

Oracle® Enterprise Manager
Grid Control Basic Installation Guide
11g Release 1 (11.1.0.1.0)
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Oracle Enterprise Manager Grid Control Basic Installation Guide, 11g Release 1 (11.1.0.1.0)

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Preface

Oracle Enterprise Manager Grid Control Basic Installation Guide provides an overview of Enterprise Manager Grid Control and explains how you can install Enterprise Manager 11g Grid Control Release 1 (11.1.0.1.0), an additional Oracle Management Service (OMS), or an Oracle Management Agent (Management Agent). This guide also explains how you can upgrade Enterprise Manager 10g Grid Control Release 4 (10.2.0.4.0) or higher to Enterprise Manager 11g Grid Control Release 1 (11.1.0.1.0).

This preface contains the following topics:

- [Intended Audience](#)
- [Purpose of the Document](#)
- [Documentation Accessibility](#)
- [Related Documents](#)
- [Conventions](#)

Intended Audience

Oracle Enterprise Manager Grid Control Basic Installation Guide is meant for system administrators and others who want to do the following:

- Install Enterprise Manager 11g Grid Control Release 1 (11.1.0.1.0), an additional OMS, or a standalone Management Agent.
- Upgrade Enterprise Manager 10g Grid Control Release 4 (10.2.0.4.0) or higher to Enterprise Manager 11g Grid Control Release 1 (11.1.0.1.0).

Purpose of the Document

This section explains why and when you must use the Oracle Enterprise Manager Grid Control Basic Installation Guide, and clarifies what falls outside the scope of this guide.

In particular, this section covers:

- [What Can this Guide Be Used for?](#)
- [What Is Excluded from this Guide?](#)

What Can this Guide Be Used for?

Oracle Enterprise Manager Grid Control Basic Installation Guide can be used for:

- Installing Enterprise Manager 11g Grid Control Release 1 (11.1.0.1.0) in graphical mode.
- Installing an additional Oracle Management Service 11g Release 1 (11.1.0.1.0) in graphical mode.
- Installing Oracle Management Agent 11g Release 1 (11.1.0.1.0) in graphical mode
- Upgrading Enterprise Manager 10g Grid Control Release 4 (10.2.0.4.0) or higher to Enterprise Manager 11g Grid Control Release 1 (11.1.0.1.0), in graphical mode.

For information about the different operating systems for which Enterprise Manager 11g Grid Control has been released, refer to *My Oracle Support* note 412431.1.

What Is Excluded from this Guide?

Oracle Enterprise Manager Grid Control Basic Installation Guide does NOT cover procedures for the following. The procedures are documented in Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide.

- Installing the following in graphical mode:
 - Oracle Management Agent 11g Release 1 (11.1.0.1.0) on a cluster using Agent Deployment Wizard
 - Oracle Management Agent 11g Release 1 (11.1.0.1.0) with a shared Oracle home from a mounted location using Shared Agent Deployment Wizard
 - Enterprise Manager 11g Grid Control Release 1 (11.1.0.1.0) software only so that you can configure it later
 - Additional Oracle Management Service 11g Release 1 (11.1.0.1.0) software only so that you can configure it later
- Cloning Oracle Management Agent 11g Release 1 (11.1.0.1.0) in graphical and silent mode.
- Installing the following in silent mode:
 - Enterprise Manager 11g Grid Control Release 1 (11.1.0.1.0)
 - Additional Oracle Management Service 11g Release 1 (11.1.0.1.0)
 - Oracle Management Agent 11g Release 1 (11.1.0.1.0)
 - Enterprise Manager 11g Grid Control Release 1 (11.1.0.1.0) software only so that you can configure it later
 - Oracle Management Service 11g Release 1 (11.1.0.1.0) software only so that you can configure it later for additional Oracle Management Services
 - Oracle Management Agent 11g Release 1 (11.1.0.1.0) on a cluster
 - Oracle Management Agent 11g Release 1 (11.1.0.1.0) with a shared Oracle home from a mounted location
 - Oracle Management Agent 11g Release 1 (11.1.0.1.0) using agentDownload script
- Upgrading Enterprise Manager 10g Grid Control Release 4 (10.2.0.4.0) or higher to Enterprise Manager 11g Grid Control Release 1 (11.1.0.1.0) in silent mode.
- Upgrading Oracle Management Agent 10g Release 4 (10.2.0.4.0) or higher to Oracle Management Agent 11g Release 1 (11.1.0.1.0) in graphical and silent mode.
- Deinstalling Enterprise Manager 11g Grid Control Release 1 (11.1.0.1.0) or Oracle Management Agent 11g Release 1 (11.1.0.1.0).

Documentation Accessibility

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Access to Oracle Support

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Related Documents

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

- *Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide*
- *Oracle Enterprise Manager Administration Guide*
- *Oracle Enterprise Manager Administrator's Guide for Software and Server Provisioning and Patching*

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

<http://www.oracle.com/technology/documentation/oem.html>

Grid Control also provides extensive online Help. Click **Help** at the top of any Grid Control page to display the online help window.

Conventions

The following table describes those conventions and provides examples of their use.

Convention	Meaning	Example
Bold	Bold typeface indicates an element in the user interface.	Click Help for more information.
<i>Italics</i>	Italic typeface indicates book titles or emphasis.	<i>Oracle Database Concepts</i> Ensure that the recovery catalog and target database do <i>not</i> reside on the same disk.

Convention	Meaning	Example
lowercase monospace (fixed-width font)	Lowercase monospace typeface indicates executables, file names, directory names, commands, and sample user-supplied elements. Such elements include computer and database names, net service names, and connect identifiers, as well as user-supplied database objects and structures, column names, packages and classes, user names and roles, program units, and parameter values.	<p>Enter <code>sqlplus</code> to open SQL*Plus.</p> <p>The password is specified in the <code>orapwd</code> file.</p> <p>Back up the datafiles and control files in the <code>/<DVD>/oracle/dbs</code> directory.</p> <p>The <code>department_id</code>, <code>department_name</code>, and <code>location_id</code> columns are in the <code>hr.departments</code> table.</p> <p>Set the <code>QUERY_REWRITE_ENABLED</code> initialization parameter to <code>TRUE</code>.</p> <p>Connect as <code>oe</code> user.</p> <p>The <code>JRepUtil</code> class implements these methods.</p>

Overview of Enterprise Manager Grid Control

This chapter provides an overview of Enterprise Manager Grid 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 Grid Control](#)
- [Enterprise Manager Grid Control Architecture](#)

1.1 Overview of Enterprise Manager Grid Control

Enterprise Manager Grid Control is a 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 infrastructure may comprise multiple Oracle Databases, Oracle WebLogic Managed 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 Grid Control offers a solution that allows you to monitor and manage the complete Oracle IT infrastructure from a single console. Enterprise Manager Grid Control 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.

With a broad set of end-to-end monitoring, administration, configuration management, provisioning, and security capabilities, Enterprise Manager Grid Control reduces the cost and complexity of managing such grid computing environments. Robust service-level management functionality within Enterprise Manager Grid 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 Grid Control, visit our Web site access the following URL:

http://www.oracle.com/enterprise_manager/index.html

1.2 Enterprise Manager Grid Control Architecture

Although Enterprise Manager Grid Control is viewed as a single entity, technically, it is built with the following software components:

- **Oracle Management Agent (Management Agent)**

Management Agent is an integral software component that is deployed on each monitored host. It is responsible for monitoring all the targets running on those hosts, communicating that information to the middle-tier Oracle Management Service, and managing and maintaining the hosts and its targets.

- **Oracle Management Service (OMS)**

OMS is a J2EE Web application that orchestrates with Management Agents to discover targets, monitor and manage them, and store the collected information in a repository for future reference and analysis. OMS also renders the user interface for the Enterprise Manager Grid Control console. OMS is deployed to the Oracle Middleware home, which is the parent directory that has the Oracle WebLogic Server home, the Web tier instance files, and, optionally, one or more Oracle homes.

- **Oracle Management Repository (Management Repository)**

Management Repository is the 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.

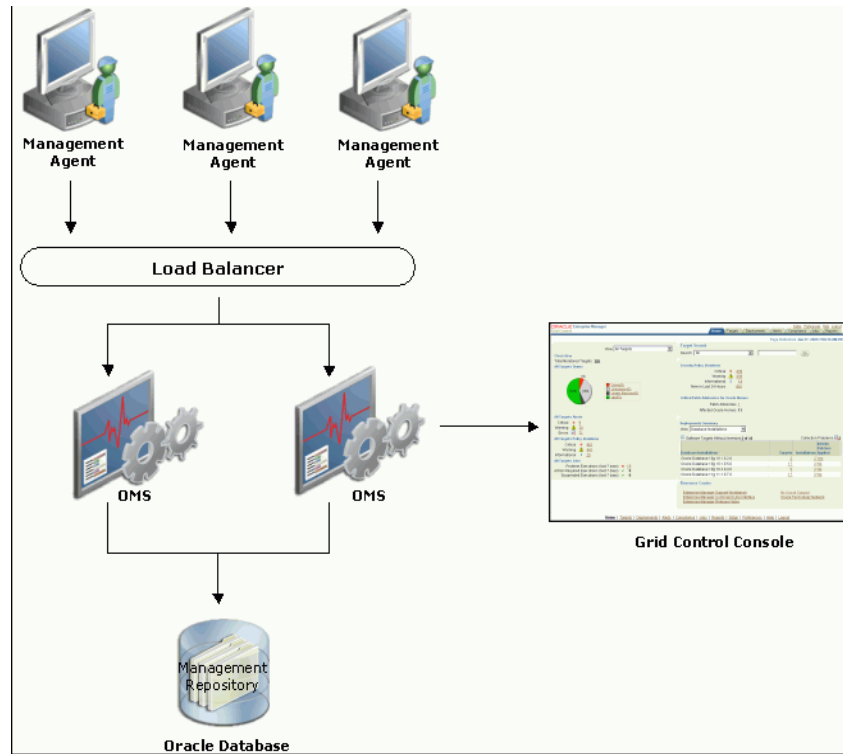
Technically, OMS uploads the monitoring data it receives from the Management Agents to the Management Repository. The Management Repository then organizes the data so that it can be retrieved by OMS and displayed in the Enterprise Manager Grid Control console. Since data is stored in the Management Repository,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

At the time of installation, the Management Repository is configured in your existing Oracle Database.

- **Enterprise Manager Grid Control Console**

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

The following illustrates the Enterprise Manager Grid Control architecture:

Figure 1–1 Enterprise Manager Grid Control Architecture

After installing Enterprise Manager Grid Control, what you see is the Enterprise Manager Grid Control Console, the user interface that displays information about the health of the monitored targets. However, internally, OMS orchestrates with Management Agents to discover targets, monitor and manage them, and store the collected information in a repository for future reference and analysis.

Part I

Installation and Configuration

This part describes how you can install Enterprise Manager Grid Control and Oracle Management Agent in graphical mode (GUI).

In particular, this part has the following chapters:

- [Chapter 2, "Installing Enterprise Manager System"](#)
- [Chapter 3, "Adding Additional Oracle Management Service"](#)
- [Chapter 4, "Installing Oracle Management Agent Using Agent Deployment Wizard"](#)

Installing Enterprise Manager System

This chapter describes how you can install a complete Enterprise Manager system using an existing, certified Oracle Database and Oracle WebLogic Server. In particular, this section covers the following:

- [Overview](#)
- [Before You Begin](#)
- [Prerequisites](#)
- [Installation Procedure](#)
- [After You Install](#)

Note: Do NOT install the Enterprise Manager system on an OCFS file system. This file system is not supported.

2.1 Overview

The first installation type, *Install a new Enterprise Manager system*, offered by the installer enables you to install a complete Enterprise Manager system while utilizing an existing, certified Oracle Database to store Oracle Management Repository (Management Repository).

The existing, certified Oracle Database must be one of the databases listed in *My Oracle Support* note 412431.1.

[Table 2–1](#) describes the installation process and the software components that are installed or configured for this installation type.

Table 2–1 *Installation Process for Installing Enterprise Manager System*

Step 1	Installation of Oracle Management Service 11g Release 1
	Creates an Oracle home in the Oracle Middleware Home location, and installs the Oracle Management Service (OMS) software binaries in the new home.
	Oracle Middleware Home consists of the Oracle WebLogic Server home, and, optionally, one or more Oracle homes.
	If the Oracle Middleware Home is <code>/u01/app/Oracle/Middleware</code> , then the Oracle home for OMS is <code>/u01/app/Oracle/Middleware/oms11g</code>

Table 2–1 (Cont.) Installation Process for Installing Enterprise Manager System

Step 2	Installation of Oracle Management Agent 11g Release 1 Creates an Oracle home in the Oracle Middleware Home location, and installs the Oracle Management Agent (Management Agent) software binaries in the new home. If the Oracle Middleware Home is <code>/u01/app/Oracle/Middleware</code> , then the Oracle home for Management Agent is <code>/u01/app/Oracle/Middleware/agent11g</code>
Step 3	Installation of Oracle Web Tier 11g Release 1 Creates an Oracle home in the Oracle Middleware Home location, and installs the Web tier software binaries in the new home. If the Oracle Middleware Home is <code>/u01/app/Oracle/Middleware</code> , then the Oracle home for Web tier is <code>/u01/app/Oracle/Middleware/Oracle_WT</code>
Step 4	Installation of Oracle Common Directory Creates a common directory in the Oracle Middleware Home location for storing configuration files. If the Oracle Middleware Home is <code>/u01/app/Oracle/Middleware</code> , then the common directory is <code>/u01/app/Oracle/Middleware/oracle_common</code> .
Step 5	Configuration of Oracle Management Service Instance Base Location Creates an instance home for Enterprise Manager Grid Control in the parent directory of the Oracle Middleware Home for storing all OMS-related configuration files. By default, the instance home is <code>gc_inst</code> . You can, however, edit this and specify a custom name. If the Oracle Middleware Home is <code>/u01/app/Oracle/Middleware</code> and if you choose to retain the default instance home name, then the instance home location is <code>/u01/app/Oracle/gc_inst</code> If the parent directory of the Oracle Middleware Home does not have <i>write</i> permission, then the OMS Instance Base is created in the Oracle Middleware Home.

Table 2–1 (Cont.) Installation Process for Installing Enterprise Manager System

Step 6	<p>Configuration of Core Components</p> <p>Runs the Configuration Assistants to perform the following:</p> <ol style="list-style-type: none"> 1. Applying OMS-Related One-Off Patches: <i>(Optional)</i> Applies one-off patches to the Oracle home of the OMS (oms11g). 2. Configuring SYSMAN Schema and MDS Schema: In the specified existing, certified Oracle Database, configures the SYSMAN schema and Metadata (MDS) schema, and creates these data files: mgmt.dbf, mgmt_ecm_depot1.dbf, mgmt_ad4j.dbf 3. Configuring OMS: Configures the OMS and the independent instance where Enterprise Manager Grid Control is deployed. 4. Add-on OMS Side Configuration: Configures the Virtualization Add-On detected in the Oracle home of the OMS (oms11g). 5. Configures OCM <i>(If required; Only if you have chosen to configure it):</i> Configures Oracle Configuration Manager (OCM) in the Oracle home of the OMS (oms11g) and Oracle home of the Web tier (Oracle_WT). 6. Applying Agent-Related One-Off Patches: <i>(Optional)</i> Applies one-off patches to the Oracle home of the Management Agent (agent11g). 7. Configuring Management Agent: Configures the Management Agent to enable monitoring of targets, collection of information, and so on. 8. Configures OCM <i>(If required; Only if you have chosen to configure it):</i> Configures Oracle Configuration Manager (OCM) in the Oracle home of the Management Agent (agent11g). 9. Configures System Monitoring Plug-Ins: Configures the System Monitoring Plug-Ins detected in the Oracle home of the Management Agent (agent11g).
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Note: The installation process takes approximately 40 to 45 minutes to complete. The duration includes the time taken for running the prerequisite checks, placing the software binaries, creating the Oracle homes, and running the Configuration Assistants for configuring the core components.

2.2 Before You Begin

Before you begin, keep these points in mind:

- This installation type only supports installation of Enterprise Manager Grid Control locally on the server where the installer is invoked, and does not support installing on multiple or remote hosts.
- Do NOT install the additional OMS on an OCFS file system. This file system is not supported.
- Install Enterprise Manager Grid Control on a dedicated Oracle WebLogic Server instance (in a separate middleware home). Do NOT install Enterprise Manager Grid Control on an Oracle WebLogic Server instance that already has an Oracle Fusion Middleware product installed. For example, if the middleware home already has Oracle SOA Suite 11.1.1.2.0 installed, then do not install Enterprise Manager Grid Control in the same middleware home. Enterprise Manager Grid Control cannot co-exist with any Oracle Fusion Middleware product in the same middleware home because the ORACLE_COMMON property is used by both the products.

- For information about the default ports that are assigned and the possibility of using custom ports instead of default ports, see the *Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide* available at:

<http://www.oracle.com/technology/documentation/oem.html>

- 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.

For example:

```
./runInstaller ORACLE_HOSTNAME=host1.foo.com
```

Note: Before passing this variable with the installer, ensure that you set the ORACLE_HOSTNAME environment variable.

- No environment variable specific to Enterprise Manager Grid Control needs to be set prior to installation. The ORACLE_HOME and ORACLE_SID variables should not be set; Oracle directories should not appear in the PATH.
- Oracle offers code fixes for a product based on the *Oracle Lifetime Support Policy*. When the license period expires for a particular product, the support for code 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 Grid Control installation, you must consider Enterprise Manager Grid Control's framework components as well as the targets monitored by Enterprise Manager Grid Control. Oracle recommends keeping your Grid Control components and targets updated to the latest certified versions in order to receive code fixes without having to purchase an Extended Support license. For information about the certified combinations of Enterprise Manager Grid Control components and monitored targets, see *My Oracle Support* note.412431.1.

- For accessing the Enterprise Manager Grid Control console, ensure that you use only certified browsers as mentioned in *My Oracle Support* note 412431.1.

2.3 Prerequisites

Before installing a complete Enterprise Manager system, ensure that you meet the following prerequisites. If you want, you can print out this section and write 'Yes' or 'No' against each prerequisite. This will help you to track the prerequisites you have met and the prerequisites you have not met.

Table 2–2 Prerequisites for Installing Enterprise Manager System

Requirement	Description	Yes/No
Hardware Requirements	Ensure that you meet the hard disk space and physical memory requirements as described in Appendix A, "Meeting Hardware Requirements" .	

