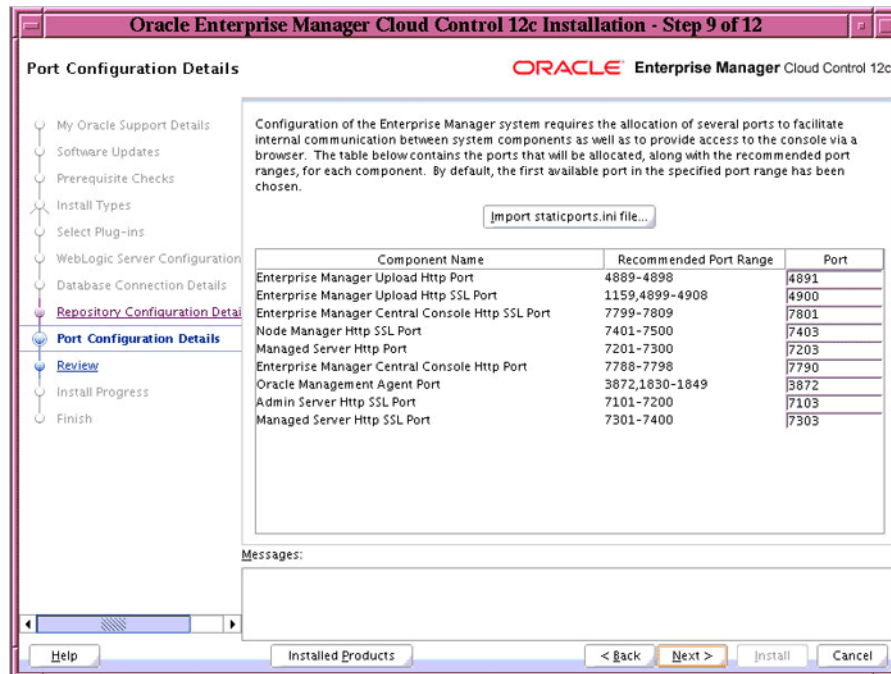
On the Port Configuration Details screen, customize the ports to be used for various components.

> **Note:** If all the ports on this screen appear as -1, then it indicates that the installer is unable to bind the ports on the host. To resolve this issue, exit the installer, verify the host name and the IP configuration of this host (ensure that the IP address of the host is not being used by another host), restart the installer, and try again.

You can enter a free custom port that is either within or outside the port range recommended by Oracle.

To verify if a port is free, run the following command:

- On Unix:

  ```
  netstat -anp | grep <port no>
  ```

- On Microsoft Windows:

  ```
  netstat -an|findstr <port_no>
  ```

However, the custom port must be greater than 1024 and lesser than 65535. Alternatively, if you already have the ports predefined in a `staticports.ini` file and if you want to use those ports, then click **Import staticports.ini File** and select the file.

Note: If the `staticports.ini` file is passed during installation, then by default, the ports defined in the `staticports.ini` file are displayed. Otherwise, the first available port from the recommended range is displayed.

---

21. Click **Next**.

22. **Review and Install**

On the Review screen, review the details you provided for the selected installation type.

- If you want to change the details, click **Back** repeatedly until you reach the screen where you want to make the changes.

- After you verify the details, if you are satisfied, click **Install** to begin the installation process.

23. On the Install Progress screen, view the overall progress (in percentage) of the installation and the status of each of the Configuration Assistants. Configuration Assistants are run for configuring the installed components of Enterprise Manager Cloud Control.

> **Note:**
>
> - If a configuration assistant fails, the installer stops and none of the subsequent configuration assistants are run. Resolve the issue and rerun the configuration assistant.
>
>   For more information, see the appendix on troubleshooting tips in the *Oracle Enterprise Manager Cloud Control Advanced Installation and Configuration Guide*.
>
> - If you accidently exit the installer before clicking **Retry**, then do NOT restart the installer to reach the same screen; instead, invoke the `runConfig.sh` script from the OMS home to rerun the Configuration Assistant in silent mode. For Microsoft Windows platforms, invoke `runConfig.bat` script.
>
>   ```
>   $<OMS_HOME>/oui/bin/runConfig.sh ORACLE_
>   HOME=<absolute_path_to_OMS_home> MODE=perform
>   ACTION=configure COMPONENT_XML={encap_oms.1_0_0_
>   0_0.xml}
>   ```

24. Once the software binaries are copied and configured, you are prompted to run the `allroot.sh` script, and the `oraInstRoot.sh` script if this is the first Oracle product installation on the host. Open another window, log in as `root`, and manually run the scripts.

    If you are installing on Microsoft Windows operating system, then you will NOT be prompted to run this script. You will directly reach the Finish screen as described in Step (25).

25. On the Finish screen, you should see information pertaining to the installation of Enterprise Manager. Review the information and click **Close** to exit the installation wizard.

    For more information about this installation, refer to the following file available in the OMS home:

    `$<OMS_HOME>/install/setupinfo.txt`

> **Note:** If the installation fails for some reason, review the log files available in the following locations of the OMS home:
>
> - `$oraInventory/logs/installActions<timestamp>.log`
>
> - `$oraInventory/logs/emdbprereqs/LATEST`
>
> - `$<OMS_HOME>/cfgtoollogs/oui/installActions<timestamp>.log`
>
> - `$<OMS_HOME>/cfgtoollogs/cfgfw/CfmLogger_<timestamp>.log`
>
> - Configuration Assistant-Related Log Files:
>
>   The OMS Configuration Assistant-related log files are available at:
>
>   `$<OMS_HOME>/cfgtoollogs/omsca/*.*`
>
>   The Repository Configuration Assistant-related log files are available at:
>
>   `$<OMS_HOME>/sysman/log/schemamanager`

6.4.2.1 Advanced Installer Options

The following are some additional, advanced options you can pass while invoking the installer:

- By default, `GCDomain` is the default name used for creating the WebLogic Domain. To override this and use a custom WebLogic Domain name, invoke the installer with the `WLS_DOMAIN_NAME` option, and enter a unique custom name.

  For example, if you want to use the custom name `EMDomain`, then run the following command:

  `./runInstaller WLS_DOMAIN_NAME=EMDomain`

- By default, a Provisioning Advisor Framework (PAF) staging directory is created for copying the Software Library entities related to the deployment procedures. By default, this location is the scratch path location (`/tmp`). The location is used only for provisioning activities—entities are copied for a deployment procedure, and then, deleted once the deployment procedure ends.

  If you want to override this location with a custom location, then invoke the installer with the `EM_STAGE_DIR` option, and enter a unique custom location.

  For example,

  `./runInstaller EM_STAGE_DIR=/home/john/software/oracle/pafdir`

- During installation, if you want to install some plug-ins that are not in the software kit (DVD, downloaded software), then follow these steps:

  1. Manually download the plug-ins from the Enterprise Manager download page on OTN, and store them in an accessible location:

     http://www.oracle.com/technetwork/oem/grid-control/downloads/index.html

  2. Invoke the installer with the following option, and pass the location where the plug-ins you want to install are available:

```
./runInstaller -pluginLocation <absolute_path_to_plugin_
software_location>
```

This displays a list of plug-ins available in the software kit (DVD, downloaded software) as well as the plug-ins available in this custom location. You can choose the ones you want to install.

- After the installation ends successfully, the OMS and the Management Agent start automatically. If you do not want them to start automatically, then invoke the installer with START_OMS and b_startAgent options, and set them to TRUE or FALSE depending on what you want to control.

  For example, if you do not want the Management Agent to start automatically, then run the following command:

  ```
  ./runInstaller START_OMS=TRUE b_startAgent=FALSE
  ```

  To understand the limitations involved with this advanced option, see Section 6.4.2.2.

- While installing on hosts having multiple IP addresses, the host name is derived from the ORACLE_HOSTNAME variable that is passed while invoking the installer. Ensure that the host name you enter does not have underscores.

  For example:

  ```
  ./runInstaller ORACLE_HOSTNAME=example.com
  ```

6.4.2.2 Limitations

When you use START_OMS and b_startAgent as advanced options to control the way the OMS and the Management Agent start up automatically, sometimes the Management Agent and the host on which it was installed do not appear as targets in the Cloud Control console.

Table 6–2 lists the different combinations of these advanced options, and describes the workaround to be followed for each combination:

Table 6–2   Advanced Options and Workarounds

Advanced Option	Workaround

START_OMS=FALSE
b_startAgent=FALSE
	1. Start the OMS:
	`$<OMS_HOME>/bin/emctl start oms`
	
	2. Secure the Management Agent:
	`$<AGENT_HOME>/bin/emctl secure agent`
	
	3. Start the Management Agent:
	`$<AGENT_HOME>/bin/emctl start agent`
	
	4. Add the targets:
	`$<AGENT_HOME>/bin/emctl config agent addinternaltargets`
	
	5. Upload the targets:
	`$<AGENT_HOME>/bin/emctl upload agent`
	
	6. Manually configure the EMCLI tool in the $<ORACLE_HOME>/bin directory. To do so, refer to the *Oracle Enterprise Manager Command Line Interface Guide*.

Table 6–2   (Cont.) Advanced Options and Workarounds

Advanced Option	Workaround

`START_OMS=TRUE`
`b_startAgent=FALSE`
	1. Secure the Management Agent:
	`$<AGENT_HOME>/bin/emctl secure agent`
	2. Start the Management Agent:
	`$<AGENT_HOME>/bin/emctl start agent`
	3. Add the targets:
	`$<AGENT_HOME>/bin/emctl config agent addinternaltargets`
	4. Upload the targets:
	`$<AGENT_HOME>/bin/emctl upload agent`

`START_OMS=FALSE`
`b_startAgent=TRUE`
	1. Start the OMS:
	`$<OMS_HOME>/bin/emctl start oms`
	2. Secure the Management Agent:
	`$<AGENT_HOME>/bin/emctl secure agent`
	3. Add the targets:
	`$<AGENT_HOME>/bin/emctl config agent addinternaltargets`
	4. Upload the targets:
	`$<AGENT_HOME>/bin/emctl upload agent`
	5. Manually configure the EMCLI tool in the $<ORACLE_HOME>/bin directory. To do so, refer to the *Oracle Enterprise Manager Command Line Interface Guide*.

6.5 After You Install

After you install, do the following:

1. (Only for UNIX Operating Systems) If you did not run the `allroot.sh` script when the installer prompted you to do so, then run them manually now:

■ If this is the first Oracle product you just installed on the host, then run the `oraInstroot.sh` script from the inventory location specified in the `oraInst.loc` file that is available in the Management Agent home.

For example, if the inventory location specified in the `oraInst.loc` file is $HOME/oraInventory, then run the following command:

`$HOME/oraInventory/oraInstRoot.sh`

Note: If you are not a *root* user, then use SUDO to change to a *root* user. For example, run the following command:

`/usr/local/bin/sudo`
`$HOME/oraInventory/oraInstRoot.sh`

■ Run the `allroot.sh` script from the OMS home:

`$<OMS_HOME>/allroot.sh`

> **Note:** If you are not a *root* user, then use SUDO to change to a *root* user. For example, run the following command:
>
> ```
> /usr/local/bin/sudo $<OMS_HOME>/allroot.sh
> ```

2. Verify the installation:

   a. Navigate to the OMS home and run the following command to see a message that confirms that OMS is up and running.

   ```
   $<OMS_HOME>/bin/emctl status oms
   ```

   For example,

   ```
   /u01/middleware/oms/bin/emctl status oms
   ```

   b. Navigate to the Management Agent home and run the following command to see a message that confirms that the Management Agent is up and running.

   ```
   $<AGENT_HOME>/bin/emctl status agent
   ```

   c. Navigate to the Management Agent home and run the following command to see a message that confirms that EMD upload completed successfully.

   ```
   $<AGENT_HOME>/bin/emctl upload agent
   ```

   > **Note:** By default, you can access Enterprise Manager Cloud Control only using the HTTPS protocol. If you want to use the HTTP protocol, then unlock it by running the following command from the OMS home:
   >
   > ```
   > emctl secure unlock -console
   > ```

3. Verify if all the plug-ins were installed successfully. To do so, access the following log file from the Management Agent home, and search for the sentence *WARN:Plugin configuration has failed*.

   ```
   $<AGENT_HOME>/cfgtoollogs/cfgfw/CfmLogger-<timestamp>.log
   ```

   For example,

   ```
   $<MIDDLEWARE_
   HOME>/agent/core/12.1.0.1.0/cfgtoollogs/cfgfw/CfmLogger-<time
   stamp>.log
   ```

   If you find the sentence, resolve the issue by running the `AgentPluginDeploy.pl` script from the Management Agent home.

   ```
   $<MIDDLEWARE_HOME>/agent/core/12.1.0.1.0/perl/bin/perl
   <MIDDLEWARE_
   HOME>/agent/core/12.1.0.1.0/bin/AgentPluginDeploy.pl
   -oracleHome <MIDDLEWARE_HOME>/agent/core/12.1.0.1.0 -agentDir
   <AGENT_BASE_DIR> -pluginIdsInfoFile <AGENT_BASE_
   DIR>/plugins.txt -action configure -emStateDir <AGENT_
   INSTANCE_HOME>
   ```

   For example,

   ```
   /u01/app/Oracle/Middleware/agent/core/12.1.0.1.0/perl/bin/per
   l
   /u01/app/Oracle/Middleware/agent/core/12.1.0.1.0/bin/AgentPlu
   ```

```
ginDeploy.pl -oracleHome
/u01/app/Oracle/Middleware/agent/core/12.1.0.1.0/ -agentDir
/u01/app/Oracle/Middleware/agent -pluginIdsInfoFile
/u01/app/Oracle/Middleware/agent/core/12.1.0.1.0/sysman/insta
ll/plugins.txt -action configure -emStateDir
/u01/app/Oracle/Middleware/agent/agent_inst
```

4. (Optional) If the repository prerequisites had failed, and if you had manually run the EM Prerequisite Kit and taken corrective actions to meet the repository requirements, then run the utility again to reset the repository settings to what it had originally:

```
/install/requisites/bin/emprereqkit -executionType install
-prerequisiteXMLLoc <prereq_xml_location> -connectString
<connect_string> -dbUser SYS -dbPassword <db_password>
-reposUser sysman -reposPassword <repo_user_password> -dbRole
sysdba -runPrerequisites -runPostCorrectiveActions
-useHistory
```

> **Note:** If you had run the installation wizard and let the installation wizard take corrective actions to correct the repository settings, and if you had exited the wizard without completing the installation process, then remember that the repository settings might not reset to their original values because you abruptly ended the installation. In this case, before invoking the installation wizard again, run this command to manually reset the values.

5. By default, the following targets get automatically discovered and monitored in the Enterprise Manager Cloud Control console:

    ■ Oracle WebLogic Domain (for example, GCDomain)

    ■ Oracle WebLogic AdminServer

    ■ Oracle WebLogic Server

    ■ Oracle Web Tier

    ■ Application deployments, one for the Enterprise Manager Cloud Control console and one for the platform background services.

    ■ Oracle Management Service

    ■ Oracle Management Repository

    ■ Oracle Management Agent

    ■ The host on which you installed Enterprise Manager Cloud Control

    However, the other targets running on that host and other hosts do not get automatically discovered and monitored. To monitor the other targets, you need to add them to Enterprise Manager Cloud Control either using the Auto Discovery Results page, the Add Targets Manually page, or the discovery wizards offered for the targets you want to monitor.

    For information about discovering targets in Enterprise Manager Cloud Control, refer to the chapter on adding targets in the *Oracle Enterprise Manager Cloud Control Administrator's Guide*.

6. Configure your proxy server as described in Appendix C.

7. (Optional) If you want to modify the connection descriptor for the Management Repository, then shut down the OMS, run the following command, and then restart the OMS.

```
emctl config oms -store_repos_details (-repos_host <host>
-repos_port <port> -repos_sid <sid> | -repos_conndesc
<connect descriptor>) -repos_user <username> [-repos_pwd
<pwd>] [-no_check_db]
```

Note: On Linux, you need to double escape the connect descriptor using single and double quotes. However, on Microsoft Windows, you need not.

For example, on Linux:

```
emctl config oms -store_repos_details -repos_host
example.com -repos_port 12345 -repos_sid mydb
-repos_conndesc
'"(DESCRIPTION=(ADDRESS=(PROTOCOL=TCP)(HOST=example.
com)(PORT=12345))(CONNECT_DATA=(SID=mydb)))"'
-repos_user sysman
```

For example, on Microsoft Windows:

```
emctl config oms -store_repos_details -repos_host
example.com -repos_port 12345 -repos_sid mydb
-repos_conndesc
(DESCRIPTION=(ADDRESS=(PROTOCOL=TCP)(HOST=example.co
m)(PORT=12345))(CONNECT_DATA=(SID=mydb))) -repos_
user sysman
```

---

8. (Optional) If you want to change the SYSMAN and SYSMAN_MDS passwords, then shut down the OMS, run the following command, and then restart the OMS.

```
emctl config oms -change_repos_pwd
```

Note: You will be prompted to enter the old and the new password. Also, this command changes both SYSMAN and SYSMAN_MDS passwords, so running it just once is sufficient.

7

Adding Additional Oracle Management Service

This chapter describes how you can install an additional Oracle Management Service (OMS) to your existing Enterprise Manager Cloud Control environment. In particular, this chapter covers the following:

- Overview
- Before You Begin
- Prerequisites
- Installation Procedure
- After You Install

> **Note:** This chapter describes how you can install an additional OMS in interactive, graphical mode. If you want to perform the same operation in silent way, then refer to the *Oracle Enterprise Manager Cloud Control Advanced Installation and Configuration Guide.*

7.1 Overview

Oracle Management Service (OMS) is one of the core components of Enterprise Manager Cloud Control that orchestrates with Oracle Management Agents (Management Agents) and Oracle Management Plug-Ins (plug-ins) to discover targets, monitor and manage them, and store the collected information in a repository for future reference and analysis.

When you install Enterprise Manager for the very first time, by default, the installer installs one OMS along with one Management Agent. While this default configuration suits smaller environments, typically in larger production environments, you may have the need to install additional OMSes to help reduce the load on a single OMS and improve the efficiency of the data flow.

> **Note:** You can have multiple OMSes and still connect to just one Oracle Management Repository (Management Repository).

The Add Management Service deployment procedure helps you meet such high-availability requirements. The deployment procedure offers a wizard that enables you to install an additional Oracle Management Service 12*c* by cloning an existing OMS that is running on an AdminServer host. The entire middleware home of

the source OMS is cloned to the destination host. For information about the contents of the middleware home of an OMS, see Section 6.1.

Figure 7–1 Add Additional OMS Deployment Procedure
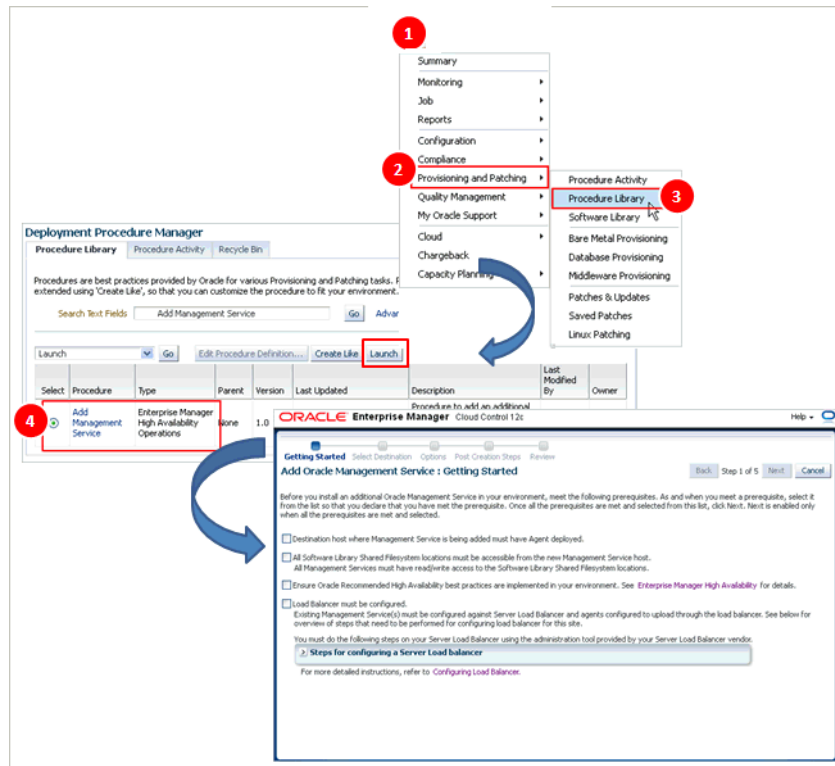
> **Note:** If you are cloning the OMS from a complete Enterprise Manager installation, then the Management Agent that was installed with the Enterprise Manager system is not cloned to the destination host.