Table 2–2 (Cont.) Prerequisites for Installing Enterprise Manager System

Requirement	Description	Yes/No
Operating System Requirements	<p>Ensure that you install Enterprise Manager Cloud Control only on certified operating systems as mentioned in the Enterprise Manager Certification Matrix available on <i>My Oracle Support</i>.</p> <p>To access this matrix, follow these steps:</p> <ol style="list-style-type: none"> 1. Log in to <i>My Oracle Support</i>, and click the Certifications tab. 2. On the Certifications page, in the Certification Search region, from the Product list, select Enterprise Manager Base Platform - OMS. 3. From the Release list, select 11.1.0.1.0, and click Search. 	
Package Requirements	<p>Ensure that you install all the operating system-specific packages as described in Appendix B, "Meeting Package, Kernel Parameter, and Library Requirements".</p>	
Operating System Groups and Users Requirements	<p>Ensure that you create the required operating system groups and users as described in Appendix C, "Creating Operating System Groups and Users Requirements".</p>	
Unique Host Name and Static IP Address Requirements	<p>Ensure that you check the network configuration to verify that the host on which you are installing resolves to a <i>unique</i> host name and a <i>static</i> IP address that are visible to other hosts in the network.</p> <p>Note: You must use only a <i>static</i> IP address. If you use a dynamic IP address, the installation will fail.</p>	
Temporary Directory Space Requirements	<p>Ensure that you allocate 400 MB of space for a temporary directory where the executables can be copied. For example, <code>/tmp</code> on UNIX hosts and <code>c:\Temp</code> on Microsoft Windows hosts.</p>	
Central Inventory Requirements	<p>Ensure that you allocate 100 MB of space for the central inventory directory.</p> <p>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 <i>My Oracle Support</i> note 1092645.1.</p>	
UMASK Value Requirements	<p>Ensure that you set the default file mode creation mask (umask) to 022 in the shell startup file.</p> <p>For example:</p> <ul style="list-style-type: none"> ■ Bash Shell <pre>\$. ~/.bash_profile</pre> ■ Bourne or Korn Shell <pre>\$. ~/.profile</pre> ■ C Shell <pre>% source ~/.login</pre> 	

Table 2–2 (Cont.) Prerequisites for Installing Enterprise Manager System

Requirement	Description	Yes/No
File Descriptor Requirements	<p>Ensure that you set the file descriptor to a minimum of 4096.</p> <p>To verify the current value set to the file descriptors, run the following command:</p> <pre>/bin/sh -c "ulimit -n"</pre> <p>If the current value is not 4096, then as a <i>root</i> user, update the <code>/etc/security/limits.conf</code> file with the following entries:</p> <pre><UID> soft nofile 4096 <UID> hardnofile 4096</pre>	
System Parameter Value Requirements for AIX	<p>Ensure that the value set for the system parameter <i>ncarg</i> is 1024. To verify the value of <i>ncarg</i>, run the following command:</p> <pre>-lsattr -EH -l sys0 grep ncargs</pre> <p>If the value is less than 1024, then increase it to 1024 by running the following command:</p> <pre>chdev -l sys0 -a ncargs=1024</pre>	
JDK Requirements	<p>Ensure that you have the following version of JDK installed on the host where you are planning to install Enterprise Manager Grid control.</p> <ul style="list-style-type: none"> ■ Linux Platform (64 Bit): SUN JDK 1.6_18+ (On Linux 32-bit platforms, you need not install JDK because it is packaged by default with Oracle WebLogic Server) ■ Solaris Platform: SUN JDK 1.6_18+ ■ HP-UX Platform: JDK 6.0.05+ ■ AIX Platform: JDK 1.6.0 SR6 ■ Microsoft Windows Platform (64 Bit): SUN JDK 1.6_18 <p>Download the JDK version for your platform from the platform vendor's Web site. For example, download SUN JDK 1.6_18+ for Linux platforms from Oracle Web site. Similarly, download the JDK for other platforms from other vendors' trusted Web sites.</p> <p>You can also refer to <i>My Oracle Support</i> note 1063587.1 for an example on installing JDK 1.6_18+ on Linux x86_64 platform.</p> <p>If you already have a JDK installed, then verify its version by navigating to the <code><jdk>/bin</code> directory and running the following command. The output of this query should give you the complete version number.</p> <pre>java -fullversion</pre> <p>Note: JROCKIT is not supported.</p>	

Table 2–2 (Cont.) Prerequisites for Installing Enterprise Manager System

Requirement	Description	Yes/No
Oracle WebLogic Server Requirements	<ul style="list-style-type: none"> ■ Ensure that Oracle WebLogic Server 10.3.2 (<i>Oracle Fusion Middleware 11g Release 1 Patch Set 1</i>) is already installed on the host where you plan to install Enterprise Manager Grid Control. ■ Ensure that the installation was a <i>typical</i> installation, and even if it was a <i>custom</i> installation, ensure that components chosen for <i>custom</i> installation were the same as the ones associated with a <i>typical</i> installation. ■ Ensure that the installation was under the Middleware Home directory. For example, <code>/scratch/aime/Oracle/Middleware1/wlserver_10.3.</code> ■ Ensure that no other Oracle Fusion Middleware products or components are installed in the Middleware Home directory where Oracle WebLogic Server 10.3.2 is installed. <p>Enterprise Manager Grid Control will create a new domain in this Oracle WebLogic Server, and not use any of the existing domains.</p> <p>For information on installing Oracle WebLogic Server, see <i>My Oracle Support</i> note 1063762.1. For more information, downloads, demos, access the following URL: http://www.oracle.com/technology/products/weblogic/index.html</p>	
Oracle WebLogic Server Patch Requirements	<p>Ensure that you apply patch ID <code>WDJ7</code> on Oracle WebLogic Server using the Oracle Smart Update utility. This patch fixes bugs 8990616, 9100465, and 9221722.</p> <p>For information on applying this patch, see <i>My Oracle Support</i> note 1072763.1.</p> <p>For information on Oracle Smart Update utility, see <i>Oracle Smart Update Installing Patches and Maintenance Packs</i> documentation available at: http://www.oracle.com/technology/products/weblogic/index.html</p>	
Existing Database Version Requirements	<p>Ensure that the existing, certified Oracle Database is one of the databases listed in <i>My Oracle Support</i> note 412431.1. The database can reside either on the host where you are installing the product or on a remote host.</p> <p>Ensure that the existing, certified Oracle Database is not configured with Oracle Grid Infrastructure. This type of configuration is not supported.</p> <p><i>(Optional)</i> If you are installing using Oracle Database 11g Release 1 (11.1.0.7.0), then ensure that you apply the patch for bug# 9066130.</p> <p><i>(Optional)</i> If you are installing using Oracle Database 11g Release 2 (11.2.0.1.0), then ensure that you apply the patch for bug# 9002336 and 9067282.</p> <p>Note: For information about these patches and their availability for different platforms, see <i>My Oracle Support</i> note 1073166.1.</p>	

Table 2–2 (Cont.) Prerequisites for Installing Enterprise Manager System

Requirement	Description	Yes/No
Database Partitioning Requirements	<p>Ensure that the existing, certified Oracle Database has the <i>Partitioning</i> option enabled (therefore, ensure that you install it into Oracle Database Enterprise Edition.)</p> <p>To verify this, connect to the database as SYSDBA and run the following query:</p> <pre>select value from v\$option where parameter = 'Partitioning';</pre> <p>The result of this query should be <code>VALUE=TRUE</code>. No additional partitioning license is required for the database that houses the Management Repository.</p>	
Existing Database Not to Be in QUIESCE Mode	<p>Ensure that existing, certified Oracle Database is not in QUIESCE mode. To verify this, run the following SQL in the database:</p> <pre>select active_state from v\$instance;</pre>	

Table 2–2 (Cont.) Prerequisites for Installing Enterprise Manager System

Requirement	Description	Yes/No
Existing Database Not to Have Database Control	<p data-bbox="724 260 1333 520"><i>(If you are upgrading from Enterprise Manager 10g Grid Control Release 4 (10.2.0.4) 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 11g Grid Control Release 1 (11.1.0.1.0) using an existing, certified Oracle Database that has Database Control SYSMAN schema created, which you want to replace now with Grid Control SYSMAN schema.)</i></p> <p data-bbox="724 537 1325 642">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.</p> <ol data-bbox="724 659 1325 1808" style="list-style-type: none"> <li data-bbox="724 659 1325 911"> <p data-bbox="724 659 1325 709">1. Verify whether your database has Database Control SYSMAN schema.</p> <p data-bbox="773 726 1325 777">To do so, log in to the database as SYS user and run the following query:</p> <pre data-bbox="773 793 1219 844">SELECT COUNT(*) FROM ALL_USERS WHERE USERNAME= 'SYSMAN'</pre> <p data-bbox="773 856 1325 907">If the result of this query is 1, then the database has this schema, so deconfigure it.</p> <li data-bbox="724 924 1325 1205"> <p data-bbox="724 924 1325 1024">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.</p> <p data-bbox="773 1041 1325 1092">For example, in bash shell, you can set them in the following way:</p> <pre data-bbox="773 1108 1325 1205">export ORACLE_ HOME=/u01/app/oracle/product/11.2.0/dbhome_1 export ORACLE_SID=orcl</pre> <li data-bbox="724 1222 1325 1808"> <p data-bbox="724 1222 1325 1272">3. Deconfigure the Database Control.</p> <p data-bbox="773 1289 1325 1381">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.</p> <pre data-bbox="773 1398 1325 1482">\${ORACLE_HOME}/bin/emca -deconfig dbcontrol db -repos drop -SYS_PWD <sys password> -SYSMAN_PWD <sysman password></pre> <p data-bbox="773 1499 1325 1650">To deconfigure Database Control for a Real Application Cluster (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.</p> <pre data-bbox="773 1667 1325 1751">\${ORACLE_HOME}/bin/emca -deconfig dbcontrol db -repos drop -cluster -SYS_PWD <sys password> -SYSMAN_PWD <sysman password></pre> <p data-bbox="773 1768 1325 1808">Note: If the deconfigure operation hangs, then refer to <i>My Oracle Support</i> note 375946.1.</p> 	

Table 2–2 (Cont.) Prerequisites for Installing Enterprise Manager System

Requirement	Description	Yes/No
Existing Database Not to Have SYSMAN and SYSMAN_MDS Schema	<p><i>(If you are upgrading from Enterprise Manager 10g Grid Control Release 4 (10.2.0.4) 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 11g Grid Control Release 1 (11.1.0.1.0) using an existing, certified Oracle Database that has Database Control SYSMAN schema created, which you want to replace now with Grid Control SYSMAN schema.)</i></p> <p>Ensure that your existing, certified Oracle Database does NOT have Enterprise Manager Grid Control SYSMAN schema and Metadata (MDS) schema.</p> <ol style="list-style-type: none"> 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: <pre>SELECT COUNT(*) FROM ALL_USERS WHERE USERNAME IN ('SYSMAN', 'SYSMAN_MDS');</pre> If the result of this query is 1, then the database has these schemas, so drop them. 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. Drop the schema by running the following command from the Oracle home of the OMS. <pre> \$<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> </pre> 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: <pre> -mwHome <middleware_home> -mwOraHome <middleware_ora_home> -oracleHome <oracle_ home> </pre> 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) <p>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: <pre>SELECT FILE_NAME FROM DBA_DATA_FILES WHERE UPPER (TABLESPACE_NAME) LIKE 'MGMT%';</pre></p>	

Table 2–2 (Cont.) Prerequisites for Installing Enterprise Manager System

Requirement	Description	Yes/No
Database Initialization Parameters Requirements	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 Section 2.3.1, "Setting Database Initialization Parameters" .	
Fine-Grained Access Control Requirements	Ensure that the fine-grained access control option is set to <i>TRUE</i> in the existing, certified Oracle Database so that the Management Repository can be created. To verify this, run the following command: <pre>select value from v\$option where parameter = 'Fine-grained access control';</pre>	
UNDO Tablespace Size Requirements	Ensure that the UNDO tablespace has a minimum space of 200 MB. To verify this, run the following query: <pre>SELECT SUM(DECODE(autoextensible, 'YES', 200*1024*1024+1, b ytes)) total FROM dba_data_files f, dba_tablespaces s WHERE s.contents = 'UNDO' AND s.tablespace_name = f.tablespace_name;</pre> <p>Note: The result of this query is in bytes.</p> <p>If the minimum space is less than 200 MB, then set it to 200 MB by running the following command:</p> <pre>alter database datafile '<absolute_path>/<file_ name>' resize 200M;</pre>	
UNDO Tablespace and Temporary Tablespace Settings Requirements	Ensure that the UNDO tablespace and the TEMP tablespace are autoextensible in the existing, certified Oracle Database. To verify this, run the following command: <pre>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';</pre> <p>If the result of the query is 0, then the tablespace is autoextensible. If the result is not 0, then refer to <i>Oracle Database Administrator's Guide</i> available in the following location to make the tablespace autoextensible.</p> <p>http://www.oracle.com/technology/documentation/database.html</p>	
Archive Logging Settings Requirements	(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: <pre>select log_mode from v\$database;</pre>	

Table 2–2 (Cont.) Prerequisites for Installing Enterprise Manager System

Requirement	Description	Yes/No
Tablespace-Related Hard Disk Space Requirements	<p>Ensure that you allocate a minimum of 1 GB hard disk space for the following tablespaces:</p> <ul style="list-style-type: none"> ■ Management Tablespace (mgmt.dbf) ■ Configuration Data Tablespace (mgmt_ecm_depot1.dbf) ■ JVM Diagnostics Data Tablespace (mgmt_ad4j.dbf) <p>Oracle also recommends that you keep the auto-extend feature enabled for the tablespace data files.</p> <p>Note that the space requirement increases as the number of monitored targets increase, along with the input/output performance demands on the storage devices.</p>	
Host File Requirements	<p>Ensure that the host name specified in the <code>/etc/hosts</code> 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.</p> <p>The recommended format of the <code>/etc/hosts</code> file is <code><ip> <fully_qualified_host_name> <short_host_name></code>.</p> <p>For example,</p> <pre>141.81.5.71 host1.foo.com host1</pre> <p>IPv6 entries are supported in the file for fresh installations of 11g Release 1 (11.1). However, they are not supported for upgrade from 10g Release 4 (10.2.0.4) or higher to 11g Release 1 (11.1).</p> <p>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.</p> <p>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.</p> <p>For example, all these commands must return the same output:</p> <pre>nslookup host1 nslookup host1.foo.com nslookup 141.81.5.71</pre>	

Table 2–2 (Cont.) Prerequisites for Installing Enterprise Manager System

Requirement	Description	Yes/No
Installing User Requirements	<p>Ensure that you meet the following requirements:</p> <ul style="list-style-type: none"> ■ (For UNIX only) The installation must NOT be run by a <i>root</i> 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. <p>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.</p>	
Permission Requirements	<p>Ensure that you are able to access and write in the following locations:</p> <ul style="list-style-type: none"> ■ Oracle Middleware Home location ■ Oracle Management Service Instance Base location ■ Oracle Inventory Directory <p>For more information about these locations, see the <i>Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide</i> available at:</p> <p>http://www.oracle.com/technology/documentation/odem.html</p> <p>Ensure that you have <i>write</i> permission on the temporary directory where the executables will be copied. For example, /tmp or c:\Temp.</p>	
Oracle Inventory Location Requirements	<p>Ensure that the Oracle Inventory (<i>oraInventory</i>) is not in a shared location. When you use the <i>oraInst.loc</i> 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.</p>	
Proximity Requirements	<p>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.</p>	
Firewall Requirements	<p>If you have a firewall in your environment, then see the chapter on configuring Enterprise Manager for firewalls in the <i>Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide</i> available at:</p> <p>http://www.oracle.com/technology/documentation/odem.html</p>	
Internet Connection Requirements	<p>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 <i>My Oracle Support</i>.</p>	

2.3.1 Setting Database Initialization Parameters

As one of the prerequisites, ensure that you set the initialization parameters as described in [Table 2-3](#) and [Table 2-4](#) 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.

Important: After you set the parameters, restart the database.

Table 2-3 Setting Fixed Initialization Parameters

Fixed Initialization Parameter	Value
cluster_database (Only for Oracle RAC Database)	TRUE
compatible	10.2.0.1.0 or higher
max_commit_propagation_delay (Only for Oracle RAC Database)	0
remote_login_passwordfile	SHARED or EXCLUSIVE
statistics_level	TYPICAL
timed_statistics	TRUE
undo_management	AUTO
workarea_size_policy	AUTO

Table 2-4 Setting Variable Initialization Parameters

Variable Initialization Parameter	Value
db_block_size	8192 or greater
instance_groups	As described in <i>Oracle Database Reference Guide</i> available at: http://www.oracle.com/technology/documentation/database.html
job_queue_processes	(For Installation) 10 or greater (For Upgrade) If you are upgrading Enterprise Manager 10g Grid Control Release 4 (10.2.0.4) or higher, then ensure that you set the value to 0 before upgrading. And after upgrading, reset it to the original value that existed before upgrading the product.
log_buffer	10485760 or greater
memory_target (Only for Oracle Database 11g Release 2 (11.2) and higher)	As described in <i>Oracle Database Reference Guide</i> available at: http://www.oracle.com/technology/documentation/database.html
open_cursors	300 or greater
parallel_instance_groups	As described in <i>Oracle Database Reference Guide</i> available at: http://www.oracle.com/technology/documentation/database.html

Table 2–4 (Cont.) Setting Variable Initialization Parameters

Variable Initialization Parameter	Value
processes	500 or greater
session_cached_cursors	200 or greater
sga_target	As described in <i>Oracle Database Reference Guide</i> available at: http://www.oracle.com/technology/documentation/database.html

2.4 Installation Procedure

To install a complete Enterprise Manager system, follow these steps:

1. Invoke the installer by running the following command:

```
<Software_Location>/runInstaller
```

In this command, <Software_Location> is either <DVD> or <Software_Downloaded_Location>.

Note:

- For Microsoft Windows operating systems, run `setup.exe` instead of `runInstaller`.
- In Microsoft Windows, if the path to the software download location contains a subdirectory name with two or more words and a space between each of the words, then ensure that the parent directory of such a subdirectory does not contain a file whose name matches with the first word of that subdirectory.

For example, if the software is downloaded to `C:\Documents and Settings`, then before you invoke `setup.exe`, ensure that there are no files titled `Documents` (for example, shortcut files such as `C:\Documents`) in the `C:\` drive.

- If you are planning to have multiple OMSes, then Oracle strongly recommends you to configure a shared file system loader so that a common location is maintained to store all the metric data files uploaded by the Management Agents. If you configure the central directory now, then all subsequent additional OMS installations, which connect to the same Oracle Database, will automatically be mapped to this central directory.

To configure a shared file system loader, invoke the installer using the following command. Ensure that the location you specify is accessible and writable by all the OMSes.

```
./runInstaller SHARED_RECEIVE_DIRECTORY_  
LOCATION=<absolute_path_to_central_directory>
```

- 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 using the following command:

```
./runInstaller START_OMS=false b_startAgent=false
```

However, if you pass the `START_OMS=false` argument, the installation does not configure the EMCLI tool, and as a result, none of the EMCLI commands will work. Therefore, after the installation ends, you must manually configure the EMCLI tool in the `$(ORACLE_HOME)/bin` directory. To do so, refer to the *Oracle Enterprise Manager Command Line Interface* available at:

<http://www.oracle.com/technology/documentation/oem.html>

- By default, `GCDomain` is the default name used for creating the WebLogic Domain.

To override this, invoke the installer using the following command and specify a unique custom WebLogic Domain name:

```
./runInstaller WLS_DOMAIN_NAME=<Custom_Domain_Name>
```

2. Specify My Oracle Support Details



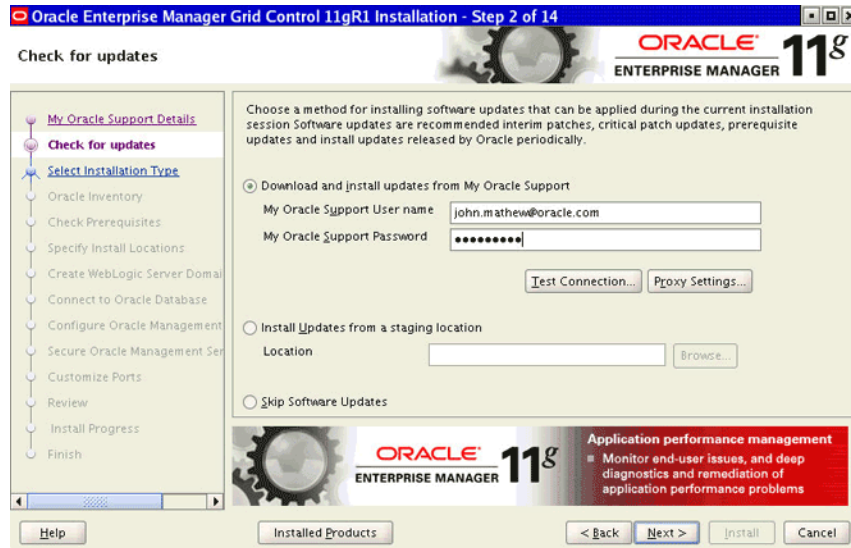
(Optional) On the My Oracle Support Details screen, specify your *My Oracle Support* credentials to enable Oracle Configuration Manager. If you do not want to enable Oracle Configuration Manager now, go to Step (3).