7.2 Before You Begin

Before you begin, keep these points in mind:

- You can clone only an existing, running Oracle Management Service 12*c* that is associated with an AdminServer host. The patches applied on the source OMS are automatically carried over to the cloned instance.

- You can clone only one OMS at a time and to only one destination host at a time. If you want to add multiple OMSes, then you must repeat the installation procedure on each host.

- You can clone only when the source host and the destination host are running on the same operating system and architecture. For example, if the source host is a Linux 32-bit host, then the destination host must also be a Linux 32-bit host. Similarly, if the source host is a Linux 64-bit host, then the destination host must also be a Linux 64-bit host.

- You must not install the additional OMS on an OCFS file system. This file system is not supported.

- You must not install the additional OMS on an NFS-mounted drive. Installing it on an NFS-mounted drive causes the Oracle HTTP Server to restart frequently, which in turn makes the OMS inaccessible. If you are forced to install on such a shared drive, then ensure that the OMS instance base directory (`gc_inst`) is created in a non-NFS-mounted location.

- You can find the OMS and Management Agent entries in the `/etc/oragchomelist` file for all UNIX platforms except HPUNIX, HPia64, Solaris Sparc.

  On HPUNIX, HPia64, Solaris Sparc platforms, the entries are present in `/var/opt/oracle/oragchomelist`.

7.3 Prerequisites

Table 7–1 lists the prerequisites you must meet before installing the OMS.

Table 7–1   Prerequisites for Adding an Additional Oracle Management Service

Requirement	Description
Hardware Requirements	- Ensure that you meet the hard disk space and physical memory requirements as described in Chapter 2. - If you have installed BI publisher on the source host, then ensure that you have 7 GB of additional hard disk space on the destination host, so a total of 14 GB.

Operating System Requirements	- Ensure that you install Enterprise Manager Cloud Control only on certified operating systems as mentioned in the Enterprise Manager Certification Matrix available on *My Oracle Support*.
	
	To access this matrix, follow these steps:
	
	1. Log in to *My Oracle Support*, and click the **Certifications** tab.
	
	2. On the Certifications page, in the **Certification Search** region, from the **Product** list, select **Enterprise Manager Cloud Control**.
	
	3. From the **Release** list, select **12.1.0.1.0**, and click **Search**.
	
	- Ensure that the destination host (that is, the host on which you are installing an additional OMS) is running on the same operating system as that of the source host (that is, the host from where you are cloning the first OMS).
	
	Note: If you use Oracle Solaris 10, then ensure that you have update 9 or higher installed. To verify whether it is installed, run the following command:
	
	`cat /etc/release`
	
	You should see the output similar to the following. Here, `s10s_u6` indicates that update 6 is already installed.
	
	`Solaris 10 10/08 s10s_u6wos_07b SPARC`

Package and Kernel Parameter Requirements	Ensure that you install all operating system-specific packages and set all kernel parameters as described in Chapter 3.
Operating System Groups and Users Requirements	Ensure that you create the required operating system groups and users as described in Chapter 4.

Table 7–1 (Cont.) Prerequisites for Adding an Additional Oracle Management Service

Requirement	Description
Existing Oracle Management Service Requirements	Ensure that Oracle Management Service 12*c* Release 1 is already installed and is available for cloning. Also ensure that the AdminServer on which the OMS is configured is up and running.
Existing Oracle Management Service Backup Requirements	Ensure that regular back-ups are scheduled for the existing Oracle Management Service 12*c* that you want to clone.
Existing High Availability Configuration Requirements	Ensure that you have met all Oracle-recommended high availability requirements in your environment. For more information, refer to the chapter on high availability requirements in the *Oracle Enterprise Manager Cloud Control Administrator's Guide*.
Existing Oracle Management Agent Requirements	Ensure that the destination host already has a Management Agent installed, and ensure that it is up and running.
	If this Management Agent was manually installed on the destination host, then ensure that the installation was completed by running the `root.sh` script. Otherwise, the Add Management Service deployment procedure will not be able to run some scripts that require root permission.
Temporary Directory Space Requirements on Source and Destination Hosts	Ensure that you have 4 GB of space on the source as well as the destination host for creating a temporary directory. If you have installed BI publisher on the source host, then ensure that you have 10 GB of space.
	The temporary directory created by default is `ADD_MANAGEMENT_SERVICE_<TimeStamp>`.
	The temporary directory on the source host is used for temporarily staging the files related to backup or cloning steps of the deployment procedure. The temporary directory on the destination host is used for temporarily staging the cloned image and other related files.
Shared Directory Space Requirements	If you choose to transfer the software and configuration files to a central, shared location, then ensure that you have 4 GB of space for that shared directory.
Middleware Home Location Requirement	On the destination host, a middleware home (absolute path) identical to the one on the source host is created, and then, the source OMS is cloned to that location. Ensure that this middleware home does not already exist on the destination host.
	For example, if the middleware home on the source host is `/home/john/Oracle/Middleware`, ensure that the same path does not already exist on the destination host.
Oracle Management Service Instance Base Location Space Requirements	Ensure that you have 1 GB of space on the destination host for the Oracle Management Service Instance Base directory where the configuration files of the OMS will be created.

Table 7–1   (Cont.) Prerequisites for Adding an Additional Oracle Management Service

Requirement	Description
Server Load Balancer Requirements	■ Ensure that you have installed a Server Load Balancer (SLB) in your network and configured it to work with the first OMS. All Management Agents communicating with the first OMS must be uploading data only via this SLB. If you have not configured the SLB yet to work with the first OMS, then configure it now. For information about configuring an SLB, refer to the chapter on high availability requirements in the *Oracle Enterprise Manager Cloud Control Administrator's Guide*. ■ In order to configure your OMSes in an active/active configuration behind an SLB, your SLB must meet the following requirements: (a) Supports multiple virtual server ports - Enterprise Manager typically requires that up to 4 ports are configured on the SLB (Secure Upload, Agent Registration, Secure Console, Unsecure Console). (b) Supports persistence - HTTP and HTTPS traffic between the browser and the OMS requires persistence. (c) Supports application monitoring - The SLB must be capable of monitoring the health of the OMSes and detecting failures, so that requests will not be routed to OMSs that are not available.
SLB Pools and Their Association with the First OMS	On the SLB, using its administration console, create the following SLB pools and add the first OMS host to them: ■ Secure Upload Pool *(add the host using the port configured for the Secure Upload service)* ■ Agent Registration Pool *(add the host using the port configured for the Agent Registration service)* ■ Secure Console Pool *(add the host using the port configured for the Secured Console service)* ■ (Optional) Unsecure Console Pool *(add the host using the port configured for the Unsecured Console service)*
Virtual Servers and Their Association with the SLB Pools	On the SLB, using its administration console, create the following virtual servers and associate them with the SLB pools. ■ Secure Upload Virtual Server with port 1159 *(associate it with Secure Upload Pool)* ■ Agent Virtual Server with port 4889 *(associate it with Agent Registration Pool)* ■ Secure Console Virtual Server with port 443 *(associate it with Secure Console Pool)* ■ (Optional) Unsecure Console Virtual Server with port 80 *(associate it with Unsecure Console Pool)*
SLB Monitors and Their Association with the First OMS	On the SLB, using its administration console, create the following SLB monitors and associate the first OMS host with them: ■ Secure Upload Monitor *(associate the host using the port configured for the Secure Upload service)* ■ Agent Registration Monitor *(associate the host using the port configured for the Agent Registration service)* ■ Secure Console Monitor *(associate the host using the port configured for the Secured Console service)* ■ (Optional) Unsecure Console Monitor *(associate the host using the port configured for the Unsecured Console service)*

Table 7–1 (Cont.) Prerequisites for Adding an Additional Oracle Management Service

Requirement	Description
Software Library Accessibility Requirements	Ensure that the directories where you have configured the Software Library are accessible (read/write) from the destination hosts.
Installing User Requirements	Ensure that you meet the following requirements: ■ (For UNIX only) The installation must NOT be run by a *root* user. ■ (For Microsoft Windows only) User must be part of the ORA-DBA group and have administrator permissions. ■ (For Microsoft Windows only) User must belong to the DBA group, and have permissions to perform the following: Act as part of the operating system, Create a token object, Log on as a batch job, and Adjust memory quotas for a process. To verify whether the agent user has these rights, from the Start menu, click **Settings** and then select **Control Panel**. From the Control Panel window, select **Administrative Tools**, and from the Administrative Tools window, select **Local Security Settings**. In the Local Security Settings window, from the tree structure, expand **Local Policies**, and then expand **User Rights Assignment**.
Permission Requirements	Ensure that you are able to access and read/write in the following locations: ■ Oracle Middleware Home Oracle Middleware Home is a directory on the source host that contains the OMS you are cloning, the Oracle WebLogic Server home, the Web tier instance files, and so on. ■ Oracle Management Service Instance Base location Oracle Management Service Instance Base is a directory on the source host that contains configuration files related to the OMS. The instance base is typically under the parent directory of the middleware home. ■ Source Staging location Source staging location is a location on the source host that is used for staging the cloned ZIP files before copying them to the destination host. ■ Destination Staging location Destination staging location is a location on the destination host that is used for staging the cloned ZIP files when they are copied over from the source host. ■ Temporary directory on the source host where the executables will be copied. For example, /tmp or c:\Temp.
Proximity Requirements	Ensure that the host on which the OMS is being installed and the host on which the Management Repository is being configured are located in close proximity to each other. Ideally, the round trip network latency between the two should be less than 1 millisecond.
Firewall Requirements	If you have a firewall in your environment, then refer to the chapter on configuring Enterprise Manager for firewalls in the *Oracle Enterprise Manager Cloud Control Advanced Installation and Configuration Guide*.

Table 7–1 (Cont.) Prerequisites for Adding an Additional Oracle Management Service

Requirement	Description
Unique Host Name and Static IP Address Requirements	Ensure that you check the network configuration to verify that the host on which you are installing resolves to a *unique* host name and a *static* IP address that are visible to other hosts in the network. **Note:** You must use only a *static* IP address. If you use a dynamic IP address, the installation will fail.
Central Inventory Requirements	Ensure that you allocate 100 MB of space for Central Inventory (oraInventory). Also ensure that the central inventory directory is not on a shared file system.If it is already on a shared file system, then switch over to a non-shared file system by following the instructions outlined in *My Oracle Support* note 1092645.1.

UMASK Value Requirements	Ensure that you set the default file mode creation mask (umask) to 022 in the shell startup file.
	
	For example:
	
	■ **Bash Shell**
	
	`$ . ./.bash_profile`
	
	■ **Bourne or Korn Shell**
	
	`$ . ./.profile`
	
	■ **C Shell**
	
	`% source ./.login`

File Descriptor Requirements	Ensure that you set the file descriptors to a minimum of 4096.
	
	To verify the current value set to the file descriptors, run the following command:
	
	`/bin/sh -c "ulimit -n"`
	
	If the current value is not 4096 or greater, then as a root user, update the `/etc/security/limits.conf` file with the following entries:
	
	`<UID> soft nofile 4096`
	
	`<UID> hardnofile 4096`

Table 7–1   (Cont.) Prerequisites for Adding an Additional Oracle Management Service

Requirement	Description
Host File Requirements	Ensure that the host name specified in the `/etc/hosts` file is unique, and ensure that it maps to the correct IP address of the host.
	The following is the recommended format of the `/etc/hosts` file:
	`<ip> <fully_qualified_host_name> <short_host_name>`
	For example,
	`172.16.0.0 example.com host1`
	According to RFC 952, the following are the assumptions: A *name* (Net, Host, Gateway, or Domain name) is a text string up to 24 characters drawn from the alphabet (A-Z), digits (0-9), minus sign (-), and period (.). Note that periods are only allowed when they serve to delimit components of *domain style names*. No blank or space characters are permitted as part of a name. No distinction is made between upper and lower case. The first character must be an alpha character.
	Also, if DNS server is configured in your environment, then you should be able to use DNS to resolve the name of the host on which you want to install the OMS.
	For example, all these commands must return the same output:
	`nslookup host1`
	`nslookup example.com`
	`nslookup 172.16.0.0`
Browser Requirements	■ Ensure that you use a certified browser as mentioned in the Enterprise Manager Certification Matrix available on *My Oracle Support*.
	To access this matrix, follow these steps:
	1. Log in to *My Oracle Support*, and click the **Certifications** tab.
	2. On the Certifications page, in the **Certification Search** region, from the **Product** list, select **Enterprise Manager Cloud Control**.
	3. From the **Release** list, select **12.1.0.1.0**, and click **Search**.
	■ If you use Microsoft Internet Explorer 8 or 9, do the following:
	■ Turn off the compatibility view mode. To do so, in Microsoft Internet Explorer, from the **Tools** menu, click **Compatibility View** to disable it if it is enabled. Also, click **Compatibility View Settings** and deregister the Enterprise Manager Cloud Control console URL.
	■ Enable XMLHTTP. To do so, from the **Tools** menu, click **Internet Options**. Click the **Advanced** tab, and under the **Security** heading, select **Enable native XMLHTTP support** to enable it.

7.4 Installation Procedure

To install an additional Oracle Management Service (OMS), follow these steps:

1. In Cloud Control, from the **Enterprise** menu, select **Provisioning and Patching**, and then, click **Procedure Library**.

2. On the Deployment Procedure Manager page, in the Procedure Library tab, from the table, select **Add Management Service**, and then, click **Launch**.

3. On the Getting Started page, complete the preinstallation tasks listed there. Once you are done, select each of the tasks you have completed, and then, click **Next**.

4. On the Select Destination page, do the following:

   a. For **Destination Host**, select or enter the name of the managed host (a host managed by the first OMS using a Management Agent) on which you want to install the additional OMS.

   For example, `example.com`

   Note: Do NOT enter the IP address of the managed host. Enter only the fully qualified name.

   ---

   b. For **Destination Instance Base Location**, accept the default location to the OMS instance base directory or enter the absolute path to another location of your choice where OMS-related configuration files can be stored. Ensure that this directory has 100 MB of space. Also ensure that the directories and subdirectories you mention in the path already exist.

   For example, `/apps/john/oracle/prod`

   c. In the Source Credentials section and in the Destination Credentials section, select the credential type you want to use for accessing the source host. For more information, see Section 7.4.1.

   d. Click **Next**.

5. On the Options page, do the following:

   a. In the File Transfer Option section, select a suitable protocol to transfer the cloned ZIP files to a staging location. FTP is the default transfer mode.

   If you want to transfer the files to a shared, NFS-mounted network location, then you can select **Shared Directory**, and enter the absolute path to the shared location. Ensure that this shared directory has read/write access from source and destination hosts, and has 4 GB of space.

   For example, `/net/example.com/scratch/john`

   Note: If you choose to use FTP as the file transfer mode, then ensure that FTP software is installed on the source host as well as the destination host.

   If you choose to use a shared location as the file transfer mode, then ensure that the shared location has read/write permission and is accessible from the source host as well as the destination host.

   If you have an SFTP set up, then select **FTP**.

   ---

b. In the Staging Locations section, for **Source Staging**, enter a location on the source host where the cloned ZIP files can be created and placed temporarily. Ensure that this temporary directory has 4 GB of space.

For example, `/example.com/shared`

Similarly, for **Destination Staging**, enter a location on the destination host where the cloned ZIP files can be copied to temporarily. Ensure that this temporary directory has 4 GB of space.

For example, `/example.com/shared`

Note: Once the OMS is installed on the destination host, the cloned ZIP files are automatically deleted from both the staging locations.

---

c. In the Destination Ports section, validate the ports displayed by default.

These default ports are based on the ports already assigned and used by the OMS that you are cloning. Oracle recommends you to use the same ports as your source OMS so that you have a homogeneous environment.

You can choose to retain the ports displayed by default or enter a custom port. Ensure that the custom port you enter is within the recommended range as shown in the **Recommended Port Range** column. If you want to check the availability of a custom port, then click **Check Ports**.

d. Click **Next**.

6. On the Post Creation Steps page, enter one or more e-mail IDs (separate by a comma) where the details of the postinstallation tasks to be performed can be sent, and then, click **Next**.

For your e-mail to work, you must have already configured the mail server. For instructions, see *Oracle Enterprise Manager Cloud Control Administrator Guide.*

7. On the Review page, review the details and click **Finish**.

> **Note:** If the installation fails, particularly in the *Install Homes* step, then before you retry installing the OMS, clean up the middleware home on the destination host where the installation failed. To do so, on the destination host, do the following:
>
> 1. Invoke the installer from the following location:
>
>   `<Middleware_Home>/oms/oui/bin/runInstaller`
>
> 2. In the installation wizard, on the My Oracle Support Details screen, click **Installed Products**.
>
>   a. Select all plug-in homes and click **Remove**.
>
>   b. Select the JDK home and click **Remove.**
>
>   c. Select the Oracle WebTier home and click **Remove.**
>
>   d. Select the OMS home and the Oracle Common directory, and click **Remove.**
>
>   e. Exit the installer.
>
> 3. Delete the middleware home directory.
>
> 4. Return to the *Add Management Service* deployment procedure that failed, and retry the *Install Homes* step.

7.4.1 Selecting Credentials

You can select one of the following credential types for accessing the source and the destination hosts:

Table 7–2   Selecting Credential Type

Credential Type	Description
Preferred Credential	Select this if you want to use the credentials that are already registered as preferred credentials with Enterprise Manager.
	In this case, from the **Preferred Credential Name** list, select either **Normal Host Credentials** or **Privileged Host Credentials** depending on the type of preferred credentials you want to use for accessing the host.
Named Credential	Select this if you want to use the credentials of a named profile created in Enterprise Manager.
	In this case, from the **Credential Name** list, select the profile whose credentials you want to use.
	On selection, you will see the credentials details. For more information on the credentials associated with the selected profile, click **More Details**. If you want to test connecting to the host with those credentials, click **Test**.

Table 7–2   (Cont.) Selecting Credential Type

Credential Type	Description
New Credentials	Select this if you want to enter a new set of credentials that will override the preferred credentials or the named credentials registered with Enterprise Manager.
	In this case, enter the credentials you want to override with.
	If you want to register the new set of credentials with Enterprise Manager, then click **Save As**, and either accept the default profile name or enter a custom name for it.
	Further, if you want to save them as preferred credentials, then select **Set as Preferred Credentials**, and select an option to indicate whether they should be saved as normal credentials or privilege credentials.
	If you want to test connecting to the host with those credentials, click **Test.**

7.5 After You Install

After you install the additional OMS, follow these steps:

1. Perform these steps on the Server Load Balancer (SLB) using its administration console:

   (a) Add the additional OMS host to the following SLB pools:

   - Secured Upload Pool *(add the host using the port configured for the Secured Upload service)*

   - Agent Registration Pool *(add the host using the port configured for the Agent Registration service)*

   - Secure Console Pool *(add the host using the port configured for the Secure Console service)*

   - (Optional) Unsecure Console Pool *(add the host using the port configured for the Unsecure Console service)*

   (b) Associate the additional OMS host with the following monitors:

   - Secure Upload Monitor *(associate the host using the port configured for the Secure Upload service)*

   - Agent Registration Monitor *(associate the host using the port configured for the Agent Registration service)*

   - Secure Console Monitor *(associate the host using the port configured for the Secure Console service)*

   - (Optional) Unsecure Console Monitor *(associate the host using the port configured for the Unsecure Console service)*

   > **Note:**   For information about configuring SLB, see the *Oracle Enterprise Manager Concepts and Enterprise Deployment Guide* available at:
   >
   > http://www.oracle.com/technetwork/oem/grid-control/documentation/index.html

2. Run `root.sh` as a *root* user on the destination host.

3. By default, the following targets get automatically discovered and monitored in the Enterprise Manager Cloud Control console:

- Oracle WebLogic Server, where the additional OMS is deployed

- Oracle Web Tier

- Application deployments, one for the Enterprise Manager Cloud Control console and one for the platform background services.

- Oracle Management Service

- Oracle Management Agent

- The host on which you installed Enterprise Manager Cloud Control

However, the other targets running on that host and other hosts do not get automatically discovered and monitored. To monitor the other targets, you need to add them to Enterprise Manager Cloud Control either using the Auto Discovery Results page, the Add Targets Manually page, or the discovery wizards offered for the targets you want to monitor.

For information about discovering targets in Enterprise Manager Cloud Control, refer to the chapter on adding targets in the *Oracle Enterprise Manager Cloud Control Administrator's Guide*.

8

Installing Oracle Management Agent

This chapter describes how you can install Oracle Management Agent (Management Agent). In particular, this chapter covers the following:

- Overview
- Before You Begin
- Prerequisites
- Installation Procedure
- After You Install

8.1 Overview

Oracle Management Agent (Management Agent) is one of the core components of Enterprise Manager Cloud Control that enables you to convert an unmanaged host to a managed host in the Enterprise Manager system. The Management Agent works in conjunction with the plug-ins to monitor the targets running on that managed host.

Therefore, at any point in time, if you want to monitor a target running on a host, ensure that you first convert that unmanaged host to a managed host by installing a Management Agent, and then manually discover the targets running on it to start monitoring them.

To install a Management Agent, use the Add Host Targets Wizard that is accessible from within the Enterprise Manager Cloud Control console. Oracle recommends you to this wizard particularly for mass-deployment of Management Agents.

Figure 8–1   Add Host Targets Wizard
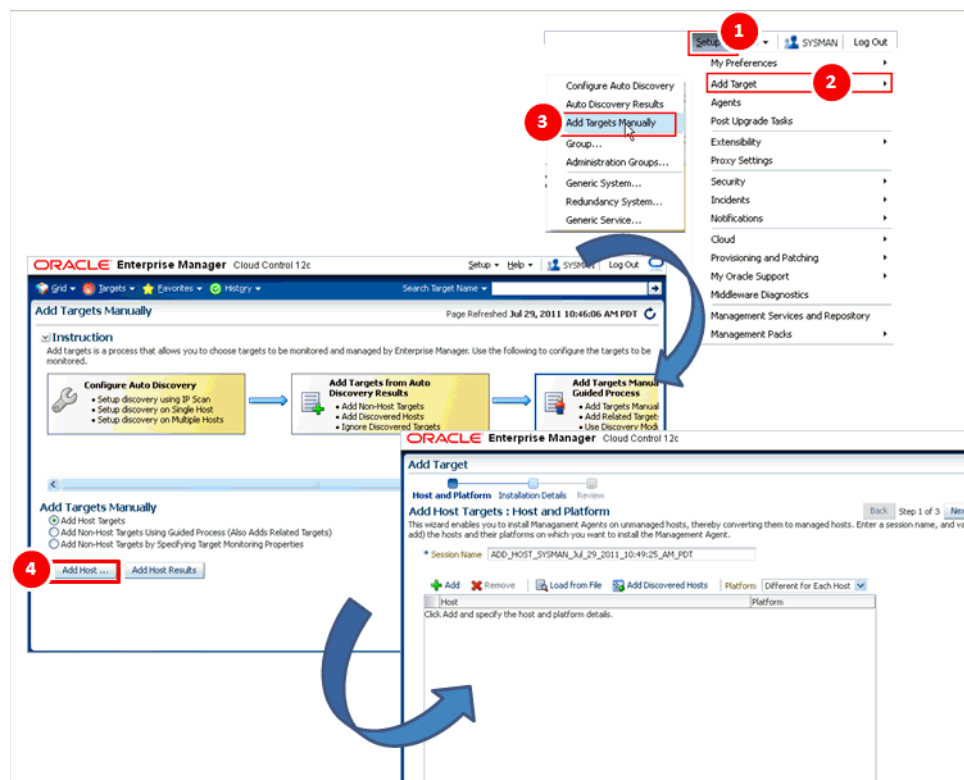
The Add Host Targets Wizard is an application that offers GUI-rich, interactive screens. The wizard enables you to do the following on multiple hosts across platforms with options to run preinstall and postinstall scripts:

- Deploy a fresh Management Agent

- Clone an existing well-tested and patched Management Agent

- Install a Management Agent (called *Shared Agent*) using an existing, centrally shared Management Agent (called *Master Agent*)

> **Note:**   This chapter only describes how you can deploy a fresh Management Agent using the Add Host Targets Wizard. For information on cloning an existing instance and deploying a Management Agent using a shared instance, refer to the *Oracle Enterprise Manager Cloud Control Advanced Installation and Configuration Guide*.

To monitor a target, you need to add the target to Enterprise Manager Cloud Control either using the Auto Discovery Results page, the Add Targets Manually page, or the discovery wizards offered for the targets you want to monitor.

For information about discovering targets in Enterprise Manager Cloud Control, refer to the chapter on adding targets in the *Oracle Enterprise Manager Cloud Control Administrator's Guide*.

Once the installation is complete, you will see the following default contents in the agent base directory:

```
<agent_base_directory>
```

```
|_____core
      |_____12.1.0.1.0
|_____plugins
|_____agent_inst
|_____sbin
|_____plugins.txt
|_____plugins.txt.status
|_____agentimage.properties
```

Note: If you want to move your Management Agents from one Enterprise Manager Cloud Control to another, then you must first deinstall those Management Agents and plug-ins, and then redeploy those Management Agents and plug-ins using the new Enterprise Manager Cloud Control. This is typically done when you want to move from an Enterprise Manager Cloud Control in a test environment to an Enterprise Manager Cloud Control in a production environment.

8.2 Before You Begin

Before you begin installing an Oracle Management Agent, keep these points in mind:

- The Add Host Targets Wizard converts an unmanaged host to a managed host in the Enterprise Manager system by installing an Oracle Management Agent 12*c*.

- Oracle recommends you to use the Add Host Targets Wizard to mass-deploy Management Agents in your environment.

- Oracle Management Agent 12*c* communicates only with Oracle Management Service 12*c* and not with any earlier release of Enterprise Manager.

- If you have multiple hosts, sharing a common mounted drive, then install the Management Agents in two different phases:

  1. In the Add Host Targets Wizard, select the deployment type **Fresh Agent Install**, and install a Management Agent on the host where the drive is shared. Alternatively, you can select the deployment type **Clone Existing Agent**, and clone the Management Agent to the host where the drive is shared.

     For more information, refer to the chapter on cloning a Management Agent in the *Oracle Enterprise Manager Cloud Control Advanced Installation and Configuration Guide*.

  2. In the Add Host Targets Wizard, select the deployment type **Add Host to Shared Agent**, and install a Management Agent on all other hosts that access the shared, mounted drive. (Here, you will select the Management Agent you installed in the previous step as the master agent or shared agent.)

     For more information, refer to the chapter on installing a *Shared Agent* in the *Oracle Enterprise Manager Cloud Control Advanced Installation and Configuration Guide*.

- If you have an Oracle RAC Cluster with multiple nodes, then you must install a Management Agent on each of the nodes separately. In other words, in the Add Host Targets Wizard, you must add each node explicitly as a destination host.

- The Add Host Targets Wizard uses SSH to establish connectivity between Oracle Management Service (OMS) and the remote hosts where you want to install the Management Agents.

- Only SSH1 (SSH version 1) and SSH2 (SSH version 2) protocols offered by OpenSSH are supported for deploying a Management Agent.

- SSH public key Authentication and password based authentication are supported. So you can use an existing SSH public key authentication without exposing your passwords. You can provide a dummy password in the wizard and bypass the validation.

  To set up the SSH keys, follow these steps:

  1. Navigate to the following location in the OMS home:

     `$<OMS_HOME>/oui/prov/resources/scripts`

     For example,

     `/home/software/em/middleware/oms/oui/prov/resources/script
     s`

  2. Run the following script, and pass the OMS user name you used for installing the OMS and the fully qualified name of the target hosts.

     `sshUserSetup.sh -setup -user <user_name> -hosts <target_
     hosts>`

  3. Access the Add Host Targets Wizard, and provide the dummy password and install the Management Agent.

  The wizard ignores the dummy password, and honors the keys present in the following location on the OMS host to perform the installation. Here, $HOME refers to the home directory of the OMS install user.

  - `$HOME/.ssh/id_rsa`

  - `$HOME/.ssh/identity`

- The Add Host Targets Wizard supports Named Credentials that enable you to use a set of credentials registered with a particular name specifically for this operation, by your administrator. This ensures an additional layer of security for your passwords because as an operator, you can only select the named credential, which is saved and stored by an administrator, and not know the actual user name and password associated with it.

  In case the named credential you select does not have the root privileges to perform the installation, then you can set the named credential to run as another user (locked user account). In this case, the wizard logs in to the hosts using the named credential you select, but performs the installation using the locked user account you set.

  For example, you can create a named credential titled User_A, and set it to run as User_X that has the root privileges. In this case, the wizard logs in to the hosts as User_A, but installs as User_X.

- By default, the Add Host Targets Wizard configures only the following types of plug-ins:

  - All discovery plug-ins that were configured with the OMS from where the Management Agent software is being deployed.

  - Oracle Home discovery plug-in

  - Oracle Home monitoring plug-in

- You must have *read* privileges on the Oracle WebLogic Server's alert log directories for the Support Workbench (Incident) metrics to work properly. You

must also ensure that the Management Agent that is monitoring this Oracle WebLogic Server target is running on the same host as the Oracle WebLogic Server.

- You must not install two Management Agents on the same host. This disrupts the communication with the OMS.

- If you have common mount point in your organization, then ensure that it is generic and ensure that you install the Management Agent in this generic mount points. This guideline helps when you upgrade your Management Agents to higher releases in the future within the same mount point, and not acquire new mount points each time.

  For example, have a mount point such as `/oracle/product/agent` and install the Management Agent in there so that it appears as `/oracle/product/agent/agent12c`. Do not install the Management Agent directly in the mount point because it breaks the upgrade path and causes problems with cleanup operations.

8.3 Prerequisites

Table 8–1 lists the prerequisites you must meet before installing the Management Agent.

Table 8–1 Prerequisites for Installing Oracle Management Agent

Requirement	Description
Hardware Requirements	Ensure that you meet the hard disk space and physical memory requirements as described in Chapter 2.
Software Requirements	*(For Microsoft Windows)* Ensure that you have installed Cygwin on the destination host as described in Chapter 5.

Operating System Requirements	Ensure that you install the Management Agent only on certified operating systems as mentioned in the Enterprise Manager Certification Matrix available on *My Oracle Support*.
	
	 To access this matrix, follow these steps:
	
	 1. Log in to *My Oracle Support*, and click the **Certifications** tab.
	
	 2. On the Certifications page, in the **Certification Search** region, from the **Product** list, select **Enterprise Manager Cloud Control**.
	
	 3. From the **Release** list, select **12.1.0.1.0**, and click **Search**.
	
	 Note: If you use Oracle Solaris 10, then ensure that you have update 9 or higher installed. To verify whether it is installed, run the following command:
	
	 `cat /etc/release`
	
	 You should see the output similar to the following. Here, `s10s_u6` indicates that update 6 is already installed.
	
	 `Solaris 10 10/08 s10s_u6wos_07b SPARC`

Package Requirements	Ensure that you install all the operating system-specific packages as described in Chapter 3.
User and Operating System Group Requirement	Ensure that you create the required operating system groups and users as described in Chapter 4.

Table 8–1   (Cont.) Prerequisites for Installing Oracle Management Agent

Requirement	Description
Destination Host Requirements	Ensure that the destination hosts are accessible from the host where the OMS is running.
	If the destination host and the host on which OMS is running belong to different network domains, then ensure that you update the `/etc/hosts` file on the destination host to add a line with the IP address of that host, the fully qualified name of that host, and the short name of the host.
	For example, if the fully-qualified host name is `example.com` and the short name is `mypc`, then add the following line in the `/etc/hosts` file:
	`172.16.0.0   example.com   mypc`
Destination Host Credential Requirements	Ensure that all the destination hosts running on the same operating system have the same set of credentials. For example, all the destination hosts running on Linux operating system must have the same set of credentials.
	The wizard installs the Management Agent using the same user account. If you have hosts running on the same operating system but with different credentials, then have two different deployment sessions.
Permission Requirements	■ Ensure that the agent base directory you specify is empty and has *write* permission.
	■ Ensure that the instance directory is empty and has *write* permission.
SUDO/PBRUN Requirements	*(Only for UNIX)*
	■ Ensure that the installing user has SUDO/PBRUN privileges to invoke `/bin/sh` as *root*.
	■ Ensure that you have the following line in the `/etc/sudoers` file:
	`Defaults visiblepw`
	■ Ensure that you comment out the following line in the `/etc/sudoers` file:
	`Defaults requiretty`
Ping Requirements	If a firewall configured in your environment does not allow any ping traffic, then ensure that you do the following:
	1. Take a backup of the following file from the OMS home:
	For Linux Platforms:
	`$<OMS_HOME>/oui/prov/resources/sPaths.properties`
	For Other Platforms:
	`$<OMS_HOME>/oui/prov/resources/ssPaths_<platform>.properties`
	For example, `ssPaths_aix.properties` if the OMS is on AIX platform.
	2. Edit the original properties file and change `PING_PATH=/bin/ping` to `PING_PATH=/bin/true`.

Table 8–1   (Cont.) Prerequisites for Installing Oracle Management Agent

Requirement	Description
Default SSH Port Requirements	Ensure that the SSH daemon is running on the default port (that is, 22) on all the destination hosts. To verify the port, run the following command: `netstat -anp	grep <port_no>` If the port is a non-default port, that is, any port other than 22, then update the `SSH_PORT` property in the following file that is present in the OMS home: `$<OMS_HOME>/oui/prov/resources/Paths.properties`
PATH Environment Variable Requirements	On the destination host, ensure the following: ■ (*For Microsoft Windows*) Ensure that the cygwin software location appears before other software locations in the `PATH` environment variable. After making it the first entry, restart the SSH daemon (sshd) on both the hosts. ■ (*For UNIX*) Ensure that the SCP binaries (for example, /usr/local/bin/scp) are in the `PATH` environment variable.
Software Availability Requirements	Ensure that the software of the Management Agent you want to install is available in Oracle Software Library (Software Library). ■ If you want to install Oracle Management Agent 12*c* on an operating system that is the same as the one on which Oracle Management Service 12*c* is running, then the Management Agent software for that release and for that platform is available by default in the Software Library. Therefore, no action is required from your end. ■ If you want to install Oracle Management Agent 12*c* on an operating system that is different from the one on which Oracle Management Service 12*c* is running, then ensure that the Management Agent software for the intended platform is downloaded and stored in the Software Library using the Self Update console. For information about the Self Update console, see the chapter on Self Update in the *Oracle Enterprise Manager Cloud Control Administrator's Guide*.
Path Validation Requirements	Validate the path to all command locations as described in Appendix B.
IPV 6 Requirements	If you are installing from an ipv6 OMS to a non-ipv6 host, then follow these step: 1. Navigate to the following location on the OMS home: `$<OMS_HOME>/oui/prov/resources/` 2. Check the property value of PING_PATH in the following files in this order: a. ssPaths_<plat>.properties b. sPaths.properties c. Paths.properties 3. Change the property value of PING_PATH from /bin/ping to /bin/ping6

Table 8–1 (Cont.) Prerequisites for Installing Oracle Management Agent

Requirement	Description
Temporary Directory Space Requirements	Ensure that you allocate 400 MB of space for a temporary directory where the executables can be copied.
	By default, the temporary directory location set to the environment variable TMP or TEMP is honored. If both are set, then TEMP is honored. If none of them are set, then the following default values are honored: /tmp on UNIX hosts and c:\Temp on Microsoft Windows hosts.
Agent Base Directory Requirements	■ Ensure that the agent base directory you provide is empty.
	If a previously run deployment session had failed for some reason, then you might see an ADATMP_<timestamp> subdirectory in the agent base directory. In this case, either delete the subdirectory and start a new deployment session, or retry the failed session from the Add Host Status page.
	■ Ensure that the directory name does not contain any spaces.
	■ Ensure that the installing user owns the agent base directory. Ensure that the installer user or the root user owns all the parent directories. Ensure that the root user owns the root directory.
	For example, if the agent base directory is /scratch/OracleHomes/agent, and *oracle* is the installing user, then the /scratch/OracleHomes/agent directory must be owned by *oracle*, directories scratch and OracleHomes must be owned by either *oracle* or *root* user, and the root directory (/) must be owned by *root* user.
Read and Execute Permission Requirements	Ensure that you (in fact, all users accessing the agent base directory) have *read* and *execute* permission on all the directories that lead up to the agent base directory.
	For example, if the agent base directory is /home/john/oracle/software/agent/, then you must have *read* and *execute* permissions on all the directories, mainly home, john, oracle, software, and agent.
Central Inventory (oraInventory) Requirements	■ Ensure that you allocate 100 MB of space for the Central Inventory.
	■ Ensure that the Oracle Inventory (oraInventory) is not in a shared location. When you use the /etc/oraInst.loc file, ensure that the inventory location specified there is not pointing to a shared location. If it is, change it to a non-shared location by following the instructions outlined in *My Oracle Support* note 1092645.1.
	■ Ensure that you have *read*, *write*, and *execute* permissions on oraInventory on all remote hosts. If you do not have these permissions on the default inventory (typically at /etc/oraInst.loc) on any remote host, then ensure that you specify the path to an alternative inventory location by using one of the following options in the Additional Parameters field of the Add Host Targets Wizard. However, note that these parameters are supported only on UNIX platforms, and not on Microsoft Windows platforms.
	INVENTORY_LOCATION=<absolute_path_to_inventory_directory>
	-invPtrLoc <absolute_path_to_oraInst.loc>

Table 8–1 (Cont.) Prerequisites for Installing Oracle Management Agent

Requirement	Description
Installing User Requirements	■ If the central inventory owner and the user installing the Management Agent are different, then ensure that they are part of the same group.
	■ Also ensure that the inventory owner and the group to which the owner belongs have *read* and *write* permissions on the inventory directory.
	For example, if the inventory owner is *abc* and the user installing the Management Agent is *xyz*, then ensure that *abc* and *xyz* belong to the same group, and they have *read* and *write* access to the inventory.
Agent User Account Permissions and Rights (For Microsoft Windows)	(*For Microsoft Windows*) If you are installing the Management Agent on a Microsoft Windows-based operating system, then ensure that the agent user account has permissions and rights to perform the following:
	■ Act as part of the operating system.
	■ Increase quotas.
	■ Replace process level token.
	■ Log in as a batch job.
	To verify whether the agent user has these rights, follow these steps:
	1. Launch the Local Security Settings.
	From the **Start** menu, click **Settings** and then select **Control Panel**. From the Control Panel window, select **Administrative Tools**, and from the Administrative Tools window, select **Local Security Settings**.
	2. In the Local Security Settings window, from the tree structure, expand **Local Policies**, and then expand **User Rights Assignment**.
Permissions for cmd.exe (For Microsoft Windows)	(*For Microsoft Windows*) If you are installing the Management Agent on a Microsoft Windows-based operating system, then ensure that you grant the `cmd.exe` program *Read* and *Execute* permissions for the user account that the batch job runs under. This is a restriction from Microsoft.
	For more information on this restriction and to understand how you can grant these permissions, access the following URL to Microsoft Web site:
	http://support.microsoft.com/kb/867466/en-us
Preinstallation/Postinstallation Scripts Requirements	Ensure that the preinstallation and postinstallation scripts that you want to run along with the installation are available either on the OMS host, destination hosts, or on a shared location accessible to the destination hosts.