If the host from where you are running the installation wizard does not have a connection to the Internet, then specify 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*.

Note: For information about manually collecting the configuration information and uploading it to *My Oracle Support*, refer to the *Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide* available at:

<http://www.oracle.com/technology/documentation/oem.html>

3. Click **Next**.
4. Click **Check for Updates**



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

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 Grid Control console and view the recommended security patches. To do so, log in to Enterprise Manager Grid Control, and click **Preferences** from the top-right corner of the screen. On the General page, from the left menu bar, click **Preferred Credentials**. On the Preferred Credentials page, from the My Oracle Support Preferred Credentials section, click **Set Credentials**. On the My Oracle Support Preferred Credentials page, specify the credentials and click **Apply**.

- Select **Download and install updates from My Oracle Support** if you want the installer to connect to *My Oracle Support* and automatically download the updates from there. Specify the My Oracle Support account user name and password to connect to the site.

If a connection from your network to the Internet requires you to connect through a proxy, then select **Proxy Settings** and provide the proxy connection details. To test the connection, click **Test Connection**.

Note: After specifying the *My Oracle Support* details, when you click **Next**, the installation wizard connects to *My Oracle Support* and checks for new software updates. The installer displays the new software updates that are found. If you want to install them, click **Download Updates**. If you do not want to install them, click **Skip Updates**.

- (Recommended) Select **Install updates from a staging location** if the software updates are already downloaded and available in an accessible location. You can either specify the location or click **Browse** to search the host and select the

location. Ensure that the location you specify or select leads to the Updates directory where the software updates are available.

For example, if the software updates are available in /scratch/OracleHomes/Updates, then specify /scratch/OracleHomes/Updates.

Note: For more information about software updates, and how you can manually download them, see the *Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide* available at:

<http://www.oracle.com/technology/documentation/oem.html>

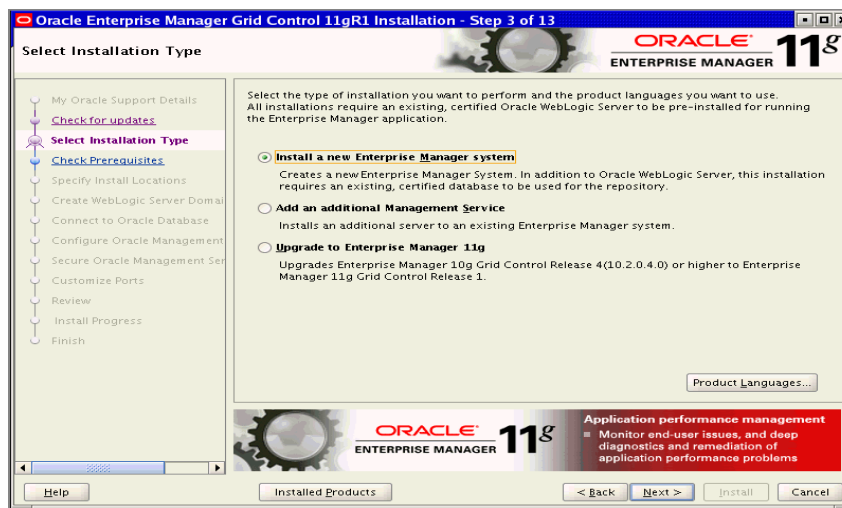
For information about the auto update feature and to know what patches are available in auto update, see *My Oracle Support* notes 1101208.1 and 1099123.1.

5. Click Next.

If you specified the *My Oracle Support* details in Step (4), the installer connects to *My Oracle Support* and checks for new software updates. The installer displays the new software updates that are found. If you want to install them, click **Download Updates**. If you do not want to install them, click **Skip Updates**.

Similarly, if any patches (including one-off patches) were found, then the installer displays the Product Updates screen. On the Product Updates screen, select **Apply Software Updates** and click **Next** if you want to apply all the patches. Otherwise, deselect that option and click **Next**.

6. Select Installation Type



On the Select Installation Type screen, select **Install a new Enterprise Manager system**.

7. Click Next.

If Enterprise Manager Grid 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 (8). Otherwise, the Check Prerequisites screen appears. For details, see step (10).

If Enterprise Manager Grid 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
```

8. Specify Inventory Details



On the Oracle Inventory screen, do the following:

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

Note: the central inventory location you specify 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

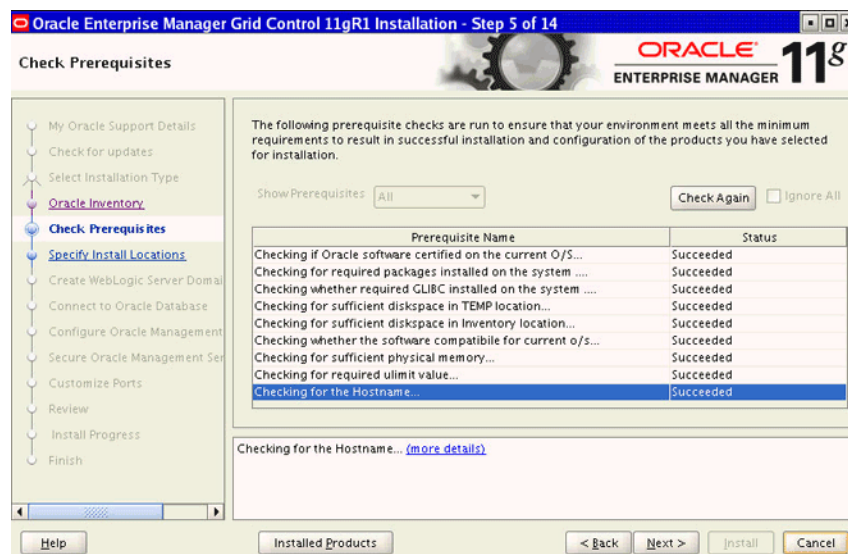
Note: If this is the first Oracle product on the host, then the default central inventory location is `/home/<user_name>/oraInventory`. However, if you already have some Oracle products on the host, then the central inventory location can be found in the `oraInst.loc` file. The `oraInst.loc` file is 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.

Note: You will see this screen only if this turns out to be your first ever installation of an Oracle product on the host.

9. Click Next.

10. Check for Prerequisites



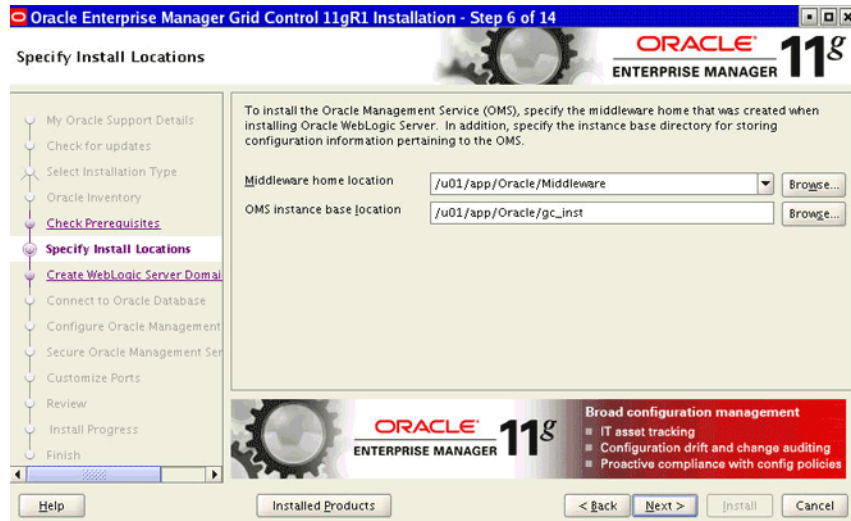
On the Check Prerequisites screen, check the status of the prerequisite checks run by the installation wizard is shown.

The prerequisite checks can result in either **Warning**, **Failed**, or **Succeeded** status. If all the prerequisite checks succeed, then click **Next** to proceed to the next screen. However, if some checks result in **Warning** or **Failed** status, then do the following:

- For the prerequisite checks with **Failed** status and **Warning** status, investigate and correct the problems before you proceed with the installation. You can also update the prerequisites with the latest software updates, if they have been released by Oracle, and rerun them. To understand how you can manually download the software updates to update the prerequisites, see Step (4).
- After you correct the problems in your environment, you can return to this screen and click **Check Again** to check the prerequisites once again.
- If you prefer to ignore all these checks and proceed, then select **Ignore All**. However, ignoring the prerequisite checks with **Failed** and **Warning** status might result in an unsuccessful installation, and therefore, Oracle recommends you to correct the problem and then proceed only after all the checks succeed.

11. Click Next.

12. Specify Installation Locations



On the Specify Install Locations screen, provide the information required for installing the core components of Enterprise Manager Grid Control and for storing the configuration files.

- For **Oracle Middleware Home Location**, validate and accept the default middleware location, or select or specify another middleware location, which is present on the host where you are installing the product. Ensure that the middleware location has *write* permission to create the Oracle home for OMS and the Oracle home for Management Agent.

For example, if you accept the default location `/u01/app/Oracle/Middleware`, then the Oracle home for OMS is created as `/u01/app/Oracle/Middleware/oms11g`, and the Oracle home for Management Agent is created as `/u01/app/Oracle/Middleware/agent11g`.

Note: Ensure that the Middleware Home you accept, select, or specify here is used only for Enterprise Manager Grid Control. Ensure that no other Oracle Fusion Middleware products or components are installed in the same Middleware Home that is designated for Enterprise Manager Grid Control.

- For **OMS Instance Base Location**, validate and accept the default instance base location, or specify another instance base location, which is present on the host where you installing the product and has *write* permission to store the configuration files of OMS.

By default, the instance base is under the parent directory of the Oracle Middleware Home. And, by default, the instance home name is `gc_inst`. You can, however, edit this and specify a custom name.

For example, if the Oracle Middleware Home is `/u01/app/Oracle/Middleware` and if you choose to retain the default instance home name, then the instance home location is `/u01/app/Oracle/gc_inst`.

If the parent directory of the Oracle Middleware Home does not have *write* permission, then the instance base is created in the Oracle Middleware Home itself.

Note: For information about Oracle Middleware Home and OMS Instance Base Location, see the *Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide* available at:

<http://www.oracle.com/technology/documentation/oem.html>

13. Click Next.

14. Create WebLogic Server Domain

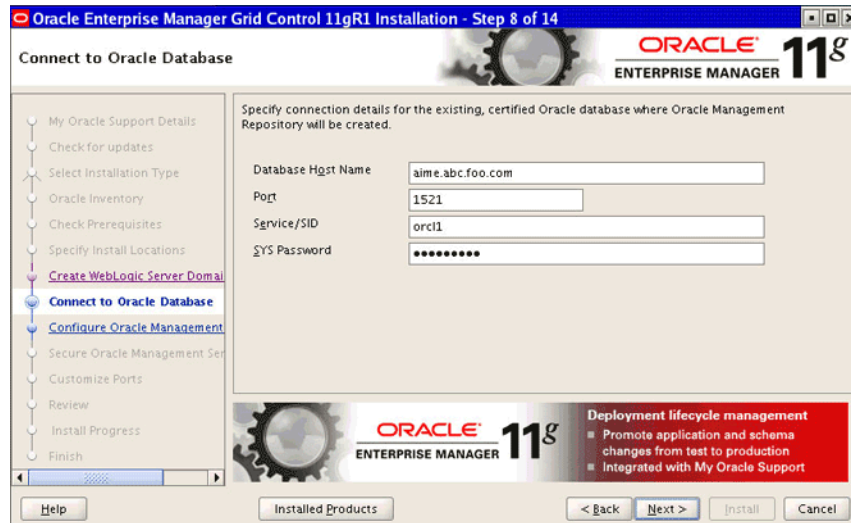


On the Create WebLogic Server Domain screen, specify the WebLogic credentials and the Node Manager credentials.

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. Connect to Oracle Database



On the Connect to Oracle Database screen, specify 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.

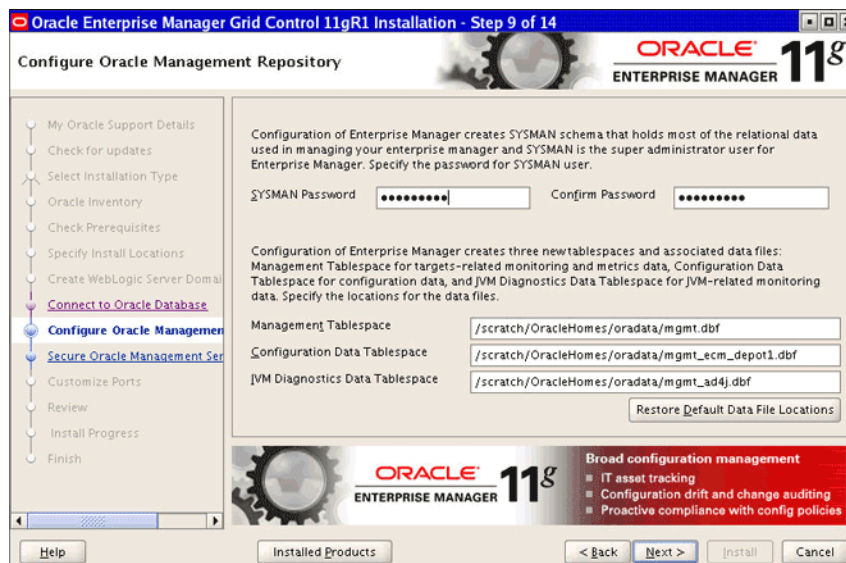
The installer uses this information to connect to the existing, certified Oracle Database where the Management Repository can be configured.

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 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 `orapw` command.
-
-

18. Configure Oracle Management Repository



On the Configure Oracle Management Repository screen, do the following:

- a. For **SYSMAN Password**, specify 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 Grid Control. SYSMAN is also the super administrator for Enterprise Manager Grid Control.

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

- b. For **Management Tablespace**, specify 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`

- c. For **Configuration Data Tablespace**, specify 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`

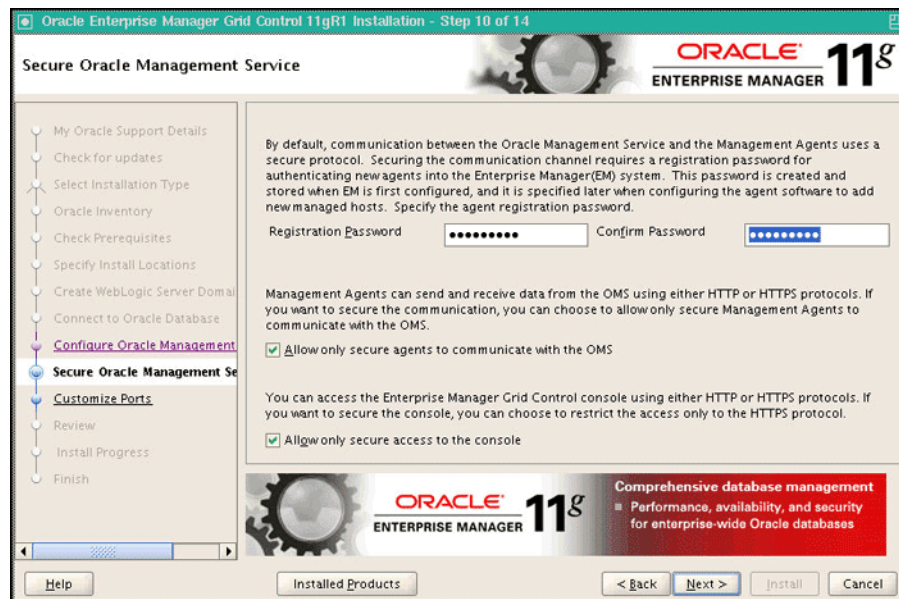
- d. For **JVM Diagnostics Data Tablespace**, specify the full path to a location where the data file for JVM diagnostics data tablespace (`mgmt_ad4j.dbf`) can be stored. Ensure that the specified path leads up to the file name. Enterprise Manager Grid Control requires this data file to store JVM-related monitoring data.

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 specify 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. **Secure Oracle Management Service**



On the Secure Oracle Management Service screen, do the following:

- a. For **Registration Password**, specify a password that can be used for authenticating new Management Agents that join the Enterprise Manager Grid Control system, and for permitting only secure Management Agents to communicate with the OMS, which is in locked state, via HTTPS protocol.
- b. Select **Allow only secure agents to communicate with the OMS** if you want to further enhance the security of communication between the OMS and the Management Agents.

OMS always runs in a secure mode, and can further have a *locked* or an *unlocked* state. In an unlocked state, the Management Agents that are secure and the Management Agents that are not secure communicate with the OMS using HTTP and HTTPS protocols, respectively. However, in a locked state, only secure Management Agents communicate with the OMS using HTTPS protocol.

Select this option to turn the OMS to a locked state.

- c. Select **Allow only secure access to the console** if you want to secure the access and allow users to access the Enterprise Manager Grid Control console only using HTTPS protocol.

21. Click **Next**.

22. Customize Ports



On the Customize Ports screen, customize the ports to be used for various components, and click **Next**.

If `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.

Note: For information about the default ports that are assigned and the possibility of using custom ports instead of default ports, see the *Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide* available at:

<http://www.oracle.com/technology/documentation/oem.html>

You can choose to retain the default port or customize it. To customize the ports, edit the port value in the **Port** column of the table, and specify a free custom port as recommended in the **Recommended Port Range** column.

23. Click **Next**.

24. **Review**



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.
25. Once the software binaries are copied, 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 Configuration Assistants screen as described in Step (26).
26. On the Configuration Assistants screen, you should see the Configuration Assistants run for this installation type. If you see any failed Configuration Assistants and if you want to rerun them, then after rectifying the issues, select the failed ones and click **Retry**. If you prefer to rerun them later in standalone mode, then click **Cancel** to exit the installer.

Note: If the Configuration Assistants fail, then review the relevant log files, resolve the issues, and rerun the Configuration Assistants as described in the *Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide* available at:

<http://www.oracle.com/technology/documentation/oem.html>

You can also refer to the *Master Note for Enterprise Manager Grid Control Installation and Upgrade* available in the same location. Once you access the URL, click the **Release Notes** tab, and from the Master Support Notes section, click **HTML**.

27. On the End of Installation 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 Oracle home of the OMS:

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

2.5 After You Install

After you install, do the following:

1. Verify the installation:

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

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

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

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

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

```
$<ORACLE_HOME>/bin/emctl upload
```

Note: By default, you can access Enterprise Manager Grid Control only using the HTTPS protocol. If you want to use the HTTP protocol, then unlock it by running the following command from the Oracle home of the OMS:

```
emctl secure unlock -console
```

2. To use a secure protocol (HTTPS) to connect to the Enterprise Manager Administration Server, do the following:

- a. Specify additional SSL arguments in the environment. To do so, set `JAVA_OPTIONS` to append the appropriate SSL arguments to use before invoking the `ocmrepeaterctl` script.

For information about these JAVA options, access these URLs:

http://download.oracle.com/docs/cd/E12840_01/wls/docs103/client/security.html#wp1077561

http://download-llnw.oracle.com/docs/cd/E12840_01/wls/docs103/config_scripting/using_WLST.html#wp1093943

Depending on whether a Demo or a Custom Trust certificate is used by the SSL realm, the SSL arguments will include the following:

```
[
  [
    <
      -Dweblogic.security.TrustKeyStore=DemoTrust
    [ -Dweblogic.security.JavaStandardTrustKeystorePassPhrase=password ]
    >
    |
    <
      -Dweblogic.security.CustomTrustKeyStoreFileName=filename
```