Table 8–1   (Cont.) Prerequisites for Installing Oracle Management Agent

Requirement	Description

Browser Requirements	■ Ensure that you use a certified browser as mentioned in the Enterprise Manager Certification Matrix available on *My Oracle Support*.
	
	To access this matrix, follow these steps:
	
	  1. Log in to *My Oracle Support*, and click the **Certifications** tab.
	
	  2. On the Certifications page, in the **Certification Search** region, from the **Product** list, select **Enterprise Manager Cloud Control**.
	
	  3. From the **Release** list, select **12.1.0.1.0**, and click **Search**.
	
	■ If you use Microsoft Internet Explorer 8 or 9, do the following:
	
	  ■ Turn off the compatibility view mode. To do so, in Microsoft Internet Explorer, from the **Tools** menu, click **Compatibility View** to disable it if it is enabled. Also, click **Compatibility View Settings** and deregister the Enterprise Manager Cloud Control console URL.
	
	  ■ Enable XMLHTTP. To do so, from the **Tools** menu, click **Internet Options**. Click the **Advanced** tab, and under the **Security** heading, select **Enable native XMLHTTP support** to enable it.

8.4 Installation Procedure

To install a fresh Management Agent, follow these steps:

1. In Cloud Control, do one of the following:

   ■ From the **Setup** menu, select **Add Target**, and then, click **Auto Discovery Results**. On the Auto Discovery Results page, select a host you want to monitor in Enterprise Manager Cloud Control, and click **Promote**.

   ■ From the **Setup** menu, select **Add Target**, and then, click **Add Targets Manually**. On the Add Targets Manually page, select **Add Host Targets** and click **Add Host**.

2. On the Host and Platform page, do the following:

   a. Accept the default name assigned for this session or enter a unique name of your choice. The custom name you enter can be any intuitive name, and need not necessarily be in the same format as the default name. For example, add_ host_operation_1.

   ✱ Session Name ADD_HOST_GUEST_SUPER_ADMIN_May_10_2011_5:45:06_AM_UTC

A unique deployment activity name enables you to save the installation details specified in this deployment session and reuse them in the future without having to enter all the details all over again in the new session.

b. Click **Add** to enter the fully qualified name and select the platform of the host on which you want to install the Management Agent.
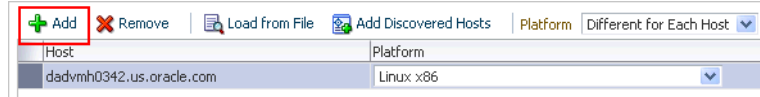
> **Note:**
>
> - Oracle recommends you to enter the fully qualified domain name of the host. For monitoring purpose, Enterprise Manager Cloud Control adds that host and the Management Agent with the exact name you enter here.
>
> - You must enter only one host name per row. Entering multiple host names separated by a comma is not supported.
>
> - You must ensure that the host name does not contain underscores("_").
>
> - If the platform name is appended with *Agent Software Unavailable*, then it indicates that the software for that platform is not available on the OMS host, and that you must download it using the Self Update console. To do so, from the **Setup** menu, select **Extensibility**, and then, click **Self Update**.

Alternatively, you can click either **Load from File** to add host names stored in a file, or **Add Discovered Hosts** to add host names from a list of hosts discovered by Enterprise Manager. For information on how the host name entries must appear in the host file, see Section 8.4.1.
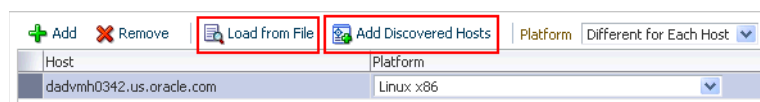
> **Note:** When you click **Add Discovered Hosts** and add hosts from a list of discovered hosts, the host's platform is automatically detected and displayed. The platform name is detected using a combination of factors, including hints received from automated discovery and the platform of the OMS host. This default platform name is a suggestion, so Oracle strongly recommends you to verify the platform details before proceeding to the next step.

If you are correcting the platform names, and if all the hosts run on the same platform, then set the platform for the first host in the table and from the **Platform** list, select **Same for All Hosts**. This will ensure that the platform name you selected for the first host is also set for the rest of the hosts in the table.
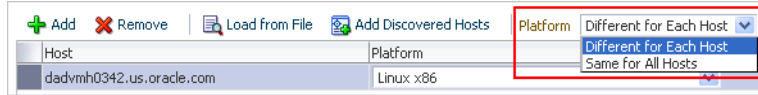
> **Note:**
>
> - If you reach this page (Host and Platform page) from the Auto Discovery Results page, then the hosts you selected on that page automatically appear in the table. In this case, you need to only validate the host names and their platforms.
>
> - If you are installing a Management Agent on a platform that is different from the platform on which the OMS is running, then ensure that you have the software for that platform. If you do not have that software, then go to the Self-Update console within Enterprise Manager Cloud Control, and download the software. For more information, see the prerequisite about Software Availability in Table 8–1.

  c. Click **Next**.

3. On the Installation Details page, do the following:

  a. In the Deployment Type section, select **Fresh Agent Install**.
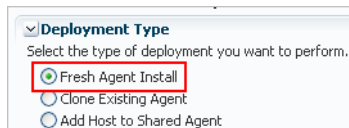
> **Note:** If you have multiple hosts sharing a common mounted drive, then install the Management Agents in two different phases:
>
> **1.** In the Add Host Targets Wizard, select the deployment type **Fresh Agent Install**, and install a Management Agent on the host where the drive is shared.
>
> **2.** In the Add Host Targets Wizard, select the deployment type **Add Host to Shared Agent**, and install a Management Agent on all other hosts that access the shared, mounted drive. (Here, you will select the Management Agent you installed in the previous step as the master agent or shared agent.)

  b. From the table, select the first row that indicates the hosts grouped by their common platform name.

  c. In the Installation Details section, provide the installation details common to the hosts selected in Step 3 (b). For **Installation Base Directory**, enter the absolute path to the agent base directory where you want the software binaries, security files, and inventory files of Management Agent to be copied.

    For example, `/u01/app/Oracle/`.

> **Note:** The Installation Base Directory is essentially the agent base directory. Ensure that the directory you provide is empty. If a previously run deployment session had failed for some reason, then you might see an ADATMP_<timestamp> subdirectory in the agent base directory. In this case, either delete the subdirectory and start a new deployment session, or retry the failed session from the Add Host Status page.

d. For **Instance Directory**, accept the default instance directory location or enter the absolute path to a directory of your choice where all Management Agent-related configuration files can be stored.

For example, `/u01/app/Oracle/agent_inst`

If you are entering a custom location, then ensure that the directory has write permission. Oracle recommends you to maintain the instance directory inside the agent base directory.

e. From **Named Credential** list, select an appropriate profile whose credentials can be used for setting up the SSH connectivity between the OMS and the remote hosts, and for installing a Management Agent on each of the remote hosts.
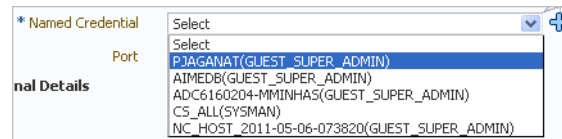
> **Note:**
>
> - If you do not have a credential profile, or if you have one but do not see it in the **Named Credential** list, then click the plus icon against this list. In the Create New Named Credential window, enter the credentials and store them with an appropriate profile name so that it can be selected and used for installing the Management Agents. Also set the run privilege if you want to switch over from the Named Credential you are creating, to another user who has the privileges to perform the installation.
>
> - If the plus icon is disabled against this list, then you do not have the privileges to create a profile with credentials. In this case, contact your administrator and either request him/her to grant you the privileges to create a new profile or request him/her to create a profile and grant you the access to view it in the **Named Credential** list.
>
> - If you have manually set up the SSH connectivity between the OMS and the remote hosts, then you may not have a password for your user account. In this case, create a named credential with a dummy password. Do NOT leave the password field blank.

f. For **Privileged Delegation Setting**, validate the Privilege Delegation setting to be used for running the root scripts. By default, it is set to the Privilege Delegation setting configured in Enterprise Manager Cloud Control.

If you leave this field blank, the root scripts will not be run by the wizard; you will have to run them manually after the installation. For information about running them manually, see Section 8.5.

This setting will also be used for performing the installation as the user set in the Run As attribute of the selected Named Credential if you had set the user while creating that Named Credential.

> **Note:** In the Privilege Delegation setting, the `%RUNAS%` is honored as the root user for running the root scripts and as the user set in the Run As attribute of the Named Credential for performing the installation.

g. For **Port**, accept the default port (3872) that is assigned for the Management Agent to communicate, or enter a port of your choice.

The custom port you enter must not be busy. If you are not sure, you can leave this field blank. Enterprise Manager Cloud Control automatically assigns the first available free port within the range of 1830 - 1849.

h. (Optional) In the Optional Details section, enter the absolute path to an accessible location where the preinstallation and postinstallation scripts you want to run are available. Note that only shell scripts are supported, and only one preinstallation or one postinstallation script can be specified.

If you want to run the script as `root`, then select **Run as Root**. If the script is on the host where OMS is running and is not on the host where you want to install the Management Agent, then select **Script on OMS**. In this case, the script will be copied from the OMS host to the destination hosts, and then run on the destination hosts.

i. (Optional) For **Additional Parameters**, enter a whitespace-separate list of additional parameters that you want to pass during the installation. For a complete list of supported additional parameters, see Table 8–2.

For example, if you want to provide the inventory pointer location file, then enter `-invPtrLoc` followed by the absolute path to the file location. However, note that this parameter is supported only on UNIX platforms, and not on Microsoft Windows platforms.

j. Repeat Step 3 (b) to Step 3 (i) for every other row you have in the table.

k. Click **Next**.

4. On the Review page, review the details you have provided for the installation and do one of the following:

- If you want to modify the details, then click **Back** repeatedly to reach the page where you want to make the changes.

- If you want to cancel the deployment session for some reason, click **Cancel.** You are automatically taken to the Add Targets Manually page.

- If you are satisfied with the details, then click **Deploy Agent** to install the Management Agent. You are automatically taken to the Add Host Status page that enables you to monitor the progress of the deployment session.

  If you want to cancel a running deployment session, then on the Add Host Starge page, click **Cancel.** Note that once you cancel the session, you cannot track or resume the session in any way. However, the currently launched commands on the remote hosts will continue to run until they are completed.

> **Note:**
>
> - If the installation fails for any reason, review the log files available in the following location of the OMS home.
>
>   `$<OMS_HOME>/sysman/prov/agentpush`
>
>   One log file is generated per host, so if you installed on multiple hosts, then review all the log files.
>
> - Despite a successful installation, if you see some exceptions in the prerequisite error file, you can ignore the exception trace. This issue might happen when an operation attempts to retrieve an element from a collection using a key that does not exist in that collection. You can ignore this exception.

8.4.1 Format of Host List File

In the Add Host Targets Wizard, you can click **Load from File** to add the hosts listed in a file. However, ensure that the file you select has one of the following formats:

- Only the host name.

  For Example,

  `host1.example.com`

  `host2.example.com`

- The host name followed by the platform name.

  For Example,

  `host1.example.com linux`

  `host2.example.com aix`

  The supported platform names are linux_x64, linux, solaris, hpunix, hpi, linux_zseries64, aix, linux_ppc64, windows_x64, solaris_x64, win32.

8.4.2 Supported Additional Parameters

Table 8–2 lists the additional parameters supported for installing a new Management Agent.

Table 8–2   Supported Additional Parameters

Parameter	Description
INVENTORY_ LOCATION	Enter the absolute path to the Central Inventory (oraInventory).
	For example, `INVENTORY_LOCATION=$HOME/oraInventory`
	Note: This parameter is supported only on UNIX platforms, and not on Microsoft Windows platforms.
-invPtrLoc	Enter the absolute path to the inventory file that has the location of the Central Inventory (oraInventory).
	For example, `-invPtrLoc /tmp/oraInst.loc`
	Note: This parameter is supported only on UNIX platforms, and not on Microsoft Windows platforms.

Table 8–2   (Cont.) Supported Additional Parameters

Parameter	Description
s_agentServiceName	*(Only for Microsoft Windows)* Enter a custom name for the Management Agent service.
	Every Management Agent appears as a service in Microsoft Windows, and every Management Agent has a default service name. If you want to assign a custom name to identify it, then use this parameter.
	For example, `DBAgent`
EM_STAGE_DIR	Enter the absolute path to a custom location that can be created as a temporary Provisioning Advisor Framework (PAF) staging directory.
	By default, every time you install a Management Agent, a PAF staging directory is created for copying the Software Library entities related to the deployment procedures. By default, this location is the scratch path location (`/tmp`). The location is used only for provisioning activities—entities are copied for a deployment procedure, and then, deleted once the deployment procedure ends.
	If you want to override this location with a custom location, you can pass this option and enter a custom location.
	For example,
	`EM_STAGE_DIR=/home/john/software/oracle/pafdir`

8.5 After You Install

After you install the Management Agent, follow these steps:

1. Verify the installation on the Add Host Status page. Review the progress made on each of the phases of the deployment operation — **Initialization**, **Remote Prerequisite Check**, and **Agent Deployment**.

    > **Note:**   In the Add Host Targets Wizard, after you click **Deploy Agent** to install one or more Management Agents, you are automatically taken to the Add Host Status page.
    >
    > If you want to view the details or track the progress of all the deployment sessions, then from the **Setup** menu, select **Add Target**, and then, click **Add Targets Manually**. On the Add Targets Manually page, select **Add Host Targets** and click **Add Host Results**.

    If a particular phase fails or ends up with a warning, then review the details provided for each phase in the Agent Deployment Details section, and do one of the following:

    - Ignore the warning or failure, and continue with the session if you prefer.

        – You can choose to proceed with the deployment of Management Agents only on those remote hosts that have successfully cleared the checks, and you can ignore the ones that have Warning or Failed status. To do so, click **Continue** and select Continue, Ignoring Failed Hosts.

        – You can choose to proceed with the deployment of Management Agents on all the hosts, including the ones that have Warning or Failed status. To do, click **Continue** and select **Continue, All Hosts**.

- Fix the problem by reviewing the error description carefully, understanding its cause, and taking action as recommended by Oracle.

  – You can choose to retry the deployment of Management Agents with the same installation details. To do so, click **Retry** and select Retry Using Same Inputs.

  – You can retry the deployment of Management Agents with modified installation details. To do so, click **Retry** and select Update Inputs and Retry.

  Note: If you want to cancel a running deployment session, then click **Cancel.** Note that once you cancel the session, you cannot track or resume the session in any way. However, the currently launched commands on the remote hosts will continue to run until they are completed.

  ---

2. If required, manually verify the installation:

   a. Navigate to the Management Agent home and run the following command to see a message that confirms that the Management Agent is up and running:

   ```
   $<AGENT_HOME>/bin/emctl status agent
   ```

   Note: If the status of the Management Agent is down for some reason, then manually start the Management Agent:

   ```
   $<AGENT_HOME>/bin/emctl start agent
   ```

   ---

   b. Navigate to the Management Agent home and run the following command to see a message that confirms that EMD upload completed successfully:

   ```
   $<AGENT_HOME>/bin/emctl upload agent
   ```

3. Verify if all the plug-ins were installed successfully. To do so, access the following log file from the Management Agent home, and search for the sentence *WARN:Plugin configuration has failed*.

   ```
   $<AGENT_HOME>/cfgtoollogs/cfgfw/CfmLogger-<timestamp>.log
   ```

   For example,

   ```
   $<MIDDLEWARE_
   HOME>/agent/core/12.1.0.1.0/cfgtoollogs/cfgfw/CfmLogger-<time
   stamp>.log
   ```

   If you find the sentence, resolve the issue by running the `AgentPluginDeploy.pl` script from the Management Agent home.

   ```
   $<MIDDLEWARE_HOME>/agent/core/12.1.0.1.0/perl/bin/perl
   <MIDDLEWARE_
   HOME>/agent/core/12.1.0.1.0/bin/AgentPluginDeploy.pl
   -oracleHome <MIDDLEWARE_HOME>/agent/core/12.1.0.1.0 -agentDir
   <AGENT_BASE_DIR> -pluginIdsInfoFile <AGENT_BASE_
   DIR>/plugins.txt -action configure -emStateDir <AGENT_
   INSTANCE_HOME>
   ```

   For example,

```
/u01/app/Oracle/Middleware/agent/core/12.1.0.1.0/perl/bin/per
l
/u01/app/Oracle/Middleware/agent/core/12.1.0.1.0/bin/AgentPlu
ginDeploy.pl -oracleHome
/u01/app/Oracle/Middleware/agent/core/12.1.0.1.0/ -agentDir
/u01/app/Oracle/Middleware/agent -pluginIdsInfoFile
/u01/app/Oracle/Middleware/agent/core/12.1.0.1.0/sysman/insta
ll/plugins.txt -action configure -emStateDir
/u01/app/Oracle/Middleware/agent/agent_inst
```

4. (Only for UNIX Operating Systems) If you had ignored the prerequisite check warning about not having root privileges, SUDO/PBRUN binaries, or SUDO/PBRUN privileges, then manually run the following scripts as a *root* user from each of the hosts where the installation was done. If you do not have SUDO/PBRUN privileges, then request your Administrator who has the privileges to run these scripts.

    ■   If this is the first Oracle product you just installed on the host, then run the `oraInstroot.sh` script from the inventory location specified in the `oraInst.loc` file that is available in the Management Agent home.

        For example, if the inventory location specified in the `oraInst.loc` file is `$HOME/oraInventory`, then run the following command:

        ```
        $HOME/oraInventory/oraInstRoot.sh
        ```

        > **Note:** If you are not a *root* user, then use SUDO/PBRUN to change to a *root* user. For example, run the following command:
        >
        > ```
        > /usr/local/bin/sudo
        > $HOME/oraInventory/oraInstRoot.sh
        > ```

    ■   Run the `root.sh` script from the Management Agent home:

        ```
        $<AGENT_HOME>/root.sh
        ```

        > **Note:** If you are not a *root* user, then use SUDO/PBRUN to change to a *root* user. For example, run the following command:
        >
        > ```
        > /usr/local/bin/sudo $<AGENT_HOME>/root.sh
        > ```

5. By default, the host and the Management Agent get automatically added to the Enterprise Manager Cloud Control console for monitoring. None of the targets running on that host get automatically discovered and monitored.

    To monitor the other targets, you need to add them to Enterprise Manager Cloud Control either using the Auto Discovery Results page, the Add Targets Manually page, or the discovery wizards offered for the targets you want to monitor.

    For information about discovering targets in Enterprise Manager Cloud Control, refer to the chapter on adding targets in the *Oracle Enterprise Manager Cloud Control Administrator's Guide*.

> **Note:** If you want to move your Management Agents from one
> Enterprise Manager Cloud Control to another, then you must first
> deinstall those Management Agents and plug-ins, and then redeploy
> those Management Agents and plug-ins using the new Enterprise
> Manager Cloud Control. This is typically done when you want to
> move from an Enterprise Manager Cloud Control in a test
> environment to an Enterprise Manager Cloud Control in a production
> environment.

9

Installing Application Dependency and Performance

This chapter describes how you can install Application Dependency and Performance (ADP) in the Enterprise Manager Cloud Control environment.

In particular, this chapter covers the following:

- Overview
- Before you Begin
- Prerequisites
- Installation Procedure
- After You Install

9.1 Overview

Application Dependency and Performance (ADP) is one of the critical functionalities in Enterprise Manager Cloud Control that allows you to analyze Java EE, SOA, Portal, OSB, and ADF applications. It captures the complex relationships among various application building blocks in its application schema model - the core of the Oracle intelligent platform.