```

        -Dweblogic.security.TrustKeystoreType=CustomTrust
    [ -Dweblogic.security.CustomTrustKeystorePassPhrase=password ]
    >
  ]
  [
    < -Dweblogic.security.SSL.hostnameVerifier=classname >
    |
    < -Dweblogic.security.SSL.ignoreHostnameVerification=true >
  ]
]

```

- b. Ensure that HTTP tunneling is enabled in the Administration Server. To verify this, log in to Oracle WebLogic Server Administration Console, and do the following:
 - (i) From the **Domain Structure** panel on the left side of the Home page, expand **Environment** and click **Servers**.
 - (ii) On the Summary of Servers page, from the Servers table, click the Admin Server.
 - (iii) On the Settings for <Admin_Server> page, click the **Protocols** tab, and then click the **HTTP** subtab.
 - (iv) On the HTTP page, select **Enable Tunneling**, and click **Save**.
3. Configure the Oracle Database and Oracle Automatic Storage Management (Oracle ASM) target for monitoring as described in [Appendix G, "Configuring Database and ASM Targets for Monitoring"](#).
4. Configure your proxy server as described in [Appendix H, "Setting Up Proxy Configuration for Oracle Management Service"](#).
5. For accessing the Enterprise Manager Grid Control console, ensure that you use only certified browsers as mentioned in *My Oracle Support* note 412431.1.
6. (Optional) If you had not configured a shared file system loader while installing a complete Enterprise Manager system, and if you want to configure a shared location for it now, then run the following command from the Oracle home of the OMS:

```
$<ORACLE_HOME>/bin/emctl config oms loader -shared yes -dir <Loader_Directory>
```

For example,

```
$<ORACLE_HOME>/bin/emctl config oms loader -shared yes -dir /share/recv
```

7. (Optional) If you want to connect to another 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
myreposhost.mydomain.com -repos_port 12345 -repos_sid mydb
-repos_conndesc
' "(DESCRIPTION=(ADDRESS=(PROTOCOL=TCP) (HOST=myreposhost.mydo
main.com) (PORT=12345)) (CONNECT_DATA=(SID=mydb)))" ' -repos_
user sysman
```

For example, on Microsoft Windows:

```
emctl config oms -store_repos_details -repos_host
myreposhost.mydomain.com -repos_port 12345 -repos_sid mydb
-repos_conndesc
(DESCRIPTION=(ADDRESS=(PROTOCOL=TCP) (HOST=myreposhost.mydoma
in.com) (PORT=12345)) (CONNECT_DATA=(SID=mydb))) -repos_user
sysman
```

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

```
emctl config oms -change_repos_pwd
```

9. (Optional) If you want to discover the newly installed targets, if you want to convert the standalone Management Agent to a cluster-based Management Agent, if you want to discover the targets on the new nodes of the cluster, or if you want to reconfigure the cluster-based Management Agent, you must run the `agentca` script to reconfigure and discover all new targets. For information about the `agentca` script and to know how you can reconfigure the Management Agent and discover all new targets, see *Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide* available at:

<http://www.oracle.com/technology/documentation/oem.html>

10. (Optional) If you want to enable the *Request Monitoring* feature for tracing transaction requests in WLS, you need JVM Diagnostics as well as Application Dependency and Performance (ADP) managers and agents configured against the target to be monitored.

For information about installing JVM Diagnostics and enabling the *Request Monitoring* feature, refer to the *Oracle Enterprise Manager Administration Guide*.

For information about enabling the ADP feature in Enterprise Manager Grid Control, refer to the *Oracle Enterprise Manager Getting Started with Management Pack Plus for SOA*.

Both these guides are available at:

<http://www.oracle.com/technology/documentation/oem.html>

Adding Additional Oracle Management Service

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

- [Overview](#)
- [Before You Begin](#)
- [Prerequisites](#)
- [Installation Procedure](#)

Note:

- The additional OMS you are installing must be installed on the same operating system as the other OMSes. Also ensure that the operating system and the Oracle home of the OMS are patched to the same level as the other OMSes.
- Do NOT install the additional OMS on an OCFS file system. This file system is not supported.
- If the first OMS, which was installed as part of the complete Enterprise Manager system installation, has add-ons installed, then do NOT follow the instructions outlined in this chapter. Instead, follow the instructions outlined for installing only the OMS software and configuring it later in the *Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide* available at:

<http://www.oracle.com/technology/documentation/oem.html>

3.1 Overview

The second installation type, *Add an additional Management Service*, offered by the installer enables you to install an additional OMS to your existing Enterprise Manager Grid Control environment. This option is appropriate when you already have Enterprise Manager Grid Control with a certified Oracle Management Repository, and when you want to have another OMS for the following reasons:

- When you want to balance the load on the existing OMS
- When your existing OMS is running out of CPU or RAM resources

However, note that you can have multiple OMSes, and still connect to just one Oracle Management Repository (Management Repository).

[Table 3-1](#) describes the installation process and the software components that are installed or configured for this installation type.

Table 3-1 Installation Process for Adding an Additional Oracle Management Service

Step 1	<p>Installation of Oracle Management Service 11g Release 1</p> <p>Creates an Oracle home in the Oracle Middleware Home location, and installs the OMS software binaries in the new home.</p> <p>Oracle Middleware Home consists of the Oracle WebLogic Server home, and, optionally, one or more Oracle homes.</p> <p>If the Oracle Middleware Home is <code>/u01/app/Oracle/Middleware</code>, then the Oracle home for OMS is <code>/u01/app/Oracle/Middleware/oms11g</code></p>
Step 2	<p>Installation of Oracle Management Agent 11g Release 1</p> <p>Creates an Oracle home in the Oracle Middleware Home location, and installs the Oracle Management Agent (Management Agent) software binaries in the new home.</p> <p>If the Oracle Middleware Home is <code>/u01/app/Oracle/Middleware</code>, then the Oracle home for Management Agent is <code>/u01/app/Oracle/Middleware/agent11g</code></p>
Step 3	<p>Installation of Oracle Web Tier 11g Release 1</p> <p>Creates an Oracle home in the Oracle Middleware Home location, and installs the Web tier software binaries in the new home.</p> <p>If the Oracle Middleware Home is <code>/u01/app/Oracle/Middleware</code>, then the Oracle home for Web tier is <code>/u01/app/Oracle/Middleware/Oracle_WT</code></p>
Step 4	<p>Installation of Oracle Common Directory</p> <p>Creates a common directory in the Oracle Middleware Home location for storing configuration files.</p> <p>If the Oracle Middleware Home is <code>/u01/app/Oracle/Middleware</code>, then the common directory is <code>/u01/app/Oracle/Middleware/oracle_common</code>.</p>
Step 5	<p>Configuration of Oracle Management Service Instance Base Location</p> <p>Creates an instance home for Enterprise Manager Grid Control in the parent directory of the Oracle Middleware Home for storing all OMS-related configuration files. By default, the instance home is <code>gc_inst</code>. You can, however, edit this and specify a custom name.</p> <p>If the Oracle Middleware Home is <code>/u01/app/Oracle/Middleware</code> and if you choose to retain the default instance home name, then the instance home location is <code>/u01/app/Oracle/gc_inst</code></p> <p>If the parent directory of the Oracle Middleware Home does not have <i>write</i> permission, then the OMS Instance Base is created in the Oracle Middleware Home.</p>

Table 3–1 (Cont.) Installation Process for Adding an Additional Oracle Management

Step 6	Configuration of Core Components
	<p>Runs the Configuration Assistant tools to perform the following:</p> <ol style="list-style-type: none"> 1. Applying OMS-Related One-Off Patches: (<i>Optional</i>) Applies one-off patches to the Oracle home of the OMS (oms11g). 2. Configuring OMS: Configures the OMS and the independent instance where Enterprise Manager Grid Control is deployed. 3. Add-on OMS Side Configuration: Configures the Virtualization Add-On detected in the Oracle home of the OMS (oms11g). 4. Configures OCM (<i>If required; Only if you have chosen to configure it</i>): Configures Oracle Configuration Manager (OCM) in the Oracle home of the OMS (oms11g) and Oracle home of the Web tier (Oracle_WT). 5. Applying Agent-Related One-Off Patches: (<i>Optional</i>) Applies one-off patches to the Oracle home of the Management Agent (agent11g). 6. Configuring Management Agent: Configures the Management Agent to enable monitoring of targets, collection of information, and so on. 7. Configures OCM (<i>If required; Only if you have chosen to configure it</i>): Configures Oracle Configuration Manager (OCM) in the Oracle home of the Management Agent (agent11g). 8. Configures System Monitoring Plug-Ins: Configures the System Monitoring Plug-Ins detected in the Oracle home of the Management Agent (agent11g).

Note: The installation process takes approximately 15 to 20 minutes to complete. The duration includes the time taken for running the prerequisite checks, placing the software binaries, creating the Oracle homes, and running the Configuration Assistants for configuring the core components.

3.2 Before You Begin

Before you begin, keep these points in mind:

- Oracle Management Service 11g Release 1 is supported only with Enterprise Manager 11g Grid Control Release 1.
 - If you are installing an additional Oracle Management Service 11g Release 1 to an existing Enterprise Manager 11g Grid Control environment, then follow the installation steps outlined in this chapter.
 - If you are installing an additional Oracle Management Service 11g Release 1 to an existing Enterprise Manager 10g Grid Control Release 2 (10.2.X.X) environment, then first upgrade Enterprise Manager 10g Grid Control to Enterprise Manager 11g Grid Control, and then install the additional Oracle Management Service 11g.
- You can install add-ons to this additional OMS only if the first OMS, which was installed as part of the complete Enterprise Manager system installation, has add-ons installed. And if your first OMS has add-ons installed, then do NOT follow the instructions outlined in this chapter. Instead, follow the instructions outlined for installing only the OMS software and configuring it later in the *Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide* available at:

<http://www.oracle.com/technology/documentation/oem.html>

- This installation type only supports installation of OMS locally on the server where the installer is invoked, and does not support installing on multiple or remote hosts.
- You cannot install more than one OMS on a host.
- Do NOT install the additional OMS on an OCFS file system. This file system is not supported
- For information about the default ports that are assigned and the possibility of using custom ports instead of default ports, see the *Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide* available at:
<http://www.oracle.com/technology/documentation/oem.html>
- 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.

For example:

```
./runInstaller ORACLE_HOSTNAME=host1.foo.com
```

Note: Before passing this variable with the installer, ensure that you set the `ORACLE_HOSTNAME` environment variable.

- No environment variable specific to Enterprise Manager Grid Control needs to be set prior to installation. The `ORACLE_HOME` and `ORACLE_SID` variables should not be set; Oracle directories should not appear in the `PATH`.
- The presence or absence of `EMKEY` in the Management Repository does not matter, and the installation will proceed either way without any issues.
- Oracle offers code fixes for a product based on the *Oracle Lifetime Support Policy*. When the license period expires for a particular product, the support for code 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 Grid Control installation, you must consider Enterprise Manager Grid Control's framework components as well as the targets monitored by Enterprise Manager Grid Control. Oracle recommends keeping your Grid Control components and targets updated to the latest certified versions in order to receive code fixes without having to purchase an Extended Support license. For information about the certified combinations of Enterprise Manager Grid Control components and monitored targets, see *My Oracle Support* note.412431.1.

- For accessing the Enterprise Manager Grid Control console, ensure that you use only certified browsers as mentioned in *My Oracle Support* note 412431.1.

3.3 Prerequisites

Before adding an additional OMS, ensure that you meet the following prerequisites.

If you want, you can print out this section and write 'Yes' or 'No' against each prerequisite. This will help you to track the prerequisites you have met and the prerequisites you have not met.

Table 3–2 Prerequisites for Adding an Additional Oracle Management Service

Requirement	Description	Yes/No
Hardware Requirements	Ensure that you meet the hard disk space and physical memory requirements as described in Appendix A, "Meeting Hardware Requirements" .	
Operating System Requirements	<p>Ensure that you install the OMS only on certified operating systems as mentioned in the Enterprise Manager Certification Matrix available on <i>My Oracle Support</i>.</p> <p>To access this matrix, follow these steps:</p> <ol style="list-style-type: none"> 1. Log in to <i>My Oracle Support</i>, and click the Certifications tab. 2. On the Certifications page, in the Certification Search region, from the Product list, select Enterprise Manager Base Platform - OMS. 3. From the Release list, select 11.1.0.1.0, and click Search. <p>Ensure that you install the additional OMS on the same operating system as the other OMSes. Also ensure that the operating system and the Oracle home of the OMS are patched to the same level as the other OMSes.</p>	
Package Requirements	Ensure that you install all the operating system-specific packages as described in Appendix B, "Meeting Package, Kernel Parameter, and Library Requirements" .	
Operating System Groups and Users Requirements	Ensure that you create the required operating system groups and users as described in Appendix C, "Creating Operating System Groups and Users Requirements" .	
Unique Host Name and Static IP Address Requirements	<p>Ensure that you check the network configuration to verify that the host on which you are installing resolves to a <i>unique</i> host name and a <i>static</i> IP address that are visible to other hosts in the network.</p> <p>Note: You must use only a <i>static</i> IP address. If you use a dynamic IP address, the installation will fail.</p>	
File Descriptor Requirements	<p>Ensure that you set the file descriptors to a minimum of 4096.</p> <p>To verify the current value set to the file descriptors, run the following command:</p> <pre>/bin/sh -c "ulimit -n"</pre> <p>If the current value is not 4096, then as a root user, update the <code>/etc/security/limits.conf</code> file with the following entries:</p> <pre><UID> soft nofile 4096 <UID> hardnofile 4096</pre>	
System Parameter Value Requirements for AIX	<p>Ensure that the value set for the system parameter <code>ncarg</code> is 1024. To verify the value of <code>ncarg</code>, run the following command:</p> <pre>-lsattr -EH -l sys0 grep ncargs</pre> <p>If the value is less than 1024, then increase it to 1024 by running the following command:</p> <pre>chdev -l sys0 -a ncargs=1024</pre>	

Table 3–2 (Cont.) Prerequisites for Adding an Additional Oracle Management Service

Requirement	Description	Yes/No
Temporary Directory Space Requirements	Ensure that you allocate 400 MB of space for a temporary directory where the executables can be copied. For example, /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 <i>My Oracle Support</i> 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: <ul style="list-style-type: none"> ■ Bash Shell \$. ./bash_profile ■ Bourne or Korn Shell \$. ./profile ■ C Shell % source ./login 	

Table 3–2 (Cont.) Prerequisites for Adding an Additional Oracle Management Service

Requirement	Description	Yes/No
Shared File System Loader Location Requirements	<p>If you have configured shared file system loader on the first OMS, ensure that the shared location is accessible and writable from the host where you are about to install an additional OMS.</p> <p>If you have not configured the shared filesystem loader on the first OMS, and want to configure it now, then do the following:</p> <ul style="list-style-type: none"> ■ Run the following command from the Oracle Home of the first OMS: <pre data-bbox="773 541 1289 590">\$<ORACLE_HOME>/bin/emctl config oms loader -shared yes -dir <Loader_Directory></pre> <p>For example,</p> <pre data-bbox="773 646 1289 695">\$<ORACLE_HOME>/bin/emctl config oms loader -shared yes -dir /share/recv</pre> <p>Note: If you already have additional OMSes, then run the same command on the hosts where those additional OMSes are running and specify the same shared location.</p> ■ Ensure that the shared location is accessible and writable from the host where you are about to install an additional OMS. To verify this, run the following command: <p>On the first OMS, use a text editor to create a test file in the shared location, one for each additional OMS:</p> <pre data-bbox="773 1020 1154 1045">\$ echo "test" > <oms name>.test</pre> <p>For example,</p> <pre data-bbox="773 1102 1081 1127">\$ echo "test" > oms1.test</pre> <p>On the additional OMS host, verify that the above file is visible in the shared location and can be read and deleted:</p> <pre data-bbox="773 1234 1032 1293">\$ cat <oms name>.test \$ rm <oms name>.test</pre> <p>For example,</p> <pre data-bbox="773 1350 959 1409">\$ cat oms1.test \$ rm oms1.test</pre> 	

Table 3–2 (Cont.) Prerequisites for Adding an Additional Oracle Management Service

Requirement	Description	Yes/No
JDK Requirements	<p>Ensure that you have the following version of JDK installed on the host where you are planning to install Enterprise Manager Grid control.</p> <ul style="list-style-type: none"> ■ Linux Platform (64 Bit): SUN JDK 1.6_18+ (On Linux 32-bit platforms, you need not install JDK because it is packaged by default with Oracle WebLogic Server) ■ Solaris Platform: SUN JDK 1.6_18 ■ HP-UX Platform: JDK 6.0.05+ ■ AIX Platform: JDK 1.6.0 SR6 ■ Microsoft Windows Platform (64 Bit): SUN JDK 1.6_18 <p>Download the JDK version for your platform from the platform vendor's Web site. For example, download SUN JDK 1.6_18+ for Linux platforms from Oracle Web site. Similarly, download the JDK for other platforms from other vendors' trusted Web sites.</p> <p>You can also refer to <i>My Oracle Support</i> note 1063587.1 for an example on installing JDK 1.6_18 on Linux x86_64 platform.</p> <p>If you already have a JDK installed, then verify its version by navigating to the <jdk>/bin directory and running the following command. The output of this query should give you the complete version number.</p> <pre>java -fullversion</pre> <p>Note: JROCKIT is not supported.</p>	
Oracle WebLogic Server Requirements	<ul style="list-style-type: none"> ■ Ensure that Oracle WebLogic Server 10.3.2 (<i>Oracle Fusion Middleware 11g Release 1 Patch Set 1</i>) is already installed on the host where you plan to install Enterprise Manager Grid Control. ■ Ensure that the installation was a <i>typical</i> installation, and even if it was a <i>custom</i> installation, ensure that components chosen for <i>custom</i> installation were the same as the ones associated with a <i>typical</i> installation. ■ Ensure that the installation was under the Middleware Home directory. For example, /scratch/aime/Oracle/Middleware1/wlserver_10.3. ■ Ensure that no other Oracle Fusion Middleware products or components are installed in the Middleware Home directory where Oracle WebLogic Server 10.3.2 is installed. <p>Enterprise Manager Grid Control will create a new domain in this Oracle WebLogic Server, and not use any of the existing domains.</p> <p>For information on installing Oracle WebLogic Server, see <i>My Oracle Support</i> note 1063762.1. For more information, downloads, demos, access the following URL:</p> <p>http://www.oracle.com/technology/products/weblogic/index.html</p>	

Table 3–2 (Cont.) Prerequisites for Adding an Additional Oracle Management Service

Requirement	Description	Yes/No
Oracle WebLogic Server Patch Requirements	<p>Ensure that you apply patch ID <code>WDJ7</code> on Oracle WebLogic Server using the Oracle Smart Update utility. This patch fixes bugs 8990616, 9100465, and 9221722.</p> <p>For information on applying this patch, see <i>My Oracle Support</i> note 1072763.1.</p> <p>For information on Oracle Smart Update utility, see <i>Oracle Smart Update Installing Patches and Maintenance Packs</i> documentation available at:</p> <p>http://www.oracle.com/technology/products/weblogic/index.html</p>	
Existing Database Version Requirements	<p>Ensure that the existing, certified Oracle Database is one of the databases listed in <i>My Oracle Support</i> note 412431.1. The database can reside either on the host where you are installing the product or on a remote host.</p>	
Existing Database Configuration Requirements	<p>Ensure that Oracle Management Repository 11g Release 1 is already configured in your existing, certified Oracle Database.</p>	
Existing Database and Listener Status Requirements	<p>Ensure that your existing, certified Oracle Database and the listener are running.</p>	
Installing User Requirements	<p>Ensure that you meet the following requirements:</p> <ul style="list-style-type: none"> ■ (For UNIX only) The installation must NOT be run by a <i>root</i> 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. <p>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.</p>	
Permission Requirements	<p>Ensure that you are able to access and write in the following locations:</p> <ul style="list-style-type: none"> ■ Oracle Middleware Home location ■ Oracle Management Service Instance Base location ■ Oracle Inventory Directory <p>For more information about these locations, see the <i>Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide</i> available at:</p> <p>http://www.oracle.com/technology/documentation/oeem.html</p> <p>Ensure that you have <i>write</i> permission on the temporary directory where the executables will be copied. For example, <code>/tmp</code> or <code>c:\Temp</code>.</p>	

Table 3–2 (Cont.) Prerequisites for Adding an Additional Oracle Management Service

Requirement	Description	Yes/No
Oracle Inventory Location Requirements	Ensure that the Oracle Inventory (<code>oraInventory</code>) is not in a shared location. When you use the <code>oraInst.loc</code> 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.	
Host File Requirements	<p>Ensure that the host names and the IP addresses are properly configured in the <code>/etc/hosts</code> file.</p> <p>For example, for installing a Management Agent on a host, ensure that the host name specified in the <code>/etc/hosts</code> 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.</p> <p>The recommended format of the <code>/etc/hosts</code> file is <code><ip> <fully_qualified_host_name> <short_host_name></code>.</p> <p>For example,</p> <pre>141.81.5.71 host1.foo.com host1</pre> <p>IPv6 entries are supported in the file for fresh installations of 11g Release 1 (11.1). However, they are not supported for upgrade from 10g Release 4 (10.2.0.4) or higher to 11g Release 1 (11.1).</p> <p>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.</p> <p>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.</p> <p>For example, all these commands must return the same output:</p> <pre>nslookup host1 nslookup host1.foo.com nslookup 141.81.5.71</pre>	
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	<p>If you have a firewall in your environment, then see the chapter on configuring Enterprise Manager for firewalls in the <i>Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide</i> available at:</p> <p>http://www.oracle.com/technology/documentation/odem.html</p>	
Internet Connection Requirements	Oracle recommends that the host from where you are running the installation wizard have a connection to the Internet so that the configuration information can be automatically collected and uploaded to <i>My Oracle Support</i> .	

3.4 Installation Procedure

To add an additional OMS, follow these steps:

1. Invoke the installer by running the following command:

```
<Software_Location>/runInstaller
```

In this command, <Software_Location> is either <DVD> or <Software_Downloaded_Location>.

Note:

- For Microsoft Windows operating systems, run `setup.exe` instead of `runInstaller`.
- In Microsoft Windows, if the path to the software download location contains a subdirectory name with two or more words and a space between each of the words, then ensure that the parent directory of such a subdirectory does not contain a file whose name matches with the first word of that subdirectory.

For example, if the software is downloaded to `C:\Documents and Settings`, then before you invoke `setup.exe`, ensure that there are no files titled `Documents` (for example, shortcut files such as `C:\Documents`) in the `C:\` drive.

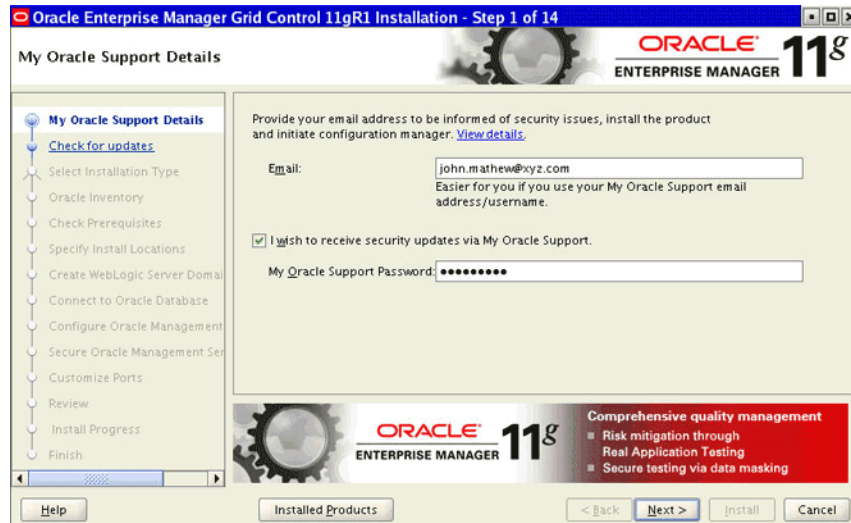
- After the installation ends successfully, the OMS and the Management Agent start automatically. If you do not want them to start automatically, then invoke the installer using the following command:

```
./runInstaller START_OMS=false b_startAgent=false
```

However, if you pass the `START_OMS=false` argument, the installation does not configure the EMCLI tool, and as a result, none of the EMCLI commands will work. Therefore, after the installation ends, you must manually configure the EMCLI tool in the `$(ORACLE_HOME)/bin` directory. To do so, refer to the *Oracle Enterprise Manager Command Line Interface* available at:

<http://www.oracle.com/technology/documentation/oem.html>

2. Specify My Oracle Support Details



(Optional) On the My Oracle Support Details screen, specify 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 specify 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*.

Note: For information about manually collecting the configuration information and uploading it to *My Oracle Support*, refer to the *Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide* available at:

<http://www.oracle.com/technology/documentation/oem.html>

3. Click **Next**.
4. Click **Check for Updates**



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

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 Grid Control console and view the recommended security patches. To do so, log in to Enterprise Manager Grid Control, and click **Preferences** from the top-right corner of the screen. On the General page, from the left menu bar, click **Preferred Credentials**. On the Preferred Credentials page, from the My Oracle Support Preferred Credentials section, click **Set Credentials**. On the My Oracle Support Preferred Credentials page, specify the credentials and click **Apply**.

- Select **Download and install updates from My Oracle Support** if you want the installer to connect to *My Oracle Support* and automatically download the updates from there. Specify the My Oracle Support account user name and password to connect to the site.

If a connection from your network to the Internet requires you to connect through a proxy, then select **Proxy Settings** and provide the proxy connection details. To test the connection, click **Test Connection**.

Note: After specifying the *My Oracle Support* details, when you click **Next**, the installation wizard connects to *My Oracle Support* and checks for new software updates. The installer displays the new software updates that are found. If you want to install them, click **Download Updates**. If you do not want to install them, click **Skip Updates**.

- (Recommended) Select **Install updates from a staging location** if the software updates are already downloaded and available in an accessible location. You can either specify the location or click **Browse** to search the host and select the

location. Ensure that the location you specify or select leads to the Updates directory where the software updates are available.

For example, if the software updates are available in
/scratch/OracleHomes/Updates, then specify
/scratch/OracleHomes/Updates.

Note: For more information about software updates, and how you can manually download them, see the *Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide* available at:

<http://www.oracle.com/technology/documentation/oem.html>

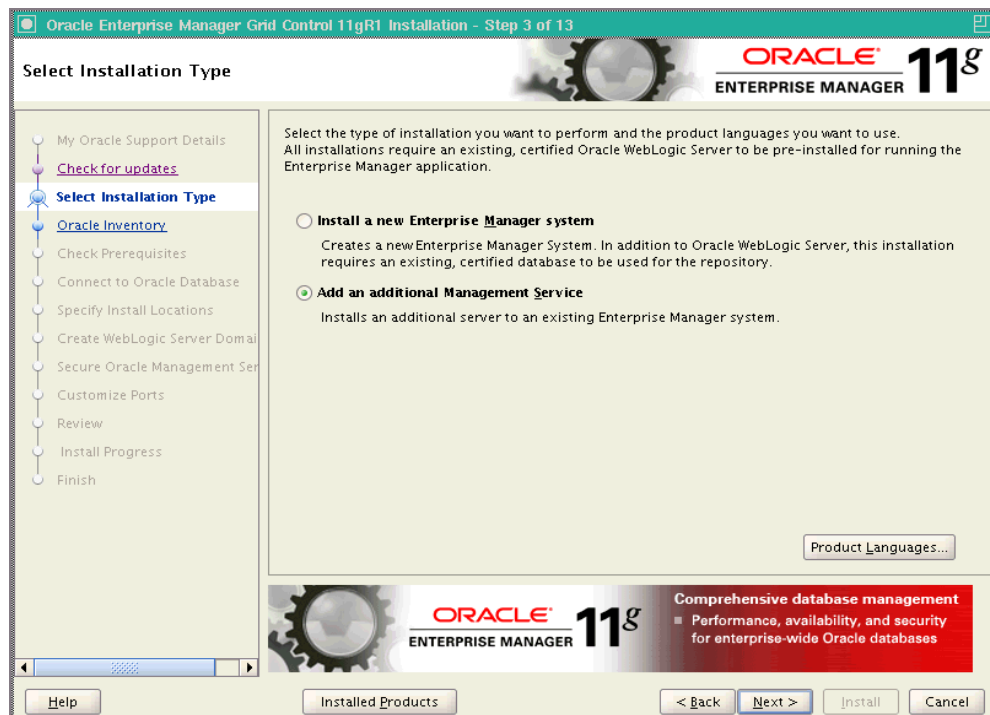
For information about the auto update feature and to know what patches are available in auto update, see *My Oracle Support* notes 1101208.1 and 1099123.1.

5. Click Next.

If you specified the *My Oracle Support* details in Step (4), the installer connects to *My Oracle Support* and checks for new software updates. The installer displays the new software updates that are found. If you want to install them, click **Download Updates**. If you do not want to install them, click **Skip Updates**.

Similarly, if any patches (including one-off patches) were found, then the installer displays the Product Updates screen. On the Product Updates screen, select **Apply Software Updates** and click **Next** if you want to apply all the patches. Otherwise, deselect that option and click **Next**.

6. Select Installation Type



On the Select Installation Type screen, select **Add an additional Management Service**.

7. Click Next.

If Enterprise Manager Grid 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 (8). Otherwise, the Check Prerequisites screen appears. For details, see step (10).

If Enterprise Manager Grid 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
```

8. Specify Inventory Details



On the Oracle Inventory screen, do the following:

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

Note: the central inventory location you specify 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

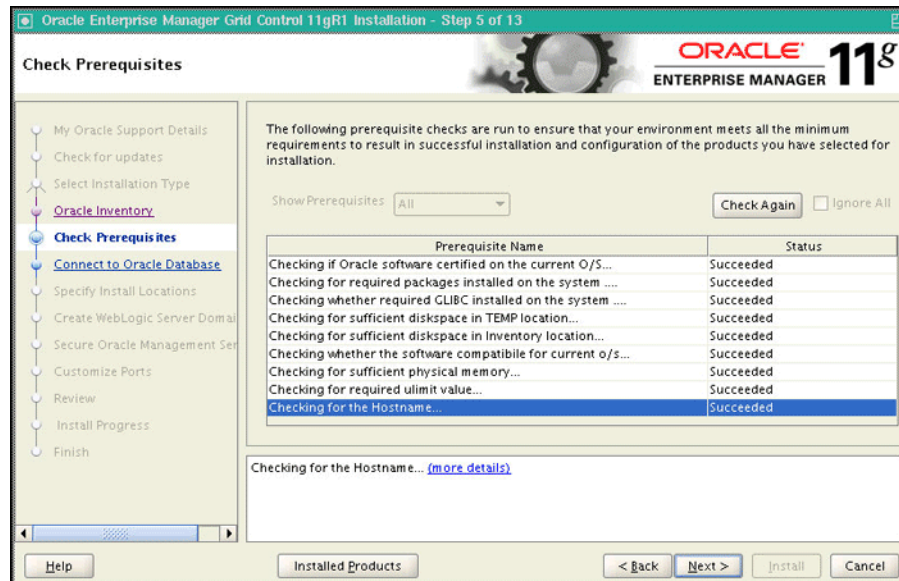
Note: If this is the first Oracle product on the host, then the default inventory location is `/home/<user_name>/oraInventory`. However, if you already have some Oracle products on the host, then the inventory location can be found in the `oraInst.loc` file. The `oraInst.loc` file is located in the `/etc` 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.

Note: You will see this screen only if this turns out to be your first ever installation of an Oracle product on the host.

9. Click **Next**.

10. **Check for Prerequisites**



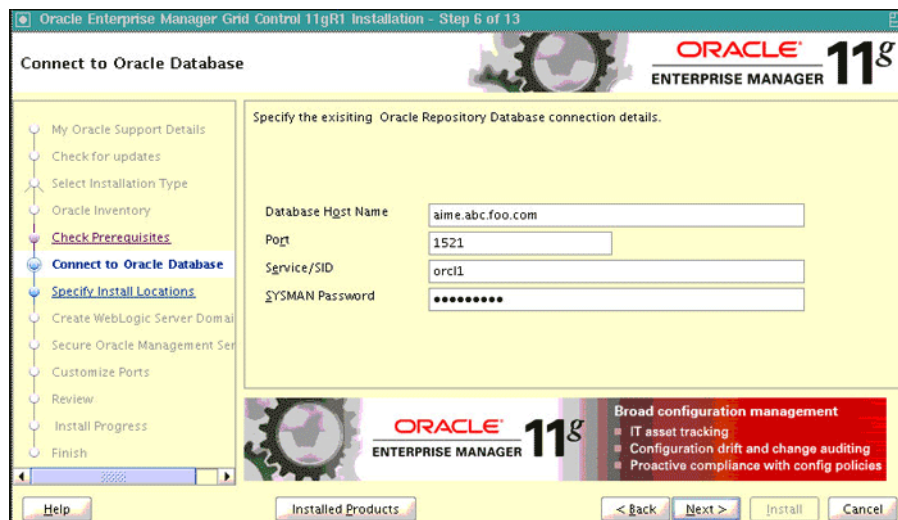
On the Check Prerequisites screen, check the status of the prerequisite checks run by the installation wizard is shown.

The prerequisite checks can result in either **Warning**, **Failed**, or **Succeeded** status. If all the prerequisite checks succeed, then click **Next** to proceed to the next screen. However, if some checks result in **Warning** or **Failed** status, then do the following:

- For the prerequisite checks with **Failed** status and **Warning** status, investigate and correct the problems before you proceed with the installation. You can also update the prerequisites with the latest software updates, if they have been released by Oracle, and rerun them. To understand how you can manually download the software updates to update the prerequisites, see Step (4).
- After you correct the problems in your environment, you can return to this screen and click **Check Again** to check the prerequisites once again.
- If you prefer to ignore all these checks and proceed, then select **Ignore All**. However, ignoring the prerequisite checks with **Failed** status and **Warning** status might result in an unsuccessful installation, and therefore, Oracle recommends you to correct the problem and then proceed only after all the checks succeed.

11. Click **Next**.

12. **Connect to Oracle Database**

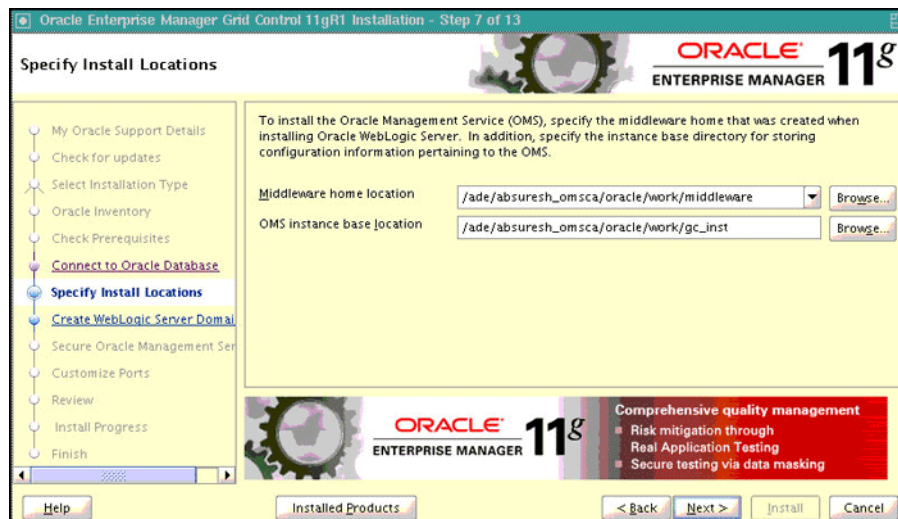


On the Connect to Oracle Database screen, specify the fully-qualified name of the host where the existing database resides, the database's listener port and its system ID (SID), and the SYSMAN user account's password.

The installer uses this information to connect to the existing, certified Oracle Database where the Management Repository can be configured.

13. Click Next.

14. Specify Installation Locations



On the Specify Install Locations screen, provide the information required for installing the core components of Enterprise Manager Grid Control and storing the configuration files.

- For **Oracle Middleware Home Location**, validate and accept the default middleware location, or select or specify another middleware location, which is present on the host where you are installing the product.

Ensure that the middleware location has *write* permission to create the Oracle home for OMS and the Oracle home for Management Agent. For example, if you accept the default location `/u01/app/Oracle/Middleware`, then the Oracle

home for OMS is created as `/u01/app/Oracle/Middleware/oms11g`, and the Oracle home for Management Agent is created as `/u01/app/Oracle/Middleware/agent11g`.

Note: Ensure that the Middleware Home you accept, select, or specify here is used only for Oracle Management Service. Ensure that no other Oracle Fusion Middleware products or components are installed in the same Middleware Home that is designated for Oracle Management Service.

- For **OMS Instance Base Location**, validate and accept the default instance base location, or specify another instance base location, which is present on the host where you installing the product and has *write* permission to store the configuration files of OMS.

By default, the instance base is under the parent directory of the Oracle Middleware Home. And, by default, the instance home name is `gc_inst`. You can, however, edit this and specify a custom name.

For example, if the Oracle Middleware Home is `/u01/app/Oracle/Middleware` and if you choose to retain the default instance home name, then the instance home location is `/u01/app/Oracle/gc_inst`.

If the parent directory of the Oracle Middleware Home does not have *write* permission, then the instance base is created in the Oracle Middleware Home itself.

Note: For information about Oracle Middleware Home and OMS Instance Base Location, see the *Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide* available at:

<http://www.oracle.com/technology/documentation/oem.html>

15. Click Next.

16. Create WebLogic Server Domain

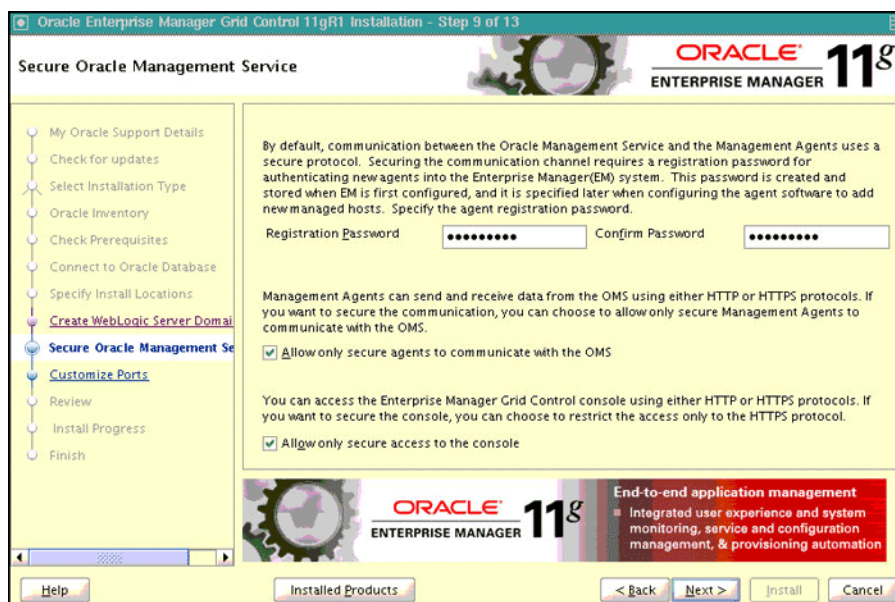


On the Create WebLogic Server Domain screen, specify the Admin Server Host Name, the Admin Server Port, and the WebLogic credentials. The Admin Server is the server that was created when you installed the first Oracle Management Service 11g Release 1.

The installation wizard displays default values for these fields. You can either accept it or change it with custom values.

17. Click **Next**.

18. Secure Oracle Management Service



On the Secure Oracle Management Service screen, do the following:

- a. For **Registration Password**, specify a password that can be used for authenticating new Management Agents that join the Enterprise Manager Grid Control system, and for permitting only secure Management Agents to communicate with the OMS, which is in locked state, via HTTPS protocol.
- b. Select **Allow only secure agents to communicate with the OMS** if you want to further enhance the security of communication between the OMS and the Management Agents.

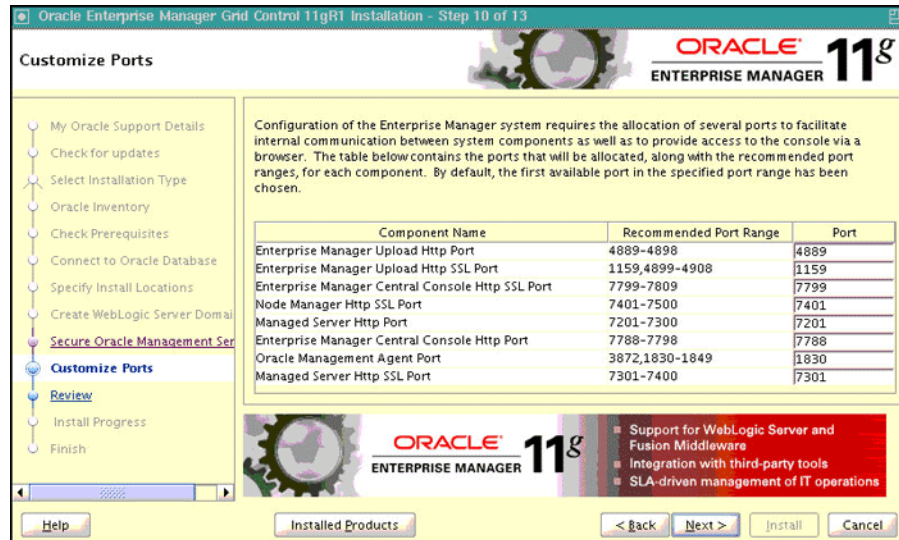
OMS always runs in a secure mode, and can further have a *locked* or an *unlocked* state. In an unlocked state, the Management Agents that are secure and the Management Agents that are not unsecure communicate with the OMS using HTTP and HTTPS protocols, respectively. However, in a locked state, only secure Management Agents communicate with the OMS using HTTPS protocol.

Select this option to turn the OMS to a locked state.

- c. Select **Allow only secure access to the console** if you want to secure the access and allow users to access the Enterprise Manager Grid Control console only using HTTPS protocol.

19. Click **Next**.

20. Customize Ports



On the Customize Ports screen, customize the ports to be used for various components, and click **Next**.

If `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.

Note: For information about the default ports that are assigned and the possibility of using custom ports instead of default ports, see the *Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide* available at:

<http://www.oracle.com/technology/documentation/oem.html>

You can choose to retain the default port or customize it. To customize the ports, edit the port value in the **Port** column of the table, and specify a free custom port as recommended in the **Recommended Port Range** column.

21. Click **Next**.
22. **Review**



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. Once the software binaries are copied, 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 Configuration Assistants screen as described in Step (24).
24. On the Configuration Assistants screen, you should see the Configuration Assistants run for this installation type. If you see any failed Configuration Assistants and if you want to rerun them, then select the failed ones and click **Retry**. If you prefer to rerun them later in standalone mode, then click **Cancel** to exit the installer.

Note: If the Configuration Assistants fail, then review the relevant log files, resolve the issues, and rerun the Configuration Assistants as described in the *Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide* available at:

<http://www.oracle.com/technology/documentation/oem.html>

You can also refer to the *Master Note for Enterprise Manager Grid Control Installation and Upgrade* available in the same location. Once you access the URL, click the **Release Notes** tab, and from the Master Support Notes section, click **HTML**.

25. On the End of Installation screen, you should see information pertaining to the installation of an additional OMS. 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 Oracle home of the OMS:

```
<ORACLE_HOME>/install/setupinfo.txt
```

3.5 After You Install

After you install, do the following:

1. Verify the installation:
 - a. Navigate to the Oracle home of the OMS and run the following command to see a message that confirms that OMS is up and running.


```
<ORACLE_HOME>/bin/emctl status oms
```
 - b. Navigate to the Oracle home of the Management Agent and run the following command to see a message that confirms that the Management Agent is up and running.


```
<ORACLE_HOME>/bin/emctl status agent
```
 - c. Navigate to the Oracle home of the Management Agent and run the following command to see a message that confirms that EMD upload completed successfully.


```
<ORACLE_HOME>/bin/emctl upload
```

Note: By default, you can access Enterprise Manager Grid Control only using the HTTPS protocol. If you want to use the HTTP protocol, then unlock it by running the following command from the Oracle home of the OMS:

```
emctl secure unlock -console
```

2. To use a secure protocol (HTTPS) to connect to the Enterprise Manager Administration Server, do the following:
 - a. Specify additional SSL arguments in the environment. To do so, set `JAVA_OPTIONS` to append the appropriate SSL arguments to use before invoking the `ocmrepeaterctl` script.

For information about these JAVA options, access these URLs:

http://download.oracle.com/docs/cd/E12840_01/wls/docs103/client/security.html#wp1077561

http://download-llnw.oracle.com/docs/cd/E12840_01/wls/docs103/config_scripting/using_WLST.html#wp1093943

Depending on whether a Demo or a Custom Trust certificate is used by the SSL realm, the SSL arguments will include the following:

```
[
  [
    <
      -Dweblogic.security.TrustKeyStore=DemoTrust
    [ -Dweblogic.security.JavaStandardTrustKeystorePassPhrase=password ]
  ]
]
```

```

>
|
<
    -Dweblogic.security.CustomTrustKeyStoreFileName=filename
    -Dweblogic.security.TrustKeystoreType=CustomTrust
    [ -Dweblogic.security.CustomTrustKeystorePassPhrase=password ]
>
]
[
< -Dweblogic.security.SSL.hostnameVerifier=classname >
|
< -Dweblogic.security.SSL.ignoreHostnameVerification=true >
]
]

```

- b. Ensure that HTTP tunneling is enabled in the Administration Server. To verify this, log in to Oracle WebLogic Server Administration Console, and do the following:
 - (i) From the **Domain Structure** panel on the left side of the Home page, expand **Environment** and click **Servers**.
 - (ii) On the Summary of Servers page, from the Servers table, click the Admin Server.
 - (iii) On the Settings for <Admin_Server> page, click the **Protocols** tab, and then click the **HTTP** subtab.
 - (iv) On the HTTP page, select **Enable Tunneling**, and click **Save**.
3. Refresh the Oracle WebLogic Server Domain, which hosts the Enterprise Manager application, so that the configuration changes made to the domain as a result of adding an additional OMS are reflected in the Grid Control console. To refresh the Oracle WebLogic Server Domain, follow these steps:
 - a. In Enterprise Manager Grid Control, navigate to the Home page for the Oracle WebLogic Server Domain that hosts the Enterprise Manager application. In most cases, the following is the direct URL to the Home page. If your domain name is not GCDomain, then replace that string with your domain name:


```
[protocol]://[host]:[port]/em/faces/as/as/domainHome?target=/secFarm_GCDomain/GCDomain&type=weblogic_domain
```
 - b. From the WebLogic Domain menu, click **Refresh WebLogic Domain**.
 - c. On the Refresh WebLogic Domain page, click **Continue**.

Note: This submits a WebLogic Domain Refresh job, which captures the domain configuration changes and reflects them in the Enterprise Manager Grid Control console. The job repeats itself once a day, and therefore, if you add any more additional OMSes or remove OMSes from your Enterprise Manager system in the future, this job automatically captures the configuration changes to the Oracle WebLogic Server Domain. You do NOT have to repeat this procedure every time you add an additional OMS.

4. Configure the Oracle Database and Oracle Automatic Storage Management (Oracle ASM) target for monitoring as described in [Appendix G, "Configuring Database and ASM Targets for Monitoring"](#).

5. Configure your proxy server as described in [Appendix H, "Setting Up Proxy Configuration for Oracle Management Service"](#).
6. For accessing the Enterprise Manager Grid Control console, ensure that you use only certified browsers as mentioned in *My Oracle Support* note 412431.1.
7. To view details related to the Management Repository, run the following command, as `emoms.properties` file is no longer supported.

```
emctl config oms -list_repos_details
```

8. (Optional) If you want to connect to another 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
myreposhost.mydomain.com -repos_port 12345 -repos_sid mydb
-repos_conndesc
' "(DESCRIPTION=(ADDRESS=(PROTOCOL=TCP) (HOST=myreposhost.mydo
main.com) (PORT=12345)) (CONNECT_DATA=(SID=mydb))) "' -repos_
user sysman
```

For example, on Microsoft Windows:

```
emctl config oms -store_repos_details -repos_host
myreposhost.mydomain.com -repos_port 12345 -repos_sid mydb
-repos_conndesc
(DESCRIPTION=(ADDRESS=(PROTOCOL=TCP) (HOST=myreposhost.mydoma
in.com) (PORT=12345)) (CONNECT_DATA=(SID=mydb))) -repos_user
sysman
```

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

```
emctl config oms -change_repos_pwd
```

10. (Optional) If you want to discover the newly installed targets, if you want to convert the standalone Management Agent to a cluster-based Management Agent, if you want to discover the targets on the new nodes of the cluster, or if you want to reconfigure the cluster-based Management Agent, you must run the `agentca` script to reconfigure and discover all new targets. For information about the `agentca` script and to know how you can reconfigure the Management Agent and discover all new targets, see *Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide* available at:

<http://www.oracle.com/technology/documentation/oem.html>

11. (Optional) If you want to enable the *Request Monitoring* feature for tracing transaction requests in WLS, you need JVM Diagnostics as well as Application Dependency and Performance (ADP) managers and agents configured against the target to be monitored.

For information about installing JVM Diagnostics and enabling the *Request Monitoring* feature, refer to the *Oracle Enterprise Manager Administration Guide*.

For information about enabling the ADP feature in Enterprise Manager Grid Control, refer to the *Oracle Enterprise Manager Getting Started with Management Pack Plus for SOA*.

Both these guides are available at:

<http://www.oracle.com/technology/documentation/oem.html>

Installing Oracle Management Agent Using Agent Deployment Wizard

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

- [Overview](#)
- [Before You Begin](#)
- [Prerequisites](#)
- [Installation Procedure](#)
- [After You Install](#)

Note: This installation method is not supported on Solaris Express 5.11 x86-64 and Solaris SPARC Express 5.11 (64 bit). To install Oracle Management Agent for the platforms Solaris Express 5.11 x86-64 and Solaris SPARC Express 5.11, follow the silent method mentioned in *Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide*.

Note: If you have a cluster-based environment, then Oracle strongly recommends you to install the Management Agent using the Agent Deployment Wizard as described in the *Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide* available at:

<http://www.oracle.com/technology/documentation/oem.html>

4.1 Overview

Agent Deployment Wizard, as the name suggests, is an application that enables you to install Management Agents. Agent Deployment Wizard is built into Enterprise Manager Grid Control, and it offers GUI-rich, interactive screens that guide you through the entire installation process.

Note: In Enterprise Manager 11g, you cannot install a Management Agent using the Oracle Universal Installer (OUI), which is the Enterprise Manager installation wizard.

Although the Agent Deployment Wizard can be used for installing one, single Management Agent, the wizard is best suited for installing multiple Management Agents, as a mass deployment, and is particularly useful when you want to perform remote installations across your organization.

The Agent Deployment Wizard gives you the flexibility to specify multiple hosts on which the Management Agent needs to be installed. This helps you when you want to install the Management Agent on several hosts, in one attempt.

The wizard connects to Oracle Management Service (OMS) where the Management Agent software is located and copies all the required files and scripts from there to the specified hosts, and then runs them to install a Management Agent.

The connectivity between OMS and the specified hosts is established using SSH protocol. For Linux operating systems, it is assumed that SSH daemon runs on the destination hosts by default. However, for Microsoft Windows operating systems, in order to facilitate communication on SSH protocol, you have to install the Cygwin suite. For information about installing Cygwin suite, see [Appendix D, "Setting Up SSH Connectivity"](#).

4.2 Before You Begin

Before you begin, keep these points in mind:

- If you want to view the status of an installation session that was previously run, then click **Agent Installation Status** on the Deployments page. However, **do not attempt to view the installation status until the installation is complete**. If you do, you will see an error.
- On Microsoft Windows, do not open the `agentpush.properties` file using Microsoft Word software. Open it using other text editors such as VIM or Notepad.
- For accessing the Enterprise Manager Grid Control console, ensure that you use only certified browsers as mentioned in *My Oracle Support* note 412431.1.
- Agent Deployment Wizard expects an SSH connectivity between Oracle Management Service (OMS) and the remote hosts where you want to install the Management Agents.
 - If there is no SSH connectivity between the OMS and the remote hosts, then the Agent Deployment Wizard automatically sets up the connectivity by generating keys in the `~/.ssh` directory. Once the deployment is complete, the Agent Deployment Wizard automatically drops the connectivity and removes keys.
 - If there is already an SSH connectivity between the OMS and the remote hosts, then the existing connectivity itself is used, and no keys are generated in the `~/.ssh` directory. Once the deployment is complete, the Agent Deployment Wizard does not drop the connectivity because the connectivity already existed and it was not created by the Agent Deployment Wizard.

4.3 Prerequisites

Before installing the Management Agent, ensure that you meet the following prerequisites.

If you want, you can print out this section and write 'Yes' or 'No' against each prerequisite. This will help you to track the prerequisites you have met and the prerequisites you have not met.

Table 4–1 Prerequisites for Installing Oracle Management Agent Using Agent Deployment Wizard

Requirement	Description	Yes/No
Hardware Requirements	Ensure that you meet the hard disk space and physical memory requirements as described in Appendix A, "Meeting Hardware Requirements" .	
Operating System Requirements	<p>Ensure that you install the Management Agent only on certified operating systems as mentioned in the Enterprise Manager Certification Matrix available on <i>My Oracle Support</i>.</p> <p>To access this matrix, follow these steps:</p> <ol style="list-style-type: none"> 1. Log in to <i>My Oracle Support</i>, and click the Certifications tab. 2. On the Certifications page, in the Certification Search region, from the Product list, select Enterprise Manager Base Platform - Agent. 3. From the Release list, select 11.1.0.1.0, and click Search. 	
Package Requirements	Ensure that you install all the operating system-specific packages as described in Appendix B, "Meeting Package, Kernel Parameter, and Library Requirements" .	
User and Operating System Group Requirement	<p>Ensure that the destination host where you want to install the Management Agent has the appropriate users and operating system groups created.</p> <p>For information about creating operating system groups and users, see Appendix C, "Creating Operating System Groups and Users Requirements".</p>	
Temporary Directory Space Requirements	Ensure that you allocate 400 MB of space for a temporary directory where the executables can be copied. For example, <code>/tmp</code> on UNIX hosts and <code>c:\Temp</code> on Microsoft Windows hosts.	
Central Inventory Requirements	<p>Ensure that you allocate 100 MB of space for the central inventory directory.</p> <p>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 <i>My Oracle Support</i> note 1092645.1</p>	
Installation Base Directory Requirements	Ensure that the installation base directory you specify is empty and has <i>write</i> permission.	
Software Availability Requirements	<p>If you want to install Oracle Management Agent 10g, then ensure that you download that Management Agent software.</p> <p>If you want to install Oracle Management Agent 11g Release 1 for an operating system that is different from the one on which the Oracle Management Service 11g Release 1 is running, then ensure that you download the Management Agent software for that operating system.</p>	

Table 4–1 (Cont.) Prerequisites for Installing Oracle Management Agent Using Agent Deployment Wizard

Requirement	Description	Yes/No
Accessibility Requirements	If there are multiple OMSes in your environment and if you have staged the Management Agent software in a non-default location (not on the OMS host), then ensure that the non-default location is accessible by all the OMSes.	
Path Validation Requirements	Validate the path to all command locations. For more information, see Appendix E, "Validating Command Locations" .	
Host File Requirements	<p>Ensure that the host names and the IP addresses are properly configured in the <code>/etc/hosts</code> file.</p> <p>For example, for installing a Management Agent on a host, ensure that the host name specified in the <code>/etc/hosts</code> 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.</p> <p>The recommended format of the <code>/etc/hosts</code> file is <code><ip> <fully_qualified_host_name> <short_host_name></code>.</p> <p>For example,</p> <pre>141.81.5.71 host1.foo.com host1</pre> <p>IPv6 entries are supported in the file for fresh installations of 11g Release 1 (11.1). However, they are not supported for upgrade from 10g Release 4 (10.2.0.4) or higher to 11g Release 1 (11.1).</p> <p>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.</p> <p>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.</p> <p>For example, all these commands must return the same output:</p> <pre>nslookup host1 nslookup host1.foo.com nslookup 141.81.5.71</pre>	
<code>/etc/hosts</code> File Requirements	<p>If the destination host and the host on which OMS is running belong to different network domains, then ensure that you update the <code>/etc/hosts</code> 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.</p> <p>For example, if the fully-qualified host name is <code>mypc.cn.company.com</code> and the short name is <code>mypc</code>, then add the following line in the <code>/etc/hosts</code> file:</p> <pre>12.123.123.12 mypc.cn.company.com mypc</pre>	

Table 4–1 (Cont.) Prerequisites for Installing Oracle Management Agent Using Agent Deployment Wizard

Requirement	Description	Yes/No
Preinstallation/Postinstallation Scripts Requirements	Ensure that the preinstallation and postinstallation scripts that you want to run along with the installation are available on all the destination hosts.	
Installing User Requirements	<p>If the central inventory owner and the user installing the Management Agent are different, then ensure that they are part of the same group.</p> <p>Also ensure that the inventory owner and the group to which the owner belongs have <i>read</i> and <i>write</i> permissions on the inventory directory.</p> <p>For example, if the inventory owner is <i>abc</i> and user installing the Management Agent is <i>xyz</i>, then ensure that <i>abc</i> and <i>xyz</i> belong to the same group, and they have read and write access to the inventory.</p>	
Permission Requirements	<ul style="list-style-type: none"> ■ Ensure that you have <i>read</i>, <i>write</i>, and <i>execute</i> permissions on <code>oraInventory</code> on all remote hosts. If you do not have these permissions on the default inventory (typically at <code>/etc/oraInst.loc</code>) on any remote host, then you can specify the path to an alternative inventory location by using one of the following options in the Additional Parameters section of the Agent Deployment Wizard: <ul style="list-style-type: none"> On the Installation Details page, if you select Default, from Management Server location, which means the software is on the OMS host, then use the <code>-i <location></code> option. On the Installation Details page, if you select Another Location, which means the software is in any other location other than the OMS host, then use the <code>-invPtrLoc</code> option. ■ Ensure that you have <i>write</i> permission on the Installation Base Directory. ■ Ensure that you have <i>write</i> permission on the Installation Base Directory and the temporary directory where the executables will be copied. For example, <code>/tmp</code> or <code>c:\Temp</code>. 	
Oracle Inventory Location Requirements	Ensure that the Oracle Inventory (<code>oraInventory</code>) is not in a shared location. When you use the <code>oraInst.loc</code> 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.	