Therefore, to manage applications effectively, gain an understanding of the complex relationships among the business functions, associated interconnected components, and the underlying runtime environments, you must deploy Application Dependency and Performance (ADP) Manager application, and monitor them by installing the corresponding ADP agents.

To install ADP, use the Middleware Diagnostics page that is accessible from within Enterprise Manager Cloud Control console. To access the page, from **Setup** menu, select **Middleware Diagnostics**.

Figure 9–1   Middleware Diagnostics
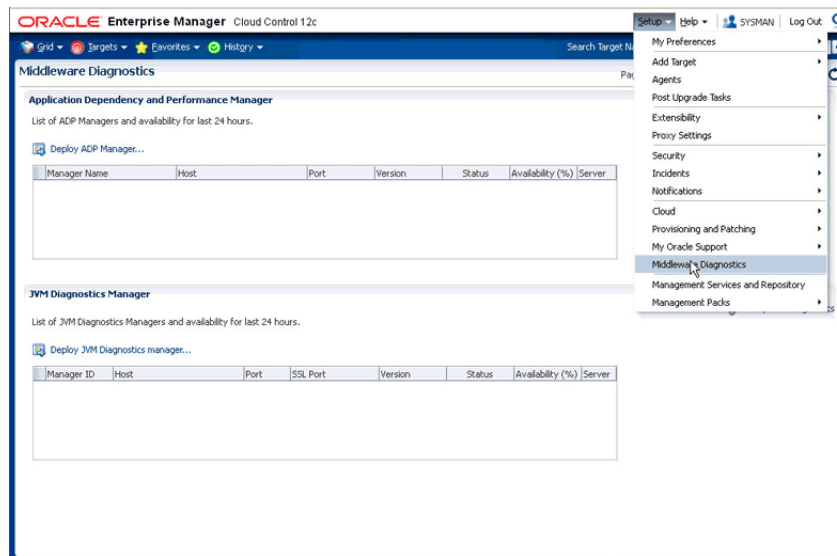
The Middleware Diagnostics Page is a GUI based screen that enables you to deploy ADP Manager, and monitor the health of the ADP Manager application in a reliable and an efficient manner.

Using Middleware Diagnostics Page, you can achieve the following:

- Deploy Application Dependency and Performance Manager.

- Monitor the availability of all the ADP Managers.

- Access information about the ADP Managers like host to which the managers are deployed, the current status, the port on which they running, version, and so on.

9.2 Before you Begin

Before you begin installing Application Dependency and Performance, keep these points in mind.

For ADP Manager:

- The Weblogic Server on which you want to deploy the ADP Manager application must be up and running.

- ADP Manager can be deployed only on managed servers that are part of Enterprise Manager Cloud Control domain.

- Oracle recommends that you do not deploy other applications to the managed server on which the ADP Manager is deployed.

For ADP Agent:

- To deploy ADP Agent, the WebLogic Server hosting the ADP Manager should be up and running.

- Ensure that at least one ADP Manager up and running in Active state to deploy an ADP Agent.

9.3 Prerequisites

Ensure that you meet the following prerequisites:

- For information about ADP Manager hardware requirements, refer to "CPU, RAM, Heap Size, and Hard Disk Space Requirements for OMS"

- The default ADP Manager ports are: ADP Manager Port: 51099, Java Provider Port: 55003, and Remote Service Controller Port: 55000

- Before deploying ADP Agent, ensure that you meet the following prerequisites:

Requirement	Releases
Oracle WebLogic Server	9.2.x 10.0.x 10.1.x 10.2.x 10.3.x 11*g*R1, 11*g*PS1, 11*g*PS2, 11*g*PS3
Oracle WebLogic Portal	9.2.x 10.0.x 10.1.x 10.2.x 10.3.x
Oracle Application Server	10.1.3.x
Oracle SOASuite	10.1.3.x (on OC4J, WLS 9.2.x) **Note:** For SOA Suite 10*g*, ADP requires that at least JDK 1.5.0.6 be in use, and there be minimum values set for the following JVM arguments: - XX:MaxPermSize=256M (or higher) - Xms512M (or higher) - Xmx1024M (or higher) 11*g*R1, 11*g*R1 PS1, PS2, PS3
Oracle Service Bus (OSB)	2.6 2.6.1 3 10*g*R3 11
Oracle Application Integration Architecture(AIA)	2.2.1 2.3

9.4 Installation Procedure

This section contains the following topics:

- Deploying ADP Manager on the Same Host as OMS

- Deploying ADP Agents

9.4.1 Deploying ADP Manager on the Same Host as OMS

To deploy ADP Manager on the same host as OMS, automatically creating a managed server, you must log in to Enterprise Manager Cloud Control with Super Administrator privilieges (SYSMAN), and perform the following steps:

1. In Cloud Control, from **Setup** menu, select **Middleware Diagnostics**.

2. On the Middleware Diagnostics page, click **Deploy ADP Manager.**

   The ADP Manager deployment page appears.

3. On the Deploy ADP Manager page, select **Create a managed server**, and enter the following details:

   ■ Select an OMS Server from the **Host** list. The list comprises of all the servers discovered in Enterprise Manager WebLogic domain.

     For example, `host1.example.com (EMGC_OMS1)`,`host2.example.com (EMGC_OMS2)`, and so on.

   ■ Enter a unique **Managed Server Name**.

     For example, `EMGC_ADPMANAGER1`, `EMGC_ADPMANAGER2`, and so on.

   ■ The Port numbers for **Listen Port**, **SSL Listen Port, ADP Manager Registry Port, ADP Manager Java Provider Port,** and **ADP Manager Controller Port** are populated with the default values 4200, 4201, 51099, 55003, and 55000 respectively. You can change these values if required.

     Note: ADP Manager registry port enables communication between ADP Manager and ADP Agent.

4. Depending on the host selected in the previous step, you are prompted for the credentials, as follows:

   ■ If you select the same host as the Administration Server (`EMGC_OMS1`), then you must provide the **Oracle WebLogic Administration Server Host Credentials** and **Oracle WebLogic Domain Credentials**.

   ■ If you select a different host (`EMGC_OMS2`) from the Administration Server, then in addition to **Oracle WebLogic Administration Server Host Credentials** and **Oracle WebLogic Domain Credentials**, you must also provide **Oracle WebLogic Managed Server Host Credentials**

   Where,

Oracle WebLogic Administration Server Host Credentials are credentials for the host where the WebLogic Administration Server is running.

Oracle WebLogic Domain Credentials are credentials of the Weblogic domain in the Enterprise Manager Cloud Control.

Oracle WebLogic Managed Server Host Credentials are the credentials of the host machine where the Managed Server is running.

For more information about credentials, see Section 7.4.1.

5. Click **Deploy** to submit the job.

The ADP Deployment Status page appears with a link to the job status. Click the link to see the status of the job that you submitted.

9.4.2 Deploying ADP Agents

To deploy ADP Agents to a WebLogic Server, perform the following steps:

1. In Cloud Control, from the **Targets** menu, select **Middleware**.

The Middleware page displays a list of all the Middleware targets discovered and managed in Cloud Control. Click target name to select the desired target.

2. On the Middleware page, click **Oracle WebLogic Domain**. Ensure that the selected domain is not an Enterprise Manager Cloud Control domain (EMGC_DOMAIN).

Note: ADP Agent cannot be deployed on a managed server (WebLogic Server) present in the Enterprise Manager domain.

All the managed server present in the domain appear on the domain home page.

3. From the **WebLogic Domain** menu, select **Diagnostics,** and then click **Setup Diagnostics Agents** to deploy agents to the selected managed servers.

4. On the Deploy Diagnostics Agents page, choose the Oracle WebLogic Server (managed server) to which you want to deploy the ADP agents.

Figure 9–2   Deploy Diagnostics Agents

Ensure that you retain the selection of only those Diagnostic Agent(s) that you want to deploy to each of the managed server, deselect the others.

By default, the following servers appear deselected:

- The Administration server is not selected by default.

- All the managed servers that are not up and running appear deselected by default.

- If the **Deployed Version** and the **Version to Deploy** are the same, and the status of already deployed ADP agent is up and running.

> **Note:** In Addition to the managed server selected, the ADP Agent is deployed to the Administration Server of the selected domain.

5. In the Diagnostics Agent Configuration section, enter the **ADP Configuration Properties** for the selected agents:

- Select the desired ADP Manager from the **ADP Manager** list.

  The ADP agents selected for deployment will report to the selected ADP Manager.

- If you select the **Update Remote Start configuration** option, then some configuration scripts run in the background to facilitate the monitoring process. Select this option if you use node manager to stop or start the WebLogic Servers to which ADP agent is being deployed.

  For more information about the NodeManager, see *Oracle Enterprise Manager Cloud Control Advanced Installation and Configuration Guide.*

6. If the version of the WebLogic Server is greater than 9.2.X, and if the Management Agent is used to discover the monitored WebLogic domain which is not JRF enabled, then an Additional Configuration section appears.

   In the **WebLogic Home** field, enter the absolute path to the WebLogic home of the monitored domain.

   If the **WebLogic Middleware Home** field appears, then enter the absolute path to the WebLogic Middleware Home of the monitored domain.

7. In the Credentials section, provide **Oracle WebLogic Administration Server Host Credentials**, **Oracle WebLogic Domain Credentials, Oracle Enterprise Manager WebLogic Administration Server Host Credentials,** and **Oracle Enterprise Manager WebLogic Domain Credentials.**

   Where,

   Oracle WebLogic Administration Server Host Credentials are credentials for the host where the WebLogic Administration Server is running.

   Oracle WebLogic Domain Credentials are credentials of the monitored Weblogic domain in the Enterprise Manager Cloud Control.

   Oracle Enterprise Manager WebLogic Administration Server Host Credentials are required to access the host where the WebLogic administration server for the Cloud Control domain is running.

   Oracle Enterprise Manager WebLogic Domain Credentials are required to access the Enterprise Manager Cloud Control domain.

   For more information about selecting credentials, see Section 7.4.1.

8. Click **Deploy** to submit the job. A Diagnostics Agent Deployment status page appears:
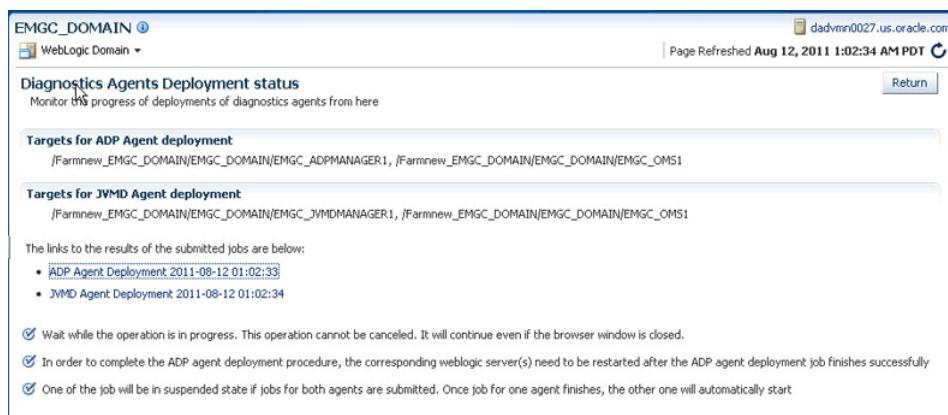
The status page appears with a link to the job status. Click the link to see the status of the job that you submitted.

> **Note:** Restart the administration server and the managed servers to which the ADP Agents have been deployed. These servers should be restarted only after the deployment has completed successfully.

9.5 After You Install

This section contains the following details:

- Verifying ADP Manager Installation
- Verifying ADP Agent Installation

9.5.1 Verifying ADP Manager Installation

Once you have deployed ADP Manager, you can perform the following sanity checks to verify if the ADP manager has been installed accurately on the managed server:

- In Cloud Control, from **Setup** menu, click **Middleware Diagnostics**. On the Middleware Diagnostics page, the newly deployed JVMD Manager must appear and its status must be up and running.

- In Cloud Control, from the **Targets** menu, select **Middleware**, from Middleware Features, click **Application Dependency and Performance.** On the ADP home page, in the Registration tab, the managed server on which the ADP Manager is deployed must appear.Select the manager name and click **Test Connect** to ensure that the manger is up and running.

9.5.2 Verifying ADP Agent Installation

Once you have deployed ADP Agent, you can perform the following steps to verify if the ADP Agent is installed on the targeted manager servers accurately:

1. In Cloud Control, from **Targets** menu, select **Middleware**.

2. On the Middleware page, from Middleware Features, click **Application Dependency and Performance.**

3. On the Monitoring tab, expand the folder corresponding to the ADP Manager associated with the deployed agents.

4. Select the **Status** node in the navigation tree, and click the node, do not expand it. Verify the **Agent Information** table for the servers that you deployed to.

> **Note:** If you have not restarted the monitored servers, then the EJB Deployed status should be **true,** and the Agent Installed status should be **false**.
>
> Once you restart the monitored servers, the Agent Status for those servers should be **REPORTING**.

10

Installing JVM Diagnostics

This chapter describes how you can install JVM Diagnostics (JVMD) in the Enterprise Manager Cloud Control environment.

In particular, this chapter covers the following:

- Overview
- Before you Begin
- Prerequisites
- Installation Procedure
- After You Install

10.1 Overview

JVM Diagnostics (JVMD) is one of the critical functionalities in Enterprise Manager Cloud Control that enables administrators to diagnose performance problems in Java applications in the production environment. By eliminating the need to reproduce problems, it reduces the time required to resolve these problems thus improving application availability and performance.

Therefore, to manage applications effectively and identify the root cause of performance problems in the production environment without having to reproduce them in the test or development environment, you must deploy JVMD Manager. The JVMD Manager runs as an Enterprise JavaBeans (EJB) Technology on a WebLogic Server.

The JVMD Agent is deployed on the targeted JVM (the one running a production WebLogic Server). It collects real-time data and transmits it to the JVM Diagnostics Manager. This data is stored in the Management Repository, and the collected information is displayed on Enterprise Manager Cloud Control console for monitoring purposes. The communication between the JVMD Manager and the JVMD Agent can be a secure (SSL) or non-secure connection.

To install JVMD, use the Middlware Diagnostics page that is accessible from within Enterprise Manager Cloud Control console. To access the portal, from **Setup** menu, and then select **Middleware Diagnostics**.

Figure 10–1   Middleware Diagnostics
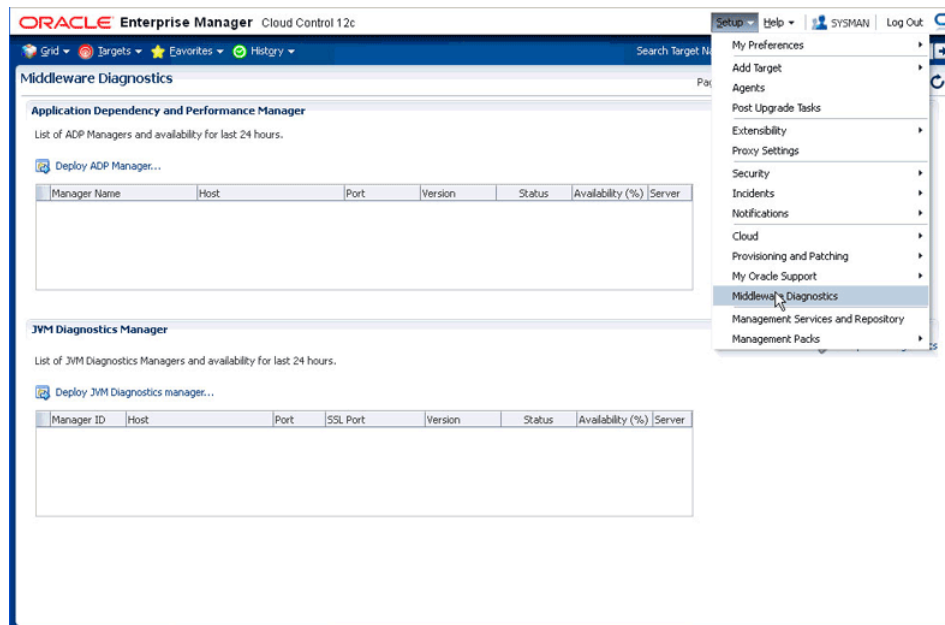
The Middleware Diagnostics Page is a GUI based screen that enables you to deploy JVMD Manager, and monitor the health of the JVMD Manager application in a reliable and an efficient manner.

Using Middlware Diagnostics Page, you can achieve the following:

■   Deploy JVM Diagnostics Manager.

■   Monitor the availability of all the JVMD Managers.

■   Access information about the JVMD Managers like host to which the managers are deployed, the current status, the port on which they running, version, and so on.

10.2 Before you Begin

Before you begin installing JVM Diagnostics, keep these points in mind.

For JVMD Manager:

■   The Weblogic Server on which you want to deploy the JVMD Manager, must be up and running.

■   JVMD Manager can be deployed only on managed servers that are part of Enterprise Manager Cloud Control domain.

■   Oracle recommends that you do not deploy other applications to the managed server on which the JVMD Manager is deployed.

For JVMD Agents:

■   To deploy JVMD Agent, the WebLogic Server hosting the JVMD Manager should be up and running.

■   Ensure that at least one JVMD Manager up and running in Active state, to deploy a JVMD Agent.

10.3 Prerequisites

Ensure that you meet the following prerequisites:

- For more information about JVMD Manager hardware requirements, refer to "CPU, RAM, Heap Size, and Hard Disk Space Requirements for OMS"

- The JDK version required to deploy JVMD Agent is JDK 1.5 or higher

- Supported Operating Systems for JVMD Agents are:

  - Linux x86

  - Linux x86-64

  - Windows x86

  - Windows x86-64

  - Solaris x86

  - Solaris x86-64

  - Solaris SPARC

  - Solaris SPARC (64 bit)

  - AIX PowerPC (32 bit)

  - AIX PowerPC (64 bit)

  - JRVE

  - HP IA-64(32 bit)

  - HP IA-64(64 bit)

  - HP PA-RISC(32 bit)

10.4 Installation Procedure

This section contains the following topics:

- Deploying JVMD Manager on the Same Host as OMS

- Deploying JVMD Agents

10.4.1 Deploying JVMD Manager on the Same Host as OMS

To deploy JVMD Manager on the same host as OMS; automatically creating a managed server, you must log in with SYSMAN account (a default Super Administrators account that is installed with Enterprise Manager), and perform the following steps:

1. In Cloud Control, from **Setup** menu, select **Middleware Diagnostics**. For more information about the Middleware Diagnostic page, see Figure 10–1.

2. On the Middleware Diagnostics page, click **Deploy JVM Diagnostics Manager (JVMD).**

The Deploy JVM Diagnostics Manager appears.

Figure 10–2   Deploy JVM Diagnostics Manager

3. On the Deploy JVM Diagnostics page, select **Create a managed server**, and enter the following details:

   ■ Select an OMS Server from the **Host** list. The list comprises of all the servers present in the Enterprise Manager WebLogic domain.

     For example, `host1.example.com (EMGC_OMS1)`, `host2.example.com (EMGC_OMS2)`, and so on.

   ■ Enter a unique name for the managed server in the **Managed Server Name** field.

     For example, `EMGC_JVMDMANAGER1`, `EMGC_JVMDMANAGER2`, and so on.

   ■ The Port numbers for **Managed Server Listen Port** and **Managed Server SSL Listen Port** are populated with the default values 3800 and 3801 respectively. You can change these values by entering custom value if required.

4. Specify the O**racle Management Server Host Credentials** and **Oracle WebLogic Domain Credentials**:

   Where,

   Oracle Management Server Host Credentials are the credentials for the host machine where the OMS server selected is running. For example, the OMS selected is `EMGC_OMS1 (host1.example.com)`.

   Oracle WebLogic Domain Credentials are credentials of the Weblogic domain in the Enterprise Manager Cloud Control.

   For more information about credentials, see Section 7.4.1.

5. Click **Deploy** to submit the job.

   The JVMD Manager Deployment Status page appears with a link to the job status. Click the link to see the status of the job that you submitted.

10.4.2 Deploying JVMD Agents

To deploy JVMD Agents to a WebLogic Server, perform the following steps:

1. In Cloud Control, from the **Targets** menu, select **Middleware**.

   The Middleware page displays a list of all the Middleware related targets discovered, and being managed in Cloud Control. Click target name to select the desired target.

2. From the Middleware page, click **Oracle WebLogic Domain**. JVMD Agents can be deployed on Enterprise Manager WebLogic domain or other WebLogic Domains too.

   All the managed server present in the domain appear in the domain home page.

3. From the **WebLogic Domain** menu, select **Diagnostics,** and then click **Setup Diagnostics Agents** to deploy agents to the selected managed servers.

4. On the Deploy Diagnostics Agents page as shown in Figure 10–3, choose the Oracle WebLogic Server (managed servers) to which you want to deploy the JVMD agents.

Figure 10–3 Deploy Diagnostics Agent
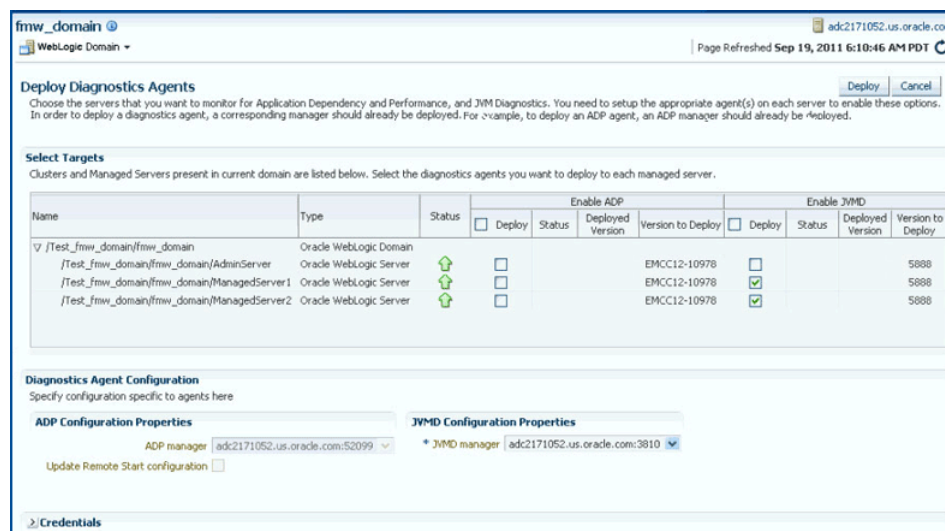
Ensure that you retain the selection of only those Diagnostic Agent(s) that you want to deploy to each of the managed server, deselect the others.

By default, the following servers appear deselected:

■ The Administration server is not selected by default.

■ All the managed servers that are not up and running appear deselected by default.

■ If the **Deployed Version** and the **Version to Deploy** are the same, and the status of the already deployed JVMD agent is up and running.

5. In the Diagnostics Agent Configuration section, enter the **JVMD Configuration Properties** for the selected agents.

Select the desired JVMD manager from the **JVMD Manager** list.

The JVMD agents selected for deployment will report to this JVMD Manager.

6. If the version of the WebLogic Server is greater than 9.2.X, and if the Management Agent is used to discover the monitored WebLogic domain which is not JRF enabled, then an Additional Configuration section appears.

In the **WebLogic Home** field, enter the absolute path to the WebLogic home of the monitored domain.

If the **WebLogic Middleware Home** field appears, then enter the absolute path to the WebLogic Middleware Home of the monitored domain.

7. In the Credentials section, provide **Oracle Weblogic Administration Server Host Credentials**, and **Oracle WebLogic Domain Credentials.**

Where,

Oracle WebLogic Administration Server Host Credentials are credentials for the host where the WebLogic Administration Server is running.

Oracle WebLogic Domain Credentials are credentials of the monitored WebLogic domain in the Enterprise Manager Cloud Control.

For more information, see Section 7.4.1.

8. Click **Deploy** to submit the job. A Diagnostics Agent Deployment status page as follows appears:
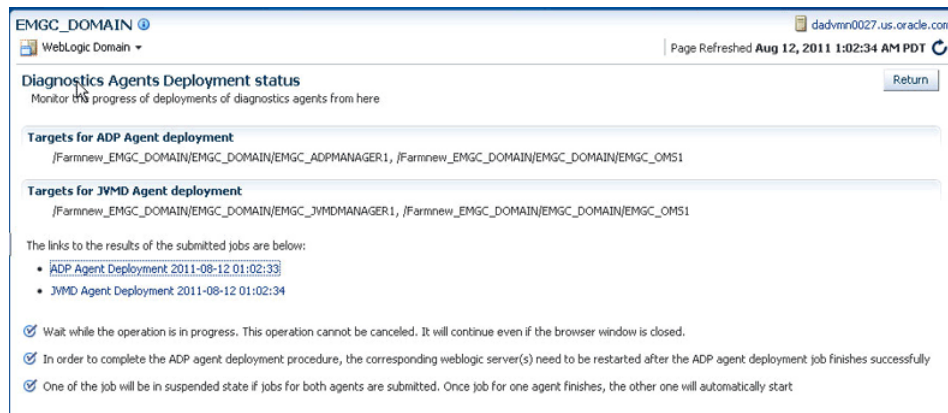
The Status page appears with a link to the job status. Click the link to see the status of the job that you submitted.

10.5 After You Install

The section contains the following:

- Verifying JVMD Manager Installation
- Verifying JVMD Agent Installation

10.5.1 Verifying JVMD Manager Installation

Once you have deployed JVMD manager, you can perform the following sanity checks to verify if the JVMD manager has been installed accurately on the managed server. To monitor the health of the JVM Diagnostics Manager, perform the following steps:

- In Cloud Control, from **Setup** menu, select **Middleware Diagnostics.**
- On the Middleware Diagnostics page, all the deployed Managed Servers are listed. Attributes like **Manager Id**, **Host, Port, SSL Port, Version, Status**, **Availability,** and **Server** available on the Middleware Diagnostics page helps monitor the status and the availability of the JVMD Manager.

10.5.2 Verifying JVMD Agent Installation

Once you have deployed JVMD Agent, you can perform the following sanity checks to verify if the JVMD Agent is installed on the targeted manager servers accurately:

- In Cloud Control, from the **Targets** menu, select **Middleware**. On the Middleware home page, select the domain where the JVMD agent was deployed. On the left hand pane, from Target Navigation section, click **Java Virtual Machine Pools** to expand the menu, the JVMD targets appear.
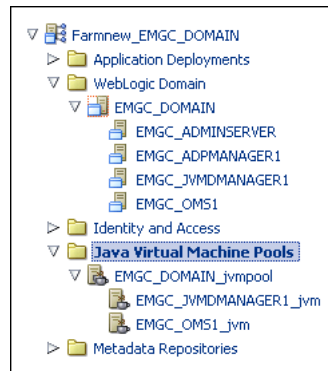
Each of the targets corresponds to one of the managed servers chosen for JVMD agent deployment. All these mentioned targets should be up and running.

■ Log into the WebLogic Administration console of the domain where the JVMD agent was deployed. The targeted managed servers should have a new application with the name `javadiagnosticagent_<managed_server_name>`, and this application should up and running.

Part IV

Appendix

This part contains the following appendixes:

- Appendix A, "Overview of EM Prerequisite Kit Utility"
- Appendix B, "Validating Command Locations"
- Appendix C, "Setting Up Proxy Configuration for Oracle Management Service"

A

Overview of EM Prerequisite Kit Utility

This appendix describes the Enterprise Manager Prerequisite Kit utility (EM Prerequisite Kit) that the installation wizard runs every time it installs or upgrades your Enterprise Manager. In particular, this appendix covers the following:

- About EM Prerequisite Kit
- Running the EM Prerequisite Kit
- Running the EM Prerequisite Kit with Additional Arguments
- Viewing Prerequisite Check Results
- Viewing Log Files
- Repository Prerequisites

A.1 About EM Prerequisite Kit

The EM Prerequisite Kit is a command line utility that runs repository-related prerequisite checks in your environment to ensure that you meet all the repository requirements for installing or upgrading an Enterprise Manager system.

The kit not only runs the prerequisite checks but also takes corrective action automatically, to the extent possible, when a prerequisite check fails. The kit also takes postrequisite steps to revert the corrective actions taken and ensure that the system is back to how it was before installing or upgrading the Enterprise Manager system.

The EM Prerequisite Kit is run internally by the Enterprise Manager Installation Wizard while installing or upgrading an Enterprise Manager system.

> **Note:** You can download the latest version of EM Prerequisite Kit from the Self Update framework as follows:
>
> 1. In Cloud Control, from the **Setup** menu, select **Extensibility**, and then select **Self Update.**
>
> 2. On the Self Update page, download the new version of XMLs under the entity **EM Deployment Prerequisite Resources Updates**, if there are any available.
>
> Once you download and apply these updates, you cannot rollback to the previous version of XMLs.

A.2 Running the EM Prerequisite Kit

The EM Prerequisite Kit is run internally by the Enterprise Manager Installation Wizard while installing or upgrading an Enterprise Manager system. However, if any

of the repository prerequisite checks fail for some reason, you can manually run them by invoking this kit.

The EM Prerequisite Kit is available in the following location of the software kit (DVD, downloaded software):

```
install/requisites/bin/emprereqkit
```

The EM Prerequisite Kit is run from Oracle Universal Installer and GCConfigure script by default and will perform all the prerequisites to be checked for Enterprise Manager deployment. If you want to run the EM Prerequisite Kit standalone from DVD, do following:

1. Create a directory `Disk1` on your file system.

2. Copy `<DVD-location>/install/` to `Disk1/`.

3. Copy `<DVD-location>/stage/` to `Disk1/`.

Note: Ensure that the user running the EM Prerequisite Kit has write permission to the central inventory.

To run the EM Prerequisite Kit, do one of the following:

- To view a list of repository requirements to be met without taking any corrective actions, run the EM Prerequisite Kit from the software kit (DVD, downloaded software) as `SYS` user with the following arguments:

  ```
  install/requisites/bin/emprereqkit -executionType install
  -prerequisiteXMLLoc <prereq_xml_location> -connectString
  <connect_string> -dbUser SYS -dbPassword <db_password>
  -dbRole sysdba -showPrereqs
  ```

- To run the prerequisite utility and also take corrective actions to meet the repository requirements, run the EM Prerequisite Kit from the software kit (DVD, downloaded software) as `SYS` user with the following additional arguments:

  ```
  install/requisites/bin/emprereqkit -executionType install
  -prerequisiteXMLLoc <prereq_xml_location> -connectString
  <connect_string> -dbUser SYS -dbPassword <db_password>
  -dbRole sysdba -runPrerequisites -runCorrectiveActions
  ```

Note: To learn about the other arguments that can be passed with the kit, see Section A.3.

Once the Enterprise Manager system is installed or upgraded, the EM Prerequisite Kit and all the other files and directories present in the `install/requisites/` directory of the software kit (DVD, downloaded software) are copied to the following location in the OMS home. So, in future, if you decide to install any plug-ins, then before installing them, ensure that you invoke the EM Prerequisite Kit from this location.

```
$<OMS_HOME>/install/requisites/bin/emprereqkit
```

> **Note:** The default XML files related to the prerequisite checks, which are stored in the `install/requisites/list` directory on the software kit (DVD, downloaded software), are current at the time of the release of the product. However, after the release of the product, if a new prerequisite check is introduced or if an existing prerequisite check is updated, then you must do one of the following:
>
> - Enable the Self Update functionality within Enterprise Manager Cloud Control so that the new or updated prerequisite XML files are automatically downloaded to the `$<OMS_HOME>/install/requisites/list` directory.
>
> - Manually download the new or updated prerequisite XML files from Oracle store to the `$<OMS_HOME>/install/requisites/list` directory.

A.3 Running the EM Prerequisite Kit with Additional Arguments

Table A–1 describes the additional arguments you can pass while invoking the EM Prerequisite Kit:

Table A–1 Arguments Supported by EM Prerequisite Kit

Option	Optional or Mandatory	Value Required?	Example	Description
`-executionType`	Mandatory	Yes	`-executionType upgrade`	Specify the type of execution, which can be one of the following: - `install` - `upgrade` - `postrequisite`
`-prerequisiteXMLLoc` or `prerequisiteXMLRootDir`	Mandatory	Yes	`-prerequisiteXMLLoc $ORACLE_HOME/install/requisites/list`	Specify the absolute path to the location where the XML files related to the prerequisites are present. If you do not specify a location, the default location is `../list/`.

- `-connectString <connctstring>`
- `-dbHost <hostname> -dbPort <port> -dbSid <sid>`
	One of these options is mandatory	Yes	For example (connect string):
			`-connectString "(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=example.com)(PORT=15044)))(CONNECT_DATA=(SID=dbview)))"`
			
			For example (database details):
			`-dbHost example.com -dbPort 15044 -dbSid dbview`
				Specify the database details.

Table A–1 (Cont.) Arguments Supported by EM Prerequisite Kit

Option	Optional or Mandatory	Value Required?	Example	Description
-dbUser	Mandatory *Even if you do not pass this option, you will be prompted to provide a value*	Yes	-dbUser SYS	Specify SYS.
-dbPassword	Mandatory *Even if you do not pass this option, you will be prompted to provide a value*	Yes	-dbPassword welcome1	Specify the database password.
-dbRole	Mandatory *Even if you do not pass this option, you will be prompted to provide a value*	Yes	-dbRole sysdba	Specify sysdba.
-prereqResultLoc	Optional	Yes	-prereqResultLoc /scratch/results	Specify the absolute path to a directory where the results (in the form of XML files) of the prerequisite checks can be stored. If you do not pass this option, the results are stored in a default location which is the current directory. **Note:** If you specify details for a different database before completing all the actions, you will need to specify a different -prereqResultLoc.

Table A–1   (Cont.) Arguments Supported by EM Prerequisite Kit

Option	Optional or Mandatory	Value Required?	Example	Description

-showPrereqs	Optional	No	Example using `dhHost`, `dbPort`, and `dbSid` is:
			
			`$ORACLE_HOME/install/requisites/bin/emprereqkit -executionType upgrade -prerequisiteXMLLoc $ORACLE_HOME/install/requisites/list -dbHost example.com -dbPort 15044 -dbSid sv902 -dbUser SYS  -dbPassword example_passwd -dbRole sysdba -showPrereqs`
			
			Example using `connectString` is:
			
			`$ORACLE_HOME/install/requisites/bin/emprereqkit -executionType upgrade -prerequisiteXMLLoc $ORACLE_HOME/install/requisites/list -connectString "(DESCRIPTION=(ADDRESS_LIST=(ADDRESS=(PROTOCOL=TCP)(HOST=example.com)(PORT=15044)))(CONNECT_DATA=(SID=sv902)))" -dbUser SYS -dbPassword example_passwd -dbRole sysdba -showPrereqs`
				Lists the prerequisite checks to be run.

Table A–1   (Cont.) Arguments Supported by EM Prerequisite Kit

Option	Optional or Mandatory	Value Required?	Example	Description

■ -runPrerequisites
■ -showCorrectiveActions
■ -runCorrectiveActions
■ -showPostCorrectiveActions
■ -runPostCorrectiveActions
	One of these options is mandatory.	No	An example for -runPrerequisites:
			
			`$ORACLE_HOME/install/requisites/bin/emprereqkit -executionType upgrade -prerequisiteXMLLoc $ORACLE_HOME/install/requisites/list -dbHost example.com -dbPort 15044 -dbSid sv902 -dbUser SYS  -dbPassword example_passwd -dbRole sysdba -runPrerequisites`
			
			An example for -showCorrectiveActions:
			
			`$ORACLE_HOME/install/requisites/bin/emprereqkit -executionType upgrade  -dbHost example.com -dbPort 15044 -dbSid sv902 -dbUser SYS  -dbPassword example_passwd -dbRole sysdba -showCorrectiveActions`
			
			Example for -runCorrectiveActions:
			
			`$ORACLE_HOME/install/requisites/bin/emprereqkit -executionType upgrade  -dbHost example.com -dbPort 15044 -dbSid sv902 -dbUser SYS  -dbPassword example_passwd -dbRole sysdba -runCorrectiveActions`
			
			Example for -showPostCorrectiveActions:
			
			`$ORACLE_HOME/install/requisites/bin/emprereqkit -executionType upgrade  -dbHost example.com -dbPort 15044 -dbSid sv902 -dbUser SYS  -dbPassword example_passwd -dbRole sysdba -showPostCorrectiveActions`
			
			Example for -runPostCorrectiveActions
			
			`$ORACLE_HOME/install/requisites/bin/emprereqkit -executionType upgrade  -dbHost example.com -dbPort 15044 -dbSid sv902 -dbUser SYS  -dbPassword example_passwd -dbRole sysdba -runPostCorrectiveActions`
				■ Runs the prerequisite checks and lists the ones that passed and failed.
				■ Lists the corrective actions that will be taken for the failed prerequisite checks.
				■ Takes corrective actions for the failed prerequisite checks.
				■ Lists the post-corrective actions that will be taken for the prerequisite checks for which corrective actions were taken.
				■ Takes post-corrective actions for the prerequisite checks for which corrective actions were taken. In other words, reverts to values that existed before corrective actions were taken.
				
				Important: If you passed -prereqResultLoc with -runPrerequisites, then pass -prereqResultLoc with the following options also, and specify the same custom location:
				
				-showCorrectiveActions
				
				-runCorrectiveActions
				
				-showPostCorrectiveActions
				
				-runPostCorrectiveActions
				
				Note: Show actions must be independent, that is, they should not be combined with any other action.

-logLoc	Optional	Yes	-logLoc /scratch/logs	Specify the absolute path to a directory where the logs of the execution of the EM Prerequisite Kit utility can be stored. The default location is `<prereqResultloc>/prerequisiteResults/log`.

Table A–1   (Cont.) Arguments Supported by EM Prerequisite Kit

Option	Optional or Mandatory	Value Required?	Example	Description
-runOnlyF or	Optional	Yes	-runOnlyFor "repository|11.2.0.43"	Specify the components that must be selected instead of the XML files for checking the prerequisites. {comp1|<version1>, comp2|<version2>}] If there are two prerequisite XML files with the same component name, then the <version*> is used to select the correct one. This option is particularly useful when running the prerequisites for installing plug-ins.
-response File	Optional	Yes	-responseFile /scratch/response.rsp	Specify the absolute path to a location where the response file is available.
-contextN ame	Optional	Yes	-contextName 11.2.0.1	Specify a unique name for this run. If you do not specify this, a default name with the format executionType_timestamp is created.
-componen tVariable s	Optional	Yes	-componentVariables global:EM_ REPOS_USER:sysman	Specify the name and value of the component variable in the following format: component_name:variable_ name:variable_value For example, global:EM_REPOS_USER:sysman You can pass as many component variables as you want, but ensure that you separate them by a comma. For example, global:EM_REPOS_ USER:sysman,repository:DB _VERSION:10.2.0.5.0
-logInDB	Optional	Yes	-logInDB false	Defaults to true and stores the result XMLs in the database. If you do not want to store them in the database, pass this option and specify false.
-stopExec OnFirstEr ror	Optional	No	$ORACLE_ HOME/install/requisites/bin/emp rereqkit -executionType upgrade -prerequisiteXMLLoc $ORACLE_ HOME/install/requisites/list -dbHost example.com -dbPort 15044 -dbSid sv902 -dbUser SYS -dbPassword example_passwd -dbRole sysdba -runPrerequisites -stopExecOnFirstError	Stops the utility the first time it encounters an error, and does not run the remaining prerequisites. **Note:** This action must be executed in combination with runPrerequisites.

Table A–1   (Cont.) Arguments Supported by EM Prerequisite Kit

Option	Optional or Mandatory	Value Required?	Example	Description
-list	Optional *Must be passed independently while invoking the utility*	No	`$ORACLE_ HOME/install/requisites/bin/emp rereqkit -executionType upgrade -dbHost example.com -dbPort 15044 -dbSid sv902 -dbUser SYS -dbPassword example_passwd -dbRole sysdba -list`	Organizes and lists the prerequisite check results *(stored in the database)* based on when it was run and the context.
-export	Optional *Must be passed independently while invoking the utility*	No	`$ORACLE_ HOME/install/requisites/bin/emp rereqkit -executionType upgrade -dbHost example.com -dbPort 15044 -dbSid sv902 -dbUser SYS -dbPassword example_passwd -dbRole sysdba -export`	Copies the prerequisite check results (XML files) from the database to an external file system.
-purge	Optional *Must be passed independently while invoking the utility*	No	`$ORACLE_ HOME/install/requisites/bin/emp rereqkit -executionType upgrade -dbHost example.com -dbPort 15044 -dbSid sv902 -dbUser SYS -dbPassword example_passwd -dbRole sysdba -purge`	Defaults to `false` and retains the result XMLs in the database. If you want to delete them from the database, pass this option.
-help	Optional	No	`emprereqkit -help`	This option gives details of various parameters which can be passed to EM Prerequisite Kit.

A.4 Viewing Prerequisite Check Results

Every time the EM Prerequisite Kit is run, the results of the prerequisite checks run for a particular component are stored in an instance XML file. The instance XML file has the file name `<component>.xml`. The results are in the same format as the information stored in the prerequisite XML files. The only difference is the new column that indicates the actual result of the prerequisite check.

Table A–2 lists the instance file locations depending on how the EM Prerequisite Kit was invoked.

Table A–2   EM Prerequisite Kit Result File Location (Instance XML File)

invocation Type	Instance File Location[1]	Latest Instance File Location[2]
Manually Invoked	`<prereqResultLoc>/resu ltXMLs/<time-stamp>`	`<prereqResultLoc>/resultXM Ls/LATEST/`

Table A–2   (Cont.) EM Prerequisite Kit Result File Location (Instance XML File)

invocation Type	Instance File Location[1]	Latest Instance File Location[2]
Automatically Invoked by the Enterprise Manager Cloud Control Installation Wizard	`<MW_HOME>/.gcinstall_ temp/resultXMLs/<time- stamp>` **Note:** When you proceed through the installation wizard pages, EM Prerequisite Kit logs are created under `$OraInventory/logs/emd bpnereqs` directory. The resultsXML are created under `/tmp/OraInstall<timest amp>/empreeqkit` directory. When install begins, the `/tmp/OraInstall<timest amp>/empreeqkit` logs are copied to `<MW_ HOME>/.gcinstall_temp`. **Note:** If inventory location is passed via `-invPtrLoc`, this will be the OraInventory log location, otherwise the location is $OraInventory/logs/emdbpre reqs.	`<MW_HOME>/.gcinstall_ temp/resultXMLs/LATEST`

[1] Instance File Location refers to the <time-stamp> directory that is created dynamically by the utility every time the EM Prerequisite Kit is run. The instance file created here is retained until you decide to delete it.

[2] Latest Instance File Location refers to a single, standard location maintained for the latest instance file created when the EM Prerequisite Kit was last run. The instance file created here is overwritten every time the utility is run.

Note: The `<prereqResultLoc>` location refers to the location you enter for the `-prereqResultLoc` option while invoking the utility. If this option is not passed, then by default, the directory from where you invoke the utility is considered as the base directory, and a directory titled `prerequisiteResults` is dynamically created in it, and then the instance file is stored in it.

A.5 Viewing Log Files

Table A–3 lists all the log files that are created every time the EM Prerequisite Kit is run.

Table A–3   EM Prerequisite Kit Log Files

Log File Name	Description
`emprereqkit.log`	Contains information about every step taken or action performed by the kit
`repository.log`	Contains information about the repository-related prerequisite checks that are run
`emprereqkit.err.log`	Contains only the error and stacktrace of the exceptions occurred
`performance.log`	Contains information about the repository-specific performance-related prerequisite checks that are run

Table A–3 (Cont.) EM Prerequisite Kit Log Files

Log File Name	Description
emprereqkit.output	Contains information about the status (pass or fail) of all the prerequisite checks that are run. It also contains detailed information regarding each prerequisite check.For example, prerequisite name, execution status, detailed recommendation (what queries are to be executed to correct the failed prerequisite), and so on.

Table A–4 lists the log file locations depending on how the EM Prerequisite Kit was invoked. This table lists the locations for all the log files except for the emprereqkit.output file. For emprereqkit.output file, see the note after the table.

Table A–4   EM Prerequisite Kit Log File Locations

invocation Type	Latest Log File Location[1]	Log File Location[2]
Manually Invoked	<logLoc>/LATEST	<logLoc>/<time-stamp>
Automatically Invoked by the Enterprise Manager Cloud Control Installation Wizard	<MW_HOME>/.gcinstall_temp/LATEST **Note:** When you proceed through the installation wizard pages, EM Prerequisite Kit logs are created under $OraInventory/logs/emdbprereqs directory. The resultsXML are created under /tmp/OraInstall<timestamp>/emprereqkit directory. When install begins, the /tmp/OraInstall<timestamp>/emprereqkit logs are copied to <MW_HOME>/.gcinstall_temp. **Note:** If inventory location is passed via -invPtrLoc, this will be the OraInventory log location, otherwise the location is $OraInventory/logs/emdbprereqs.	<MW_HOME>/.gcinstall_temp/<time-stamp>

[1] Latest Log File location refers to a single, standard location maintained for the latest log files created when the EM Prerequisite Kit was last run. The log files created here are overwritten every time the utility is run.

[2] Log File Location refers to the <time-stamp> directory that is created dynamically by the utility every time the EM Prerequisite Kit is run. The log file created here are retained until you decide to delete them.

> **Note:** When the EM Prerequisite Kit is run manually, the log file emprereqkit.output is stored in <prereqResultLoc>/log/<time-stamp>. The latest log file is stored in <prereqResultLoc>/log/LATEST/.
>
> When the EM Prerequisite Kit is run internally by the Enterprise Manager Cloud Control Installation Wizard, the log file emprereqkit.output is stored in <MW_HOME>/.gcinstall_temp/log/<time-stamp>. And the latest log file is stored in <MW_HOME>/.gcinstall_temp/log/<LATEST>.

A.6 Repository Prerequisites

This section describes all the repository prerequisites that the EM Prerequisites Kit checks. This section also describes how to manually check these prerequisites.

Following are the repository prerequisites for upgrading Enterprise Manager.

Table A–5   Repository Prerequisites for Upgrading Enterprise Manager System

Prerequisite	Applies to Install/Upgrade	Automatic	Description
Basic Policy Requirements	Upgrade	No	Ensure that valid policy exists for MGMT_TARGETS. To verify, run the following query: `select 'EM_TARGET_POLICY' from dual where not exists (select policy_name from dba_policies where object_owner=SYSMAN' and pf_owner='SYSMAN' and object_name='MGMT_TARGETS') )` The query must not return any rows.
Active Jobs Requirements	Upgrade	No	Ensure that there are no background DBMS jobs currently running in the Repository Database. To verify, run the following query: `select count(*) FROM dba_jobs_running run_job,gv$session sess WHERE sess.sid=run_job.sid AND sess.schemaname='SYSMAN'` If the result of the query is 0 then there are no active DBMS jobs, if result is not 0 then wait for the active jobs to complete.

Primary Key and Foreign Key Requirements	Upgrade	No	Ensure that Primary Key and Foreign keys are not disabled. To verify, run the following query:
			`select count(*) from (select constraint_name, table_name from DBA_CONSTRAINTS where owner = 'SYSMAN' and (constraint_type = 'P' or constraint_type = 'R') and status = 'DISABLED')`
			If the result is not 0, then use the following query to enable the constraint:
			`alter table SYSMAN.<TABLE_NAME> modify constraint <CONSTRAINT_NAME> enable`
			If the constraints cannot be enabled for any reason, contact Oracle Support.

Enable Queue Requirements	Upgrade	No	Ensure that queues are enabled in the Repository Database. To verify, run the following query:
			`select count(*) from dba_queues where owner = 'SYSMAN' and queue_type like '%NORMAL_QUEUE%' and (enqueue_enabled like '%NO%' OR dequeue_enabled like '%NO%')`
			If result is not 0, use the following query to retrieve the list of disabled queue names:
			`select name, queue_table from dba_queues where owner = 'SYSMAN' and upper(queue_type) not like 'EXCEPTION_QUEUE' and (upper(enqueue_enabled) NOT LIKE '%YES%' OR upper(dequeue_enabled) NOT LIKE '%YES%'))`
			Execute the following SQL statement to enable the queue:
			`begin`
			`dbms_aqadm.start_queue('<disabled_queue_name>');`
			`end;`
			If the queue cannot be started, contact Oracle Support.

Table A–5 (Cont.) Repository Prerequisites for Upgrading Enterprise Manager System

Prerequisite	Applies to Install/Upgrade	Automatic	Description
Trigger Requirements	Upgrade	No	Ensure that all the triggers in the Repository Database are not disabled. To verify, run the following query: `select count(*) from (select trigger_name, trigger_type, table_name from DBA_TRIGGERS where table_owner = 'SYSMAN' and status = 'DISABLED')` If result is not 0, then enable the trigger.
SYSTEM tablespace requirement	Install and Upgrade	No	Ensure that the SYSTEM tablespace has at least one datafile set to autoextensible. To verify, run the following query: `select count(*) from dba_data_files where tablespace_name = 'SYSTEM' and autoextensible = 'YES'` If the result is 0, then add a new datafile with the autoextend attribute to the SYSTEM tablespace so it has at least one listed in the DBA_DATA_FILES view with autoextensible equal to 'YES'. Contact Oracle Support if there are any errors
emkey requirement	Upgrade	No	Ensure that the emkey is copied to the repository. To verify, run the following query: `select COUNT(*) from sysman.mgmt_repos_time_coefficient` If the result of the query is not 1, then copy the emkey.ora file from another OMS or backup machine to the ORACLE_HOME/sysman/config directory. Configure the emkey.ora file by running `emctl config emkey -copy_to_repos -sysman_pwd <sysman_pwd>`.

EM_USER_CONTEXT requirements	Upgrade	No	Ensure that EM_USER_CONTEXT is present in the repository. To verify, run the following query:
			
			`select count(*) from dba_context where schema='SYSMAN' and upper(namespace)='EM_USER_CONTEXT'`
			
			If the query result is 0, check that the procedure SETEMUSERCONTEXT is valid by executing the following query:
			
			`select status from all_objects`
			
			where object_name='SETEMUSERCONTEXT' and owner='SYSMAN'
			
			The above query must return 'VALID'. Then run:
			
			`alter session set current_schema='SYSMAN';`
			
			Create or replace context EM_USER_CONTEXT using SETEMUSERCONTEXT;
			
			If the context cannot be created for any reason, contact Oracle Support.

Audit Master table requirement	Upgrade	No	Ensure that there are no abnormal conditions stored in the Audit Master Table. To verify, run the following query: `select count(*) from sysman.mgmt_audit_master` If the query result is not 1 then, contact Oracle Support to analyze the Enterprise Manager repository before attempting to perform the patch/upgrade.

Table A–5   (Cont.) Repository Prerequisites for Upgrading Enterprise Manager System

Prerequisite	Applies to Install/Upgrade	Automatic	Description
Exempt Access Policy requirement	Upgrade	No	Ensure that EXEMPT ACCESS POLICY is not granted directly to SYSMAN or indirectly grants to a role that is granted to SYSMAN. To verify, run the following query: `select count(*) from dba_sys_privs where upper(privilege)='EXEMPT ACCESS POLICY' and (grantee = 'sysman' or grantee in (select distinct granted_role from dba_role_privs start with grantee='SYSMAN' connect by prior granted_role=grantee) or grantee = 'sysman')` If the result of the query is not 0, then revoke EXEMPT ACCESS POLICY from SYSMAN and the roles. For example, revoke exempt access policy from SYSMAN.
max_enabled_roles init parameter requirement	Install and Upgrade	No	Ensure that the max_enabled_roles parameter value is set such that it contains at least 3 more than the flattened roles granted to SYS. To verify, run the following query: `select 1 from DUAL where (select count(*) from v$instance where version like '9.%') = 0 or (select value from v$parameter where name like 'max_enabled_roles') > (select count(*) from dba_role_privs start with grantee='SYS' connect by prior granted_role=grantee))+2` If the result of the query is not 1 then, increase the max_enabled_roles parameter to ensure it contains at least 3 more than the flattened roles granted to SYS. To modify max_enabled_roles, perform the following steps: **1.** Bring down all the OMSes. **2.** Bring down the database cleanly. **3.** Modify the max_enabled_roles parameter in the init.ora or whichever is used by the database's initialization process. **4.** Bring up the database cleanly. **5.** Verify with v$parameter to ensure the parameter value is indeed increased.
PAF execution requirements	Upgrade	No	Ensure that no PAF executions are scheduled or running. To verify, run the following query: `SELECT count(1) FROM SYSMAN.MGMT_PAF_STATES s, SYSMAN.MGMT_PAF_INSTANCES i, SYSMAN.MGMT_PAF_PROCEDURES p WHERE p.procedure_guid = i.procedure_guid AND s.instance_guid = i.instance_guid AND s.state_type = 0 AND s.status in (0,1)` If the query result is not 0, then abort or wait for PAF executions to complete.
Secured Agent requirements	Upgrade	No	Ensure that all the agents are secured with latest CA. To know the list of agents to be secured, run the following command: `emcli get_ca_info -details`

Table A–5 (Cont.) Repository Prerequisites for Upgrading Enterprise Manager System

Prerequis ite	Applies to Install/Up grade	Automa tic	Description
Pre-upgra de console patch requireme nts	Upgrade	No	Ensure that pre-upgrade patch is applied. To verify, run the following query: `select count(*) from all_objects where object_name ='PRE_UPGC_MASTER_INFO' and object_type='TABLE' and owner='SYSMAN'` If the result of the query is not 1, then apply pre-upgrade Console patch before upgrading.
Global Stale percentage requireme nts	Install and Upgrade	No	Ensure that global stale percentage is in between 5 and 25. To verify, run the following query: `select count(*) from dual where dbms_stats.get_ prefs('STALE_PERCENT') between 5 and 25` The query result must be 1.

Account status requireme nts	Upgrade	No	Ensure that SYSMAN ,MGMT_VIEW and ORACLE_OCM accounts are not locked or expired. To verify, run the following queries:
			
			`select account_status from dba_users where username='SYSMAN';`
			`select account_status from dba_users where username='MGMT_VIEW';`
			`select account_status from dba_users where username='ORACLE_OCM';`
			
			The query result must be OPEN.

SYSMAN schema requireme nts	Upgrade	No	Ensure that SYSMAN schema is present for upgrade. To verify, run the following query: `SELECT COUNT(*) FROM ALL_USERS WHERE USERNAME='SYSMAN'` The query result must be 1.
Redo Log size requireme nt	Install and Upgrade	No	Ensure that size of the log file is 300 megabytes or greater. To verify, run the following query: `select min(bytes) from v$log` The query result must be greater or equal to 300000000 (bytes).
Existing Database Not to Be in QUIESCE Mode	Install and Upgrade	No	Ensure that existing, certified Oracle Database is not in QUIESCE mode. To verify this, run the following SQL in the database in the SYS role: `select active_state from v$instance;` The result returned must be NORMAL.

Table A–5   (Cont.) Repository Prerequisites for Upgrading Enterprise Manager System

Prerequis ite	Applies to Install/Up grade	Automa tic	Description
Existing Database Not to Have Database Control (only for fresh install)	Fresh Install	No	(If you are upgrading from Enterprise Manager 10g Grid Control Release 5 (10.2.0.5) or higher, which uses an Oracle Database where the Management Repository is already created, that is, where the Grid Control SYSMAN schema is already created, then ignore this prerequisite. This prerequisite applies only when you install Enterprise Manager 12c Cloud Control Release 1 (12.1.0.1.0) using an existing, certified Oracle Database that has Database Control SYSMAN schema created, which you want to replace now with Grid Control SYSMAN schema.)

Ensure that your existing, certified Oracle Database does NOT have Database Control SYSMAN schema. If it has, that is, if your existing database is configured with Database Control, then deconfigure it.

1. Verify whether your database has Database Control SYSMAN schema.

   To do so, log in to the database as SYS user and run the following query:

   ```
   SELECT COUNT(*) FROM ALL_USERS WHERE USERNAME='SYSMAN'
   ```

   If the result of this query is 1, then the database has this schema, so deconfigure it.

2. Before deconfiguring the Database Control, set the environment variable ORACLE_HOME to the Oracle home of the database, and ORACLE_SID to the SID of the database.

   For example, in bash shell, you can set them in the following way:

   ```
   export ORACLE_HOME=/u01/app/oracle/product/11.2.0/dbhome_1
   export ORACLE_SID=orcl
   ```

3. Deconfigure the Database Control.

   To deconfigure Database Control for a standalone database, run the following command from the Oracle home of the database as the user who installed the database. If the command hangs, then restart the database and rerun the command.

   ```
   $<ORACLE_HOME>/bin/emca -deconfig dbcontrol db -repos drop
   -SYS_PWD <sys pasword> -SYSMAN_PWD <sysman password>
   ```

   To deconfigure Database Control for a Real Application Cluster (Oracle RAC) database, run the following command from the Oracle home of the database as the user who installed the database. If the command hangs, then restart the database and rerun the command.

   ```
   $<ORACLE_HOME>/bin/emca -deconfig dbcontrol db -repos drop
   -cluster -SYS_PWD <sys pasword> -SYSMAN_PWD <sysman password>
   ```

   Note: If the deconfigure operation hangs, then refer to My Oracle Support note 375946.1

Table A–5   (Cont.) Repository Prerequisites for Upgrading Enterprise Manager System

Prerequisite	Applies to Install/Upgrade	Automatic	Description
Existing Database Not to Have SYSMAN and SYSMAN_MDS Schema	Fresh Install	No	(If you are upgrading from Enterprise Manager 10g Grid Control Release 5 (10.2.0.5) or higher, which uses an Oracle Database where the Management Repository is already created, that is, where the Grid Control SYSMAN schema is already created, then ignore this prerequisite. This prerequisite applies only when you install Enterprise Manager 12c Cloud Control Release 1 (12.1.0.1.0) using an existing, certified Oracle Database that has Database Control SYSMAN schema created, which you want to replace now with Grid Control SYSMAN schema.)

Ensure that your existing, certified Oracle Database does NOT have Enterprise Manager Grid Control SYSMAN schema and Metadata (MDS) schema.

1. Verify whether your database has Enterprise Manager Grid Control SYSMAN schema and MDS schema.

   To do so, log in to the database as SYS user and run the following query:

   ```
   SELECT COUNT(*) FROM ALL_USERS WHERE USERNAME IN
   ('SYSMAN','SYSMAN_MDS');
   ```

   If the result of this query is 1, then the database has these schemas, so drop them.

2. Before dropping the schema, set the environment variable LD_LIBRARY_PATH to the ORACLE_HOME/lib directory of the OMS. Also set the ORACLE_HOME to the Oracle home of the OMS.

3. Drop the schema by running the following command from the Oracle home of the OMS.

   ```
   $<ORACLE_HOME>/sysman/admin/emdrep/bin/RepManager
   <repository_database_host> <repository_database_port>
   <repository_database_sid> -action dropall -dbUser
   <repository_database_user> -dbPassword <repository_database_
   password> -dbRole <repository_database_user_role> -mwHome
   <middleware_home> -mwOraHome <oms_oracle_home> -oracleHome
   <oms_oracle_home>
   ```

   If you are dropping the schemas that belong to a 10g Release 2 (10.2.x.x) Management Repository, then run previous command without these arguments: -mwHome <middleware_home> -mwOraHome <middleware_ora_home> -oracleHome <oracle_home>

   Note: For Microsoft Windows, invoke RepManager.bat. RepManager 11.1 supports -action dropall (drops SYSMAN as well as SYSMAN_MDS) and -action drop (drops only SYSMAN). RepManager 10.2.0.5 supports -action drop (drops only SYSMAN). Also, the action dropall might not drop all the repository objects. For learn more about this issue and the workaround to be used, see *My Oracle Support* note 1365820.1.

4. After dropping the schema, manually delete the database files mgmt.dbf and mgmt_ecm_depot1.dbf.

   You can find these files by running the following command as SYS:

   ```
   SELECT FILE_NAME FROM DBA_DATA_FILES WHERE UPPER (TABLESPACE_
   NAME) LIKE 'MGMT%';
   ``` |

Table A–5   (Cont.) Repository Prerequisites for Upgrading Enterprise Manager System

Prerequisite	Applies to Install/Upgrade	Automatic	Description
Database Initialization Parameters Requirements	Install and Upgrade except db_block_size which applies only to install.	No	Ensure that you have correctly set the database initialization parameters for the existing, certified Oracle Database so that the Management Repository can be created. For information about setting the parameters, see Setting Database Initialization Parameters.
Fine-Grained Access Control Requirements	Upgrade	No	Ensure that the fine-grained access control option is set to TRUE in the existing, certified Oracle Database so that the Management Repository can be created. To verify this, run the following command: `select value from v$option where parameter = 'Fine-grained access control';`

UNDO Tablespace Size Requirements	Install and Upgrade	No	Ensure that the UNDO tablespace has a minimum space of 200 MB. To verify this, run the following query:
			
			`SELECT SUM(DECODE(autoextensible,'YES',200*1024*1024+1,bytes)) total`
			
			`FROM dba_data_files f, dba_tablespaces s`
			
			`WHERE s.contents = 'UNDO'`
			
			`AND s.tablespace_name = f.tablespace_name;`
			
			Note: The result of this query is in bytes.
			
			If the minimum space is less than 200 MB, then set it to 200 MB by running the following command:
			
			`alter database datafile <location datafile> resize 200M;`

UNDO Tablespace and Temporary Tablespace Settings Requirements	Install and Upgrade	No	Ensure that the UNDO tablespace and the TEMP tablespace are autoextensible in the existing, certified Oracle Database. To verify this, run the following command:
			
			`select count(*) from  dba_temp_files where tablespace_name='TEMP' and AUTOEXTENSIBLE  <> 'YES';`
			
			`select count(*) from dba_data_files where tablespace_name='UNDOTBS' and AUTOEXTENSIBLE <> 'YES';`
			
			If the result of the query is 0, then the tablespace is autoextensible. If the result it not 0, then refer to Oracle Database Administrator's Guide available at the following location to make the tablespace autoextensible.
			
			http://www.oracle.com/technology/documentation/database.html

Archive Logging Settings Requirements	Install and Upgrade	No	(Recommended) Ensure that you turn on archive logging in the existing, certified Oracle Database for any environment where continuity of data is important. To verify this, run the following command in the SYS role: `select log_mode from v$database;` The result returned must be `ARCHIVELOG`.

Table A–5   (Cont.) Repository Prerequisites for Upgrading Enterprise Manager System

Prerequisite	Applies to Install/Upgrade	Automatic	Description
Tablespace-Related Hard Disk Space Requirements	Install	No	Ensure that you allocate a minimum of 200 MB hard disk space for the following tablespaces: - Management Tablespace (mgmt.dbf) - Configuration Data Tablespace (mgmt_ecm_depot1.dbf) - JVM Diagnostics Data Tablespace (mgmt_ad4j.dbf) Oracle also recommends that you keep the auto-extend feature enabled for the tablespace data files. Note that the space requirement increases as the number of monitored targets increase, along with the input/output performance demands on the storage devices.
Existing Management Repository	Upgrade	No	Ensure that the existing, certified Oracle Database, which houses the Management Repository, already has a Management Repository configured, and that the Management Repository is compatible with Oracle Management Service 11g Release 1 (11.1).
Database Partitioning Requirements	Install and Upgrade	No	Ensure that the existing, certified Oracle Database has the Partitioning Option enabled (therefore, ensure that you install it into Oracle Database Enterprise Edition.) Installing and using the partitioning option in the Enterprise Manager repository does not add costs to customers when used solely by Enterprise Manager. To verify this, connect to the database as SYSDBA and run the following query: `select value from v$option where parameter = 'Partitioning';` The result of this query should be VALUE=TRUE. No additional partitioning license is required for the database that houses the Management Repository.

Database Partition Maintenance Requirements	Upgrade	No	If the Enterprise Manager system that you are about to upgrade was shut down for a long period of time, then you will not have partitions created in the existing, certified Oracle Database, which houses the Management Repository, to load new data. Therefore, under such circumstances, do the following:
			
			1. Log in to the database as SYSMAN and run the following command:
			
			`execute emd_maintenance.analyze_emd_schema('SYSMAN');`
			`commit;`
			
			2. Restart the OMS from its Oracle home:
			
			`$<ORACLE_HOME>/bin/emctl start oms`

Database and Listener Status Requirements	Install	No	Ensure that the existing, certified Oracle Database and its listener are running.

Table A–5   (Cont.) Repository Prerequisites for Upgrading Enterprise Manager System

Prerequis ite	Applies to Install/Up grade	Automa tic	Description
Valid Objects Requireme nts	Install, Upgrade, and Post requisite	No	Ensure that you do have only valid SYSMAN and SYS objects in the existing, certified Oracle Database.

- To verify whether there are only valid SYSMAN objects, log in to the database as SYS and run the following command:

```
select object_name, object_type from all_objects where
owner='SYSMAN' and status <> 'VALID';
```

The command must return 0 rows. However, if it returns one or more rows, then you have some invalid objects, and to turn them valid, run the following command as SYSMAN:

```
@admin_recompile_invalid.sql SYSMAN
```

Run this command again to ensure that all SYSMAN objects are valid. If you still have invalid SYSMAN objects, then contact Oracle Support.

Note: The admin_recompile_invalid.sql script is in the following location of the Oracle home of the OMS:

```
<ORACLE_HOME>/sysman/admin/emdrep/sql/core/latest/admin
```

- To verify whether there are only valid SYS objects, log in to the database as SYS and run the following command:

```
select object_name, object_type from all_objects where
status<>'VALID' and object_name like 'DBMS%';
```

The command must return 0 rows. However, if it returns one or more rows, then you have some invalid objects, and to turn them valid, recompile them by running the following command:

alter <object type> <object name> compile;

For example,

If the object_type is mypackage and the object_name is foo, then run the following command:

alter mypackage foo compile;

Run this command again to ensure that all the packages are valid. If you still have invalid packages, then contact Oracle Support.

Table A–5 (Cont.) Repository Prerequisites for Upgrading Enterprise Manager System

Prerequisite	Applies to Install/Upgrade	Automatic	Description

DBMS Jobs and DBMS Scheduler Status Requirements	Install and Upgrade	Yes	Ensure that you stop the DBMS Jobs and the DBMS Scheduler in the existing, certified Oracle Database. To do so, log in to the database as SYS:
			
			1. Write down the value of job_queue_processes by running the following command:
			
			`select a.instance_name as sid, b.value as jobqueue from gv$instance a, gv$parameter b where a.inst_id = b.inst_id and b.name='job_queue_processes';`
			
			2. Stop the DBMS JOBS and DBMS scheduler by running the following command:
			
			`execute emd_maintenance.remove_em_dbms_jobs;`
			`alter system set job_queue_processes=0 SID='*';`
			`commit;`
			
			Note: This will allow the currently running jobs to finish, but will not allow any new jobs to be started.
			
			3. Ensure that there are no active jobs by running the following:
			
			`select l.id2 job, l.sid, to_char(last_date, 'DD-MON-YYYY:HH24.MI.SS') last_date, to_char(this_date, 'DD-MON-YYYY:HH24.MI.SS') this_date, l.inst_id instance from sys.job$ j, gv$lock l where l.type = 'JQ' and j.job (+) = l.id2 order by 5, 4;`

Gather Statistics Job Status Requirements	Install and Upgrade	Yes	Ensure that you stop the Gather Statistics job that is running in the existing, certified Oracle Database. To do so, log in to the database as SYS and run the following commands:
			
			For Oracle Database 10g (10.2.0.4) or higher:
			
			execute dbms_scheduler.disable('GATHER_STATS_JOB',TRUE);
			
			execute dbms_scheduler.stop_job('GATHER_STATS_JOB',TRUE);
			
			For Oracle Database 11g (11.1.0.7) or higher:
			
			execute dbms_auto_task_admin.disable('auto optimizer stats collection',null,null);

Table A–5   (Cont.) Repository Prerequisites for Upgrading Enterprise Manager System

Prerequisite	Applies to Install/Upgrade	Automatic	Description

User Privilege Requirements	Upgrade	No	Ensure that SYSMAN and DBSNMP users have EXECUTE privileges to access the DBMS_RANDOM package in the existing, certified Oracle Database. To verify whether the users have EXECUTE privileges, run the following query. When you run this query for the SYSMAN user, the <user_account_name> must be SYSMAN, and when you run it for the DBSNMP user, the <user_account_name> must be DBSNMP.
			
			```SQL> CONNECT AS SYS;```
			```SQL> SELECT grantee, grantor, owner, table_name```
			```FROM DBA_TAB_PRIVS```
			```WHERE table_name = 'DBMS_RANDOM'```
			```AND privilege = 'EXECUTE'```
			```AND grantee IN```
			```(```
			```SELECT DISTINCT granted_role```
			```FROM DBA_ROLE_PRIVS```
			```START WITH grantee = '<user_account_name>'```
			```CONNECT BY PRIOR granted_role=grantee```
			```UNION ALL```
			```SELECT '<user_account_name>'```
			```FROM dual```
			```WHERE ROWNUM = 1```
			```UNION ALL```
			```SELECT 'PUBLIC'```
			```FROM dual```
			```WHERE ROWNUM = 1```
			```)```
			
			If these users do not have EXECUTE privileges, then grant them the privileges by running the following command. When you run this command for granting the privileges for the SYSMAN user, the <user_account_name> must be SYSMAN, and when you run it for the DBSNMP user, the <user_account_name> must be DBSNMP.
			
			```SQL> GRANT EXECUTE ON DBMS_RANDOM TO <user_account_name>;```

Environment Variable Setting Requirements	Install	No	Ensure that the environment variable ORACLE_HOME is set to the Oracle home of the OMS. For example, in Cshell, set it in the following way: ```setenv ORACLE_HOME /home/OraHomes/oms10g``` For example, in bash shell, set it in the following way: export ORACLE_HOME= /home/OraHomes/oms10g
SUDO Configuration Requirements	Install	No	Ensure that you configure SUDO in your environment. If you are unable to do so or if you have already upgraded any of the core components (OMS or Management Agent) without configuring SUDO, then follow the workaround described in My Oracle Support note 789363.1.
User-Defined Metric Script Definition Requirement	Upgrade	No	If you have any user-defined metric scripts in the Oracle home of a Management Agent that you are upgrading, then ensure that you manually copy all those scripts to another directory outside any Oracle home, and then update the user-defined metric definitions to reflect the new script location. This is because, after the Management Agent is upgraded, the user-defined metric scripts are not automatically copied to the new Oracle home.

A.6.1 Setting Database Initialization Parameters

As one of the prerequisites, ensure that you set the initialization parameters as described in Table A–6 and Table A–7 for your existing, certified Oracle Database so that the Management Repository can be created. For information on how you can set these initialization parameters, see My Oracle Support note 1073647.1. All the initialization parameters apply to install and upgrade.

> **Important:** After you set the parameters, stop and start the database.

Table A–6 Setting Fixed Initialization Parameters

Fixed Initialization Parameter	Value
compatible	Equal to repository database version
remote_login_ passwordfile	SHARED or EXCLUSIVE
statistics_level	TYPICAL
timed_statistics	Default
undo_management	AUTO
workarea_size_policy	AUTO
db_block_size	8192. This parameter applies only to install.
nls_length_semantics	BYTE

Table A–7 Setting Variable Initialization Parameters

Variable Initialization Parameter	Value
pga_aggregate_target	Minimum setting of 1 GB. Laptops may need less than 1 GB and large installations will need more than 1 GB.
shared_pool_size	Minimum recommended setting is 600 MB or roughly one third of the sga_memory_ target setting.
job_queue_processes	For both Installation and Upgrade: 20
log_buffer	10485760 or greater
memory_target	As described in Oracle Database Reference Guide available at: http://www.oracle.com/technology/doc umentation/database.html **Note:** It is recommended that you do not use this parameter with the database where the Oracle Management Repository is configured.
(Only for Oracle Database 11g Release 2 (11.2) and higher)	
open_cursors	300 to 400
processes	300 or greater

Table A–7   (Cont.) Setting Variable Initialization Parameters

Variable Initialization Parameter	Value
session_cached_cursors	Between 200 and 500
sga_target	Recommended average of 2 GB. Laptops may need less than 2 GB and large installations will need more than 2 GB.
db_cache_size	Default
large_pool_size	Default
java_pool_size	Default
streams_pool_size	Default
redo log file size	300 MB or higher

Note: The instance parameters db_cache_size, large_pool_size, java_pool_size, and streams_pool_size must not be set for Enterprise Manager 12*c* installations.

B

Validating Command Locations

This chapter describes what property files and the command locations within them you need to validate before installing a standalone Oracle Management Agent (Management Agent). In particular, this chapter covers the following:

- Overview of Property Files
- Validating Command Locations

B.1 Overview of Property Files

Every time you install a Management Agent, the property files mentioned in the `platformInfo.properties` file are loaded with default locations to commands that are required for successfully running certain Application Programming Interfaces (APIs). For example, the `ping` executable. This section describes such property files. In particular, this section covers the following:

- Property Files Loaded from platformInfo.properties File
- Other Property Files Loaded

B.1.1 Property Files Loaded from platformInfo.properties File

Table B–1 describes the property files loaded from the `platformInfo.properties` file.

Table B–1   Property Files Loaded from platformInfo.properties File

Loading Order	Property File Name	Type	Description
1	`Paths.properties`	Generic	Contains arguments that need to be passed every time the commands listed in this file are run.
2	`sPaths.properties`	Generic	Contains paths for all the commands that need to be run, regardless of the operating system.

Table B–1   (Cont.) Property Files Loaded from platformInfo.properties File

Loading Order	Property File Name	Type	Description
3	ssPaths_ <platform>.pro perties	Operating System-Spe cific	Contains commands that need to be run for a particular operating system. For example, `ssPaths_linux_zseries64.properties`.
			On Microsoft Windows, the path to the Cygwin binaries is hardcoded in the `ssPaths_ msplats.properties` file. If you install Cygwin in a location other than c:\cygwin (default location), it can cause the Management Agent installation to fail. To resolve this issue, you must either install Cygwin in the default directory (c:\cygwin), or update this properties file with the correct path to the Cygwin binaries.
4	userPaths.prop erties	Generic	Contains variables that are used to specify the command paths. You must uncomment the variables that you want to use and specify appropriate values.

Keep in mind the following points:

- The property files mentioned in the `platformInfo.properties` file are loaded one-by-one in ascending order. This means that command locations you specify in the last file that is loaded will override the values you specified for the same key in the previously loaded property file.

  For example, `spaths.properties` is loaded before `ssPaths.properties`. So if the default location for the ping executable in `sPaths.properties` file is `usr/bin/ping`, and if location for the same executable in the `ssPaths.properties` file is `usr/sbin/ping`, then the value in the latter file takes precedence over the former file.

- If you want to include other command variables, then you can do one of the following:

  - Specify the additional command variables in `sPaths.properties`, `ssPaths_<platform>.properties`, or `userPaths.properties`.

  - Create a new property file with additional command variables. Then, mention the name of this new property file in `platforminfo.properties`.

B.1.2 Other Property Files Loaded

Table B–2 describes the other property files that are loaded.

Table B–2   Other Property Files Loaded

Property File Name	Type	Description
`system.properti es`	Generic	Contains properties that help you control the activity and performance of the application. For example, these: ■ `oracle.system.prov.threadpoolsize` Number of threads that get created in the application and work in parallel to run the commands on the destination hosts. The default threadpool size value that is set is *32*. You can specify an appropriate value for the threadpool size in this property. ■ `oracle.sysman.prov.threadpoolmaxsize` Number of threads that can increase dynamically depending on the workload. The default value used in the application is *256*. You can specify an appropriate maximum value for the threadpool size in this property.

`ignoreMessages. txt`	Generic	If there are error messages displayed in the error stream that you know can be ignored in the setup, then you can update these messages in the `ignoreMessages.txt` file.
		
		Generally, if the error stream contains data when you run any command, then it is assumed that the command failed. However, the data in the error stream may not always correspond to the error. So, to ignore such error messages, you must add the messages (including the banner) to the `ignoreMessages.txt` file.
		
		For example, when you run `/usr/local/bin/sudo` on a remote host, it writes the following messages on to the error stream. Error messages of this kind can be added to the `ignoreMessages.txt` file.
		
		`Administrator. It usually boils down to these two`
		`things:`
		`#1) Respect the privacy of others.`
		`#2) Think before you type.`
		`Password:`
		
		This essentially is just a warning and does not constitute the failure of the executed command.

Note: The data format for these files mandates only one property per line. You must specify the property values in the format: `variable=value`.

B.2 Validating Command Locations

The default command locations specified in the property files can vary between hosts and operating systems. Therefore, it is important to verify the command locations before you install a Management Agent.

To validate the command locations, follow these steps:

1. Access the `platformInfo.properties` file from the following location of the OMS home, and make note of the property files you need to validate for your platform:

`$<OMS_HOME>/oui/prov/resources`

2. Access each of the property files you noted in Step (1), and verify that the command locations mentioned for the following variables map to valid locations on the OMS host:

   - `SSH_PATH`
   - `SCP_PATH`
   - `SH_PATH`
   - `PING_PATH`

3. Access each of the property files you noted in Step (1), and verify that the command locations mentioned for the following variables also map to valid locations on the destination host:

   - `SCP_PATH`
   - `SH_PATH`
   - `SSH_PATH`
   - `CHMOD_PATH`
   - `MKDIR_PATH`
   - `RM_PATH`

C

Setting Up Proxy Configuration for Oracle Management Service

For the following reasons, set up the proxy server settings in Enterprise Manager Cloud Control so that it can use those details to access *My Oracle Support*:

- If you have a proxy server running on the host where Oracle Management Service (OMS) is installed.

- If you want to use the same proxy server settings or have different settings for the OMS to communicate with its Oracle Management Agents (Management Agents).

To set up the proxy server settings, do the following:

1. In Cloud Control, from the **Setup** menu, click **Proxy Settings**.

2. On the Setup page, in the **My Oracle Support and Proxy Connection** tab, in the My Oracle Support Connection Setting section, select **Manual proxy configuration** and specify the proxy server host, port, realm, user name, and password.

   Note: Only HTTP and HTTPS protocols are supported. Also note that NTLM proxy is not currently supported.

3. If you want to use the same proxy settings for communicating with the Management Agents, then go to Step (5). Otherwise, go to Step (4).

4. In the Agent Connection Setting section, do one of the following:

   a. If you want to use the proxy settings given in My Oracle Support Connection Setting section, then retain the default section, that is, **Use My Oracle Support connection settings**.

   b. If you want to use proxy settings different from the ones specified in My Oracle Support Connection Setting section, then select **Manual proxy configuration** and specify the proxy server details.

      Note: Only HTTP and HTTPS protocols are supported. And NTLM proxy is not currently supported.

5. Click **Apply**.

The proxy server settings you specify are registered in the Management Repository. However, in case of multiple OMS environment, after you set up the proxy server settings for one OMS, restart other OMSes to ensure that the proxy server settings registered for communicating with the Management Agents are propogated across all OMSes.

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