Table 4–1 (Cont.) Prerequisites for Installing Oracle Management Agent Using Agent Deployment Wizard

Requirement	Description	Yes/No
SUDO Privilege Requirement	<p>Ensure that you have SUDO privileges to run <code>root.sh</code> and <code>/bin/sh</code> (UNIX operating systems only). The Agent Deployment Wizard uses SUDO to run the <code>root.sh</code> script. You must specify the invoking user's password here.</p> <p>To verify whether you have SUDO privileges to run these files, access the <code>/etc/sudoers</code> file and check whether you have a similar entry as shown below. If you do not see a similar entry, then add one.</p> <pre><user> <host>=(ALL) NOPASSWD: <Agentpath>/root.sh, /bin/sh</pre> <p>If you do not have SUDO privileges and if you do NOT want to run <code>root.sh</code> and <code>/bin/sh</code> yourself at the time of installation, then request your Administrator who has SUDO privileges to manually run the scripts after the installation ends. To understand how and where the scripts need to be run from, see Section 4.5, "After You Install".</p>	
SUDOERS File Configuration Requirements	<p>Ensure that you configure <code>/etc/sudoers</code> file so that while running a command using SUDO, you are always prompted for a password.</p> <p>If <code>/etc/sudoers</code> file is configured in such a way that SUDO never prompts for a password, then a directory with the host password as the title gets created in the invoking users home directory.</p>	
Default SSH Port Requirements	<p>Ensure that the SSH daemon is running on the default port (that is, 22) on all the destination hosts.</p> <p>If the port is a non-default port, that is, any port other than 22, then update the <code>SSH_PORT</code> property in the following file that is present in the OMS Instance Base:</p> <pre><INSTANCE_ HOME>/sysman/prov/resources/Paths.properties</pre>	
PubkeyAuthentication Parameter Requirements	<p>Ensure that the <code>PubkeyAuthentication</code> parameter is enabled in the <code>sshd_config</code> file.</p> <p>To verify the value of this parameter, run the following command:</p> <pre>grep PubkeyAuthentication <SSH_Install_ Location>/sshd_config</pre> <p>For example,</p> <pre>grep PubkeyAuthentication /etc/ssh/sshd_config</pre> <p>The result of this command must be <i>Yes</i>. If the result is <i>No</i>, then edit the <code>sshd_config</code> file, set the <code>PubkeyAuthentication</code> value to <i>Yes</i>, and restart the SSH daemon.</p>	

Table 4–1 (Cont.) Prerequisites for Installing Oracle Management Agent Using Agent Deployment Wizard

Requirement	Description	Yes/No
PATH Environment Variable Requirements	<p>On the host where OMS is running and on the host where you want to install the Management Agent, ensure the following:</p> <ul style="list-style-type: none"> ■ (For Microsoft Windows) Ensure that the cygwin software location appears before other software locations in the <code>PATH</code> environment variable. After making it the first entry, restart the SSH daemon (<code>sshd</code>) on both the hosts. ■ (For UNIX) Ensure that the SCP binaries (for example, <code>/usr/local/bin/scp</code>) are in the <code>PATH</code> environment variable. 	
SSH Setup Requirements (For Microsoft Windows)	<p>(For Microsoft Windows) If you are installing the Management Agent on a Microsoft Windows-based operating system, then ensure that you set up the SSH connectivity between the host running OMS and the host where the Management Agent needs to be installed, as described in Appendix D, "Setting Up SSH Connectivity".</p>	
Agent User Account Permissions and Rights (For Microsoft Windows)	<p>(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:</p> <ul style="list-style-type: none"> ■ Act as part of the operating system. ■ Increase quotas. ■ Replace process level token. ■ Log in as a batch job. <p>To verify whether the agent user has these rights, follow these steps:</p> <ol style="list-style-type: none"> 1. Launch the Local Security Settings. <ul style="list-style-type: none"> 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 <code>cmd.exe</code> (For Microsoft Windows)	<p>(For Microsoft Windows) If you are installing the Management Agent on a Microsoft Windows-based operating system, then ensure that you grant the <code>Cmd.exe</code> program <i>Read</i> and <i>Execute</i> permissions for the user account that the batch job runs under. This is a restriction from Microsoft.</p> <p>For more information on this restriction and to understand how you can grant these permissions, access the following URL to Microsoft Web site:</p> <p>http://support.microsoft.com/kb/867466/en-us</p>	

4.4 Installation Procedure

To install a Management Agent, follow these steps:

1. In Grid Control, click **Deployments**.
2. On the Deployments page, from the Agent Installation section, click **Install Agent**.
3. On the following page, click **Fresh Install**.
4. On the Installation Details page, in the Source Software section, do the following:

Source Software

Source Shiphome Directory Default, from Management Server location.
The staged software should be available at <OMS_HOME>/sysman/agent_download/<version>/<platform>

Another Location
 Staged Location

Choose this option only if you want to install agent using the source software staged in a different location than the OMS. Also ensure that this path is accessible by all the remote hosts. This should be the full path of the products.xml of the source software. Example: /net/host1 /shiphomes/linux/agent/stage/products.xml

- a. Select **Default, from Management Server location** if the Management Agent software is available in the default directory that exists within the OMS.
 For example, <OMS_HOME>/sysman/agent_download/<version>/<platform>
 - b. Select **Another Location** if the Management Agent software is available in a non-default or custom location. Specify the full path to that location, and ensure that the path you specify leads up to the `product.xml` file. Also ensure that this location (shared or non-shared) is accessible from all the remote hosts and you have *read* permission on it.
 For example,
 /shared/products/shiphomes/linux/agent/stage/products.xml.
5. In the Version section, select the version of the Management Agent that you want to install. The values available in this list depend on the software staged on the OMS host.

Version

Select the agent source software version.

Version This list is determined by the staged software available on Management Server.

6. In the Hosts section, do the following:
 - a. From the **Platform** list, select the operating system on which you want to install the Management Agent.

Hosts

The list of hosts, specified here, should be separated by comma, spaces or newline. You can use either the Name, or IP Address to specify Hosts.

Platform This list is determined by the staged software available on Management Server.

- b. For **Provide Host List**, specify the host names or IP addresses of the hosts on which you want to install the Management Agent. You can use a comma (,) or a white space as a separator when specifying multiple hosts.

Alternatively, if you already have a list maintained in a file, then click **Get Host Names From File** and select that file. The recommended format of the `/etc/hosts` file is `<ip> <fully_qualified_host_name> <short_host_name>`.

For example,

```
141.81.5.71 host1.foo.com host1
```

- c. Select **Allow local hostname to override provided hostname** if the host names specified in **Provide Host List** are virtual host names and not physical host names.

For example, if a host name is `mypc.server.com` but the virtual name given to it is `host1`, then you can specify `host1` in the **Provide Host List** text box, but select this check box to indicate that the specified host name is a virtual host name. The application internally interprets the virtual host name specified and maps to its real, physical host name in the network.

7. In the OS Credentials section, do the following:

- a. Specify the appropriate operating system user credentials. The operating system credentials you specify here must be the same for all the selected hosts.
- b. Select **Run root.sh** (for UNIX) if you want the application to run this script. The script runs after the configuration assistants are run and before the postinstallation scripts (if any) are run.

To run this script, you must have SUDO privileges. If you do not have SUDO privileges and if you do NOT want to run the script yourself at the time of installation, then deselect this option now. After the installation ends, request your Administrator who has SUDO privileges to manually run the scripts as described in [Section 4.5, "After You Install"](#).

8. In the Destination section, specify the full path to the Installation Base Directory. This directory is created on all the specified hosts, and the Oracle home of the Management Agent is created as a subdirectory under this directory.

For information about installation base directory, see the *Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide* available at:

<http://www.oracle.com/technology/documentation/oem.html>

9. In the Port section, specify the port on which the Management Agent will communicate. The default port is 3872. Ensure that the port you specify is not busy, otherwise the prerequisite check fails.

Port	
Specify appropriate port for Agents	
Port	<input type="text" value="3872"/>
<small>If not specified, a free port will be selected within the default range [1830-1849].</small>	

If you are not sure, leave this field blank. The application automatically picks up the first available free port within the range of 1830 - 1849.

10. In the Load Balancer Host and Port section, specify the name of the host and port where the Server Load Balancer is set up so that communication between the Management Agent and the host running the Server Load Balancer can be enabled. This is required only if you are deploying the Management Agent in an environment that has multiple OMSes managed by a Server Load Balancer.

Load Balancer Host and Port	
<small>Load Balancer Host, Port parameters can be provided here. Please make sure that agent source software is available on all the Oracle Management Server for the platform and version selected.</small>	
Load Balancer Host	<input type="text" value="slbhost.xyz.com"/> <small>This is the Load Balancer host name; must be specified with Load Balancer port. Example: slbhost.mydomain.com.</small>
Load Balancer Port	<input type="text" value="80"/> <small>This port should be available over firewall, if any. Agent will use this port to start communication with Management Server over HTTP; it must be specified with Load Balancer host. Example: 80</small>

Note: If your Server Load Balancer is not functional for some reason, then you can optionally specify the host name and port of the OMS that is being managed by the Server Load Balancer. This is however not recommended, so use this option only if your Server Load Balancer has a problem.

11. In the Additional Parameters section, specify any additional parameters that you want to pass during installation.

Additional Parameters	
<small>Additional parameter to agent installation can be provided here.</small>	
Additional Parameters	<input type="text" value="-i /home/orainst.loc"/> <small>Example: -i /home/orainst.loc (to use a non-default oracle inventory location)</small>

The additional parameters you specify here depend on the software source location that you have selected in Step (4).

- If you selected **Default, from Management Server location**, then specify the additional parameters listed in [Table F-1](#).
- If you selected **Another Location**, then specify the additional parameters listed in [Table F-2](#).

Oracle recommends you to specify only those parameters that you want to run in addition to the general parameters you have already provided on this page for

installation. For example, in Step (8), you are specifying the installation base directory. Therefore, for **Additional Parameters**, try to avoid specifying the installation base directory again. If you still do so, then the value you specified in Step (8) will be ignored and the value you specified here will be used instead.

And note that if you are specifying more than one parameter, then separate them with a white space. For example, `-i /etc/oraInst.loc -p /home/config/staticports.ini`.

12. In the Management Server Security section, specify a password that can be used for authenticating new Management Agents that join the Enterprise Manager Grid Control system, and for permitting only secure Management Agents to communicate with the OMS, which is in locked state, via HTTPS protocol.

Management Server Security

If you want to secure communications to the Management Server, specify the registration password here, or get the approval of a super administrator to add new agents to Enterprise Manager after the installation is complete.

Management Server Registration Password

Confirm Password

Alternatively, after the installation is complete, the super administrator can approve the addition of new Management Agents to the Enterprise Manager Grid Control system.

Note: For security reasons, Oracle strongly recommends you to change the OMS password specified here After the installation is complete.

13. In the Additional Scripts section, do the following:
 - a. Specify any preinstallation and/or postinstallation scripts that you want to run. The preinstallation and/or postinstallation scripts that you specify must be available on all the hosts. These files are not copied onto the hosts from the software source location during installation.
 - b. Select **Run as Superuser** if you want to run these scripts as `root`.
14. Click **Continue**.
15. On the My Oracle Support Details page, do the following:
 - If the host where the Management Agent is being installed has a *direct* connection to the Internet, then specify an e-mail address and *My Oracle Support* password.
An e-mail address is required so that security updates and install updates can be sent. You can specify any e-mail address, but Oracle recommends you to specify the *My Oracle Support* user name. For example, `john.mathew@xyz.com`.
 - If the host where the Management Agent is being installed has an *indirect* connection to the Internet, that is, through a proxy server, then specify an e-mail address and *My Oracle Support* password, and then in the Connection Details section, specify the proxy server details.

Note: You can change the proxy server settings any time after the installation or patching process ends. To do so, run the `configCCR` command from the `ccr/bin` directory within the Oracle home of the Management Agent.

- If the host where the Management Agent is being installed does not have a *direct* or *indirect* connection to the Internet, then specify the e-mail address and leave the other fields blank.

In this case, after you complete the installation process, manually collect the configuration information and upload it to *My Oracle Support*.

Note: If you see any errors on this page, then check whether you (the user installing the Management Agent) have *write* permission on `crontab`. If you do not, then create an entry for your user account in the `cron.allow` file.

For information about Oracle Configuration Manager, see the *Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide* available at:

<http://www.oracle.com/technology/documentation/oem.html>

To understand how you can manually collect and upload configuration information, see the *Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide* available at:

<http://www.oracle.com/technology/documentation/oem.html>

16. Click **Continue**.

As part of this process, the Agent Deployment Wizard performs some prerequisite checks before proceeding with the installation. When all the prerequisite checks are complete, the wizard displays the results. You can choose to either retry the prerequisite check on all those failed hosts, or ignore the result and proceed to install the Management Agent.

Note: If you see the following error messages on the Prerequisite Details page, ignore them and click **Continue** to proceed with the installation:

```
Some or all Agent home locations(Install base dir/agent10g or
Install Base Dir/agent11g) provided are not empty directories
```

```
The Agent Oracle Home ( InstallBaseDir/agent10g or
InstallBaseDir/agent11g), is already registered with the inventory
```

```
An agent home exists in the hosts
```

Note: If the installation fails, then review the log files described in the *Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide* available at:

<http://www.oracle.com/technology/documentation/oem.html>

4.4.1 Manually Collecting and Uploading Configuration Information to My Oracle Support

To manually collect the configuration information, follow these steps:

1. On the host where the Management Agent is being installed, navigate to the following location. Here, `<ORACLE_HOME>` is the Oracle home of the Management Agent you installed:

```
$<ORACLE_HOME>/ccr/bin
```

2. Collect configuration information by running the following command:

```
$<ORACLE_HOME>/ccr/bin/emCCR collect
```

For Oracle Configuration Manager 10.2.7 and higher, the collected configuration information is stored in the `<ORACLE_HOME>/ccr/hosts/<hostname>/state/upload/ocmconfig.jar` file. For lower versions of Oracle Configuration Manager, the collected configuration information is stored in the `<ORACLE_HOME>/ccr/state/upload/ocmconfig.jar` file. When you run the same command next time, the `ocmconfig.jar` file gets overwritten with fresh data. Therefore, at any point, you will see only one `ocmconfig.jar` file.

3. Upload the `ocmconfig.jar` file to a Service Request on *My Oracle Support* at the following URL:

<http://metalink.oracle.com/>

4.5 After You Install

After you install the Management Agent, follow these steps:

1. Verify the installation:
 - a. Navigate to the Oracle home of the Management Agent and run the following command to see a message that confirms that the Management Agent is up and running:

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

Note: If the status of the Management Agent is down for some reason, then manually start the Management Agent by running the following command from its Oracle home:

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

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

```
$<ORACLE_HOME>/bin/emctl upload
```

Note: (For UNIX operating systems) Before running the `emctl` command to start the Management Agent, ensure that the environment variable `NLS_LANG` is set with a value that is compatible with the operating system default locale setting and the character set of the Oracle Database, which houses the Management Repository.

-
2. (Only for UNIX Operating Systems) If you had NOT selected **Run Root.sh** in the OS Credentials section of the Deployment Inputs page as described in Step (7), 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 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 Oracle home of the Management Agent.

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

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

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 `root.sh` script from the Oracle home of the Management Agent:

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

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 /scratch/OracleHomes//root.sh
```

-
-
3. If you have not secured the communications between the Management Agent and the OMS, then secure it by running the following command from the Oracle home of the Management Agent:

```
$<ORACLE_HOME>/bin/emctl secure agent
```

Note: Even after securing the Management Agent, some data might still be transferred over the network without being encrypted.

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4. (Optional) If you want to discover the newly installed targets, if you want to convert the standalone Management Agent to a cluster-based Management Agent, if you want to discover the targets on the new nodes of the cluster, or if you want to reconfigure the cluster-based Management Agent, you must run the `agentca` script to reconfigure and discover all new targets. For information about the `agentca` script and to know how you can reconfigure the Management Agent and discovering all new targets, see *Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide* available at:

<http://www.oracle.com/technology/documentation/oem.html>

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-
5. (Optional) If you want to enable the *Request Monitoring* feature for tracing transaction requests in WLS, you need JVM Diagnostics as well as Application Dependency and Performance (ADP) managers and agents configured against the target to be monitored.

For information about installing JVM Diagnostics and enabling the *Request Monitoring* feature, refer to the *Oracle Enterprise Manager Administration Guide*.

For information about enabling the ADP feature in Enterprise Manager Grid Control, refer to the *Oracle Enterprise Manager Getting Started with Management Pack Plus for SOA*.

Both these guides are available at:

<http://www.oracle.com/technology/documentation/oem.html>

Part II

Upgrade

This part describes how you can upgrade Enterprise Manager 10g Grid Control Release 4 (10.2.0.4) or higher to Enterprise Manager 11g Grid Control Release 1 (11.1.0.1.0), and how you can upgrade an additional Oracle Management Service 10g Release 4 (10.2.0.4.0) or higher to Oracle Management Service 11g Release 1 (11.1.0.1.0), in graphical mode.

In particular, this part has the following chapters:

- [Chapter 5, "Upgrading to Enterprise Manager 11g"](#)

Upgrading to Enterprise Manager 11g

With the option of deploying Enterprise Manager Grid Control across the enterprise and in any number of permutations, upgrading the entire environment becomes a very complex activity involving updating of software and configurations in different levels (tiers) located in different hosts. The Enterprise Manager Grid Control upgrade process aims at simplifying this entire operation and rendering it as seamless and error-free as possible.

This chapter describes how you can upgrade Enterprise Manager 10g Grid Control Release 4 (10.2.0.4) or higher to Enterprise Manager 11g Grid Control Release 1 (11.1.0.1.0), and how you can upgrade an additional Oracle Management Service 10g Release 4 (10.2.0.4.0) or higher to Oracle Management Service 11g Release 1 (11.1.0.1.0).

In particular, this chapter covers the following:

- [Overview](#)
- [Prerequisites](#)
- [Upgrade Procedure](#)
- [After You Upgrade](#)

Note: If Enterprise Manager 10g Grid Control Release 4 (10.2.0.4) or higher has add-ons installed, then do NOT follow the instructions outlined in this chapter. Instead, follow the instructions outlined for upgrading Enterprise Manager Grid Control with add-ons installed in the *Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide*.

And if you want to upgrade standalone Management Agents, then see the *Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide*.

The *Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide* is available at:

<http://www.oracle.com/technology/documentation/oem.html>

Note: If you have Enterprise Manager 10g Grid Control Release 1 (10.1) or Enterprise Manager 10g Grid Control Release 3 (10.2.0.3) or lower, then you must first upgrade or patch them to Enterprise Manager 10g Grid Control Release 4 (10.2.0.4) or higher, before upgrading them directly to Enterprise Manager 11g Grid Control Release 1 (11.1.0.1.0). For information about upgrading or patching them to Enterprise Manager 10g Grid Control Release 4 (10.2.0.4) or higher, see *My Oracle Support* note 1076420.1.

After upgrading or patching them to Enterprise Manager 10g Grid Control Release 4 (10.2.0.4) or higher, follow the instructions outlined in this chapter to upgrade them to Enterprise Manager 11g Grid Control Release 1 (11.1.0.1.0).

5.1 Overview

The third installation type, *Upgrade to Enterprise Manager 11g*, offered by the installer enables you to upgrade Enterprise Manager 10g Grid Control Release 4 (10.2.0.4) or higher to Enterprise Manager 11g Grid Control Release 1 (11.1.0.1.0), and enables you to upgrade an additional Oracle Management Service 10g Release 4 (10.2.0.4.0) or higher to Oracle Management Service 11g Release 1 (11.1.0.1.0). This is an out-of-place upgrade where the Oracle homes of the previous release are left intact and new Oracle homes for 11g Release 1 are created.

The upgrade process does the following:

- Upgrades Oracle Management Service 10g Release 4 (10.2.0.4.0) or higher
- Upgrades Oracle Management Agent 10g Release 4 (10.2.0.4.0) or higher that was installed by default with Oracle Management Service 10g Release 4 (10.2.0.4.0)
- Upgrades Oracle Management Repository 10g Release 4 (10.2.0.4.0) or higher
- Installs Oracle Web Tier 11g Release 1

Note: If you have multiple OMSes connecting to one Management Repository, stop all the OMSes and upgrade the first OMS using the installer. When you upgrade the first OMS, the installer also upgrades the Management Repository, and since the other OMSes connect to the same Management Repository, they must also be stopped.

Stopping the Management Agents is not mandatory, and as a result, there may be an increase in the number of Agent-related log files. However, this is harmless and can be ignored.

Once that OMS is upgraded, invoke the installer again, and select and upgrade all other OMSes, which connect to the same Management Repository, so that they are upgraded simultaneously. Ensure that Oracle WebLogic Server 10.3.2 (*Oracle Fusion Middleware 11g Release 1 Patch Set 1*) is installed on every host where the OMS is being upgraded. For information on installing Oracle WebLogic Server, see *My Oracle Support* note 1063762.1.

Note: The upgrade process takes approximately 40 to 45 minutes to complete. The duration includes the time taken for running the prerequisite checks, placing the software binaries, creating the Oracle homes, and running the Configuration Assistants for configuring the core components.

This upgrade process does NOT do the following:

- Does NOT upgrade any additional Oracle Management Agent 10g Release 4 (10.2.0.4.0) or higher that was NOT installed by default with Oracle Management Service 10g Release 4 (10.2.0.4.0) or higher.

To upgrade such Management Agents, use the Agent Upgrade Wizard available in the Enterprise Manager Grid Control console. For information about using the Agent Upgrade Wizard to upgrade standalone Management Agents, see the *Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide* available at:

<http://www.oracle.com/technology/documentation/oem.html>

- Does NOT upgrade your existing Oracle Database where the Management Repository is configured.

To upgrade such databases, use the database upgrade tool. For more information, on the upgrade tool, see the *Oracle Database Upgrade Guide* available at:

<http://www.oracle.com/technology/documentation/database.html>

- Does NOT patch one version of Enterprise Manager Grid Control to another. For example, it does not patch Enterprise Manager 10g Grid Control Release 4 (10.2.0.4.0) to Enterprise Manager 10g Grid Control Release 5 (10.2.0.5.0).

5.2 Prerequisites

Before upgrading to Enterprise Manager 11g, ensure that you meet the following prerequisites. If you want, you can print out this section and write 'Yes' or 'No' against each prerequisite. This will help you to track the prerequisites you have met and the prerequisites you have not met.

Table 5–1 Prerequisites for Upgrading to Enterprise Manager 11g

Requirement	Description	Yes/No
Basic Prerequisites	<p>The basic prerequisites for upgrading Enterprise Manager Grid Control depend on the installation type that is being upgraded.</p> <ul style="list-style-type: none"> If you are upgrading the installation type <i>Enterprise Manager Grid Control Using a New Database</i> or <i>Enterprise Manager Grid Control Using an Existing Database</i> of 10g Release 4 (10.2.0.4) or higher, then meet the prerequisites described in Section 2.3. One of the most important prerequisite is to install Oracle WebLogic Server 10.3.2 (<i>Oracle Fusion Middleware 11g Release 1 Patch Set 1</i>). <p>Important: In Section 2.3, one of the prerequisites is to ensure that the existing database does not have any Management Repository configured. However, for upgrade, ignore this prerequisite because while upgrading, the existing Management Repository will be reused.</p> <ul style="list-style-type: none"> If you are upgrading the installation type <i>Additional Oracle Management Service</i> of 10g Release 4 (10.2.0.4) or higher, then meet the prerequisites described in Section 3.3. One of the most important prerequisite is to install Oracle WebLogic Server 10.3.2 (<i>Oracle Fusion Middleware 11g Release 1 Patch Set 1</i>). 	
Existing Management Repository	<p>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).</p>	
Existing Database Backup and OMS Backup Requirements	<p>Ensure that you back up the existing, certified Oracle Database (which houses the Management Repository), the Oracle home of the OMS, the Oracle home of the Management Agent (which was installed along with the OMS), and the Oracle Inventory directory. This helps you maintain a copy of the database, the Oracle home, and the inventory details that were existing before the environment was upgraded, and it naturally offers the scope to revert to it whenever you want.</p>	
Database Partitioning Requirements	<p>Ensure that the existing, certified Oracle Database has the <i>Partitioning</i> option enabled (therefore, ensure that you install it into Oracle Database Enterprise Edition.)</p> <p>To verify this, connect to the database as SYSDBA and run the following query:</p> <pre>select value from v\$option where parameter = 'Partitioning';</pre> <p>The result of this query should be VALUE=TRUE. No additional partitioning license is required for the database that houses the Management Repository.</p>	

Table 5–1 (Cont.) Prerequisites for Upgrading to Enterprise Manager 11g

Requirement	Description	Yes/No
Database Partition Maintenance Requirements	<p>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:</p> <ol style="list-style-type: none"> <li data-bbox="724 432 1268 485">1. Log in to the database as SYSMAN and run the following command: <pre data-bbox="773 501 1219 590">execute emd_maintenance.analyze_emd_schema('SYSMAN'); commit;</pre> <li data-bbox="724 604 1182 630">2. Restart the OMS from its Oracle home: <pre data-bbox="773 646 1190 667">\$<ORACLE_HOME>/bin/emctl start oms</pre> 	
Database and Listener Status Requirements	Ensure that the existing, certified Oracle Database and its listener are running.	

Table 5–1 (Cont.) Prerequisites for Upgrading to Enterprise Manager 11g

Requirement	Description	Yes/No
Valid Objects Requirements	<p>Ensure that you do have only valid SYSMAN and SYS objects in the existing, certified Oracle Database.</p> <ul style="list-style-type: none"> <li data-bbox="646 327 1219 1518"> <p>■ To verify whether there are only valid SYSMAN objects, log in to the database as SYS and run the following command:</p> <pre data-bbox="691 422 1211 499">select object_name, object_type from all_ objects where owner='SYSMAN' and status <> 'VALID';</pre> <p>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:</p> <pre data-bbox="691 632 1125 659">@admin_recompile_invalid.sql SYSMAN</pre> <p>Run this command again to ensure that all SYSMAN objects are valid. If you still have invalid SYSMAN objects, then contact Oracle Support.</p> <p>Note: The admin_recompile_invalid.sql script is in the following location of the Oracle home of the OMS:</p> <pre data-bbox="691 863 1248 940"><ORACLE_ HOME>/sysman/admin/emdrep/sql/core/latest/adm in</pre> <li data-bbox="646 951 1219 1518"> <p>■ To verify whether there are only valid SYS objects, log in to the database as SYS and run the following command:</p> <pre data-bbox="691 1045 1248 1123">select object_name, object_type from all_ objects where status<>'VALID' and object_name like 'DBMS%';</pre> <p>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:</p> <pre data-bbox="691 1255 1149 1283">alter <object type> <object name> compile;</pre> <p>For example,</p> <p>If the object_type is mypackage and the object_name is foo, then run the following command:</p> <pre data-bbox="691 1402 1036 1430">alter mypackage foo compile;</pre> <p>Run this command again to ensure that all the packages are valid. If you still have invalid packages, then contact Oracle Support.</p> 	

Table 5–1 (Cont.) Prerequisites for Upgrading to Enterprise Manager 11g

Requirement	Description	Yes/No
DBMS Jobs and DBMS Scheduler Status Requirements	<p>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:</p> <ol style="list-style-type: none"> 1. Write down the value of <code>job_queue_processes</code> by running the following command: <pre>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';</pre> 2. Stop the DBMS JOBS by running the following command: <pre>execute emd_maintenance.remove_em_dbms_jobs; alter system set job_queue_processes=0 SID='*'; commit;</pre> <p>Note: This will allow the currently running jobs to finish, but will not allow any new jobs to be started.</p> 3. Ensure that there are no active jobs by running the following: <pre>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;</pre> 4. Stop the DBMS Scheduler by running the following command: <pre>execute dbms_scheduler.set_scheduler_ attribute('SCHEDULER_DISABLED', 'TRUE');</pre> 5. Ensure that there were no active schedulers running by waiting until the following query returns 0: <pre>select count(*) from dba_scheduler_running_ jobs where SLAVE_PROCESS_ID IS NOT NULL;</pre> 	
Gather Statistics Job Status Requirements	<p>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:</p> <p><i>For Oracle Database 10g (10.2.0.4) or higher</i></p> <pre>execute dbms_scheduler.disable('GATHER_STATS_ JOB', TRUE); execute dbms_scheduler.stop_job('GATHER_STATS_ JOB', TRUE);</pre> <p><i>For Oracle Database 11g (11.1.0.7) or higher</i></p> <pre>execute dbms_auto_task_admin.disable('auto optimizer stats collection', null, null);</pre>	

Table 5–1 (Cont.) Prerequisites for Upgrading to Enterprise Manager 11g

Requirement	Description	Yes/No
User Privilege Requirements	<p>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 <code><user_account_name></code> must be SYSMAN, and when you run it for the DBSNMP user, the <code><user_account_name></code> must be DBSNMP.</p> <pre>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) </pre> <p>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 <code><user_account_name></code> must be SYSMAN, and when you run it for the DBSNMP user, the <code><user_account_name></code> must be DBSNMP.</p> <pre>SQL> GRANT EXECUTE ON DBMS_RANDOM TO <user_account_name>; </pre>	
Environment Variable Setting Requirements	<p>Ensure that the environment variable ORACLE_HOME is set to the Oracle home of the OMS.</p> <p>For example, in Cshell, set it in the following way:</p> <pre>setenv ORACLE_HOME /home/OraHomes/oms10g</pre> <p>For example, in bash shell, set it in the following way:</p> <pre>export ORACLE_HOME= /home/OraHomes/oms10g</pre>	
OMS and Grid Control Process Status Requirements	<p>Ensure that you shut down all the running processes (OPMN, DCM, and so on) and also all the OMSes, which are connecting to the same Management Repository. To do so, follow these steps:</p> <ul style="list-style-type: none"> ■ Run the following commands from each of the Oracle homes of the OMS: <pre> \$<ORACLE_HOME>/opmn/bin/opmnctl stopall \$<ORACLE_HOME>/bin/emctl stop oms </pre> ■ Run the following command from each of the Oracle homes of the Management Agent: <pre> \$<ORACLE_HOME>/bin/emctl stop agent </pre> 	

Table 5–1 (Cont.) Prerequisites for Upgrading to Enterprise Manager 11g

Requirement	Description	Yes/No
Customization File Requirements	If there are any middle-tier customizations files that cannot be accessed using the credentials of the user account that is used for the upgrade process, then ensure that such customizations are removed or commented out. You can reapply these customizations after the upgrade is successfully completed.	
Oracle Home Path Requirements	In the following file, ensure that the Oracle home path is the same as the component you are upgrading. The path must be a hardlink. <Oracle_Inventory>/ContentsXML/inventory.xml	
SUDO Configuration Requirements	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 <i>My Oracle Support</i> note 789363.1.	
User-Defined Metric Script Definition Requirement	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.	

Note: Besides the prerequisites mentioned in [Table 5–1](#), refer to *My Oracle Support* note 1073166.1 for information on other upgrade-related known issues, prerequisites, and additional requirements.

5.3 Upgrade Procedure

To upgrade to Enterprise Manager 11g, follow these steps:

1. Invoke the installer by running the following command:

```
<Software_Location>/runInstaller
```

In this command, <Software_Location> is either <DVD> or <Software_Downloaded_Location>.

Note:

- For Microsoft Windows operating systems, run `setup.exe` instead of `runInstaller`.
- In Microsoft Windows, if the path to the software download location contains a subdirectory name with two or more words and a space between each of the words, then ensure that the parent directory of such a subdirectory does not contain a file whose name matches with the first word of that subdirectory.

For example, if the software is downloaded to `C:\Documents and Settings`, then before you invoke `setup.exe`, ensure that there are no files titled `Documents` (for example, shortcut files such as `C:\Documents`) in the `C:\` drive.

- 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 using the following command:

```
./runInstaller START_OMS=false b_startAgent=false
```

However, if you pass the `START_OMS=false` argument, the installation does not configure the EMCLI tool, and as a result, none of the EMCLI commands will work. Therefore, after the installation ends, you must manually configure the EMCLI tool in the `$<ORACLE_HOME>/bin` directory. To do so, refer to the *Oracle Enterprise Manager Command Line Interface* available at:

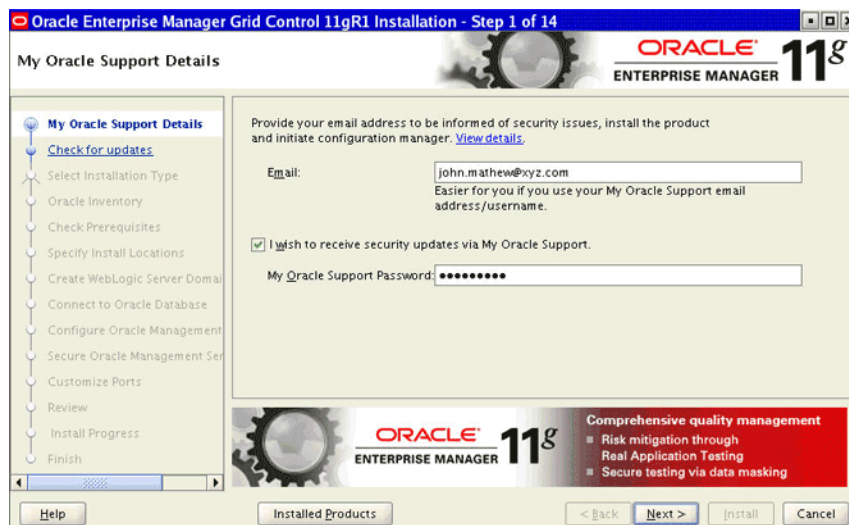
<http://www.oracle.com/technology/documentation/oem.html>

- By default, `GCDomain` is the default name used for creating the WebLogic Domain.

To override this, invoke the installer using the following command and specify a unique custom WebLogic Domain name:

```
./runInstaller WLS_DOMAIN_NAME=<Custom_Domain_Name>
```

2. Specify My Oracle Support Details



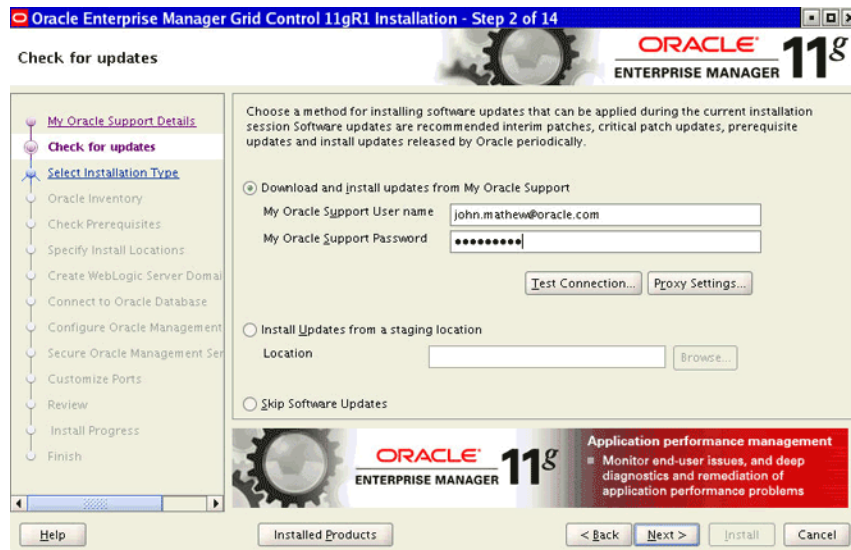
(Optional) On the My Oracle Support Details screen, specify your *My Oracle Support* credentials to enable Oracle Configuration Manager. If you do not want to enable Oracle Configuration Manager now, go to Step (3).

If the host from where you are running the installation wizard does not have a connection to the Internet, then specify 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*.

Note: For information about manually collecting the configuration information and uploading it to *My Oracle Support*, refer to the *Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide* available at:

<http://www.oracle.com/technology/documentation/oem.html>

3. Click **Next**.
4. **Check for Updates**



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

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 Grid Control console and view the recommended security patches. To do so, log in to Enterprise Manager Grid Control, and click **Preferences** from the top-right corner of the screen. On the General page, from the left menu bar, click **Preferred Credentials**. On the Preferred Credentials page, from the My Oracle Support Preferred Credentials section, click **Set Credentials**. On the My Oracle Support Preferred Credentials page, specify the credentials and click **Apply**.

- Select **Download and install updates from My Oracle Support** if you want the installer to connect to *My Oracle Support* and automatically download the updates from there. Specify the My Oracle Support account user name and password to connect to the site.

If a connection from your network to the Internet requires you to connect through a proxy, then select **Proxy Settings** and provide the proxy connection details. To test the connection, click **Test Connection**.

Note: After specifying the *My Oracle Support* details, when you click **Next**, the installation wizard connects to *My Oracle Support* and checks for new software updates. The installer displays the new software updates that are found. If you want to install them, click **Download Updates**. If you do not want to install them, click **Skip Updates**.

- (Recommended) Select **Install updates from a staging location** if the software updates are already downloaded and available in an accessible location. You can either specify the location or click **Browse** to search the host and select the

location. Ensure that the location you specify or select leads to the `Updates` directory where the software updates are available.

For example, if the software updates are available in `/scratch/OracleHomes/Updates`, then specify `/scratch/OracleHomes/Updates`.

Note: For more information about software updates, and how you can manually download them, see the *Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide* available at:

<http://www.oracle.com/technology/documentation/oem.html>

For information about the auto update feature and to know what patches are available in auto update, see *My Oracle Support* notes 1101208.1 and 1099123.1.

5. Click Next.

If you specified the *My Oracle Support* details in Step (4), the installer connects to *My Oracle Support* and checks for new software updates. The installer displays the new software updates that are found. If you want to install them, click **Download Updates**. If you do not want to install them, click **Skip Updates**.

Similarly, if any patches (including one-off patches) were found, then the installer displays the Product Updates screen. On the Product Updates screen, select **Apply Software Updates** and click **Next** if you want to apply all the patches. Otherwise, deselect that option and click **Next**.

6. Select Installation Type



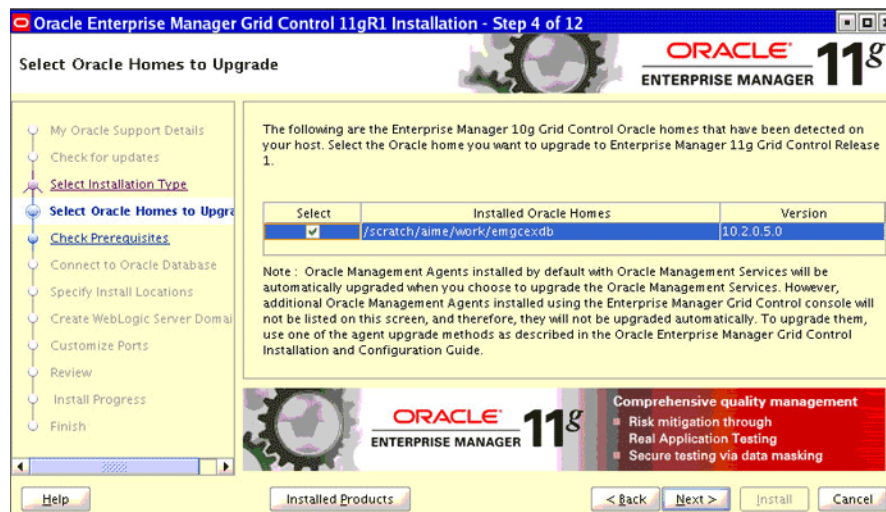
On the Select Installation Type screen, select **Upgrade to Enterprise Manager 11g**.

Note: This option is displayed only when Enterprise Manager 10g Grid Control Release 4 (10.2.0.4) or higher is detected on your host. However, if you do not see this option despite having Enterprise Manager 10g Grid Control Release 4 (10.2.0.4) or higher on your host, then invoke the installer in the following way:

```
./runInstaller -invPtrLoc <absolute_path_to_oraInst.loc>
```

7. Click **Next**.

8. **Select Oracle Homes to Upgrade**



On the Select Oracle Homes to Upgrade screen, select the components you want to upgrade.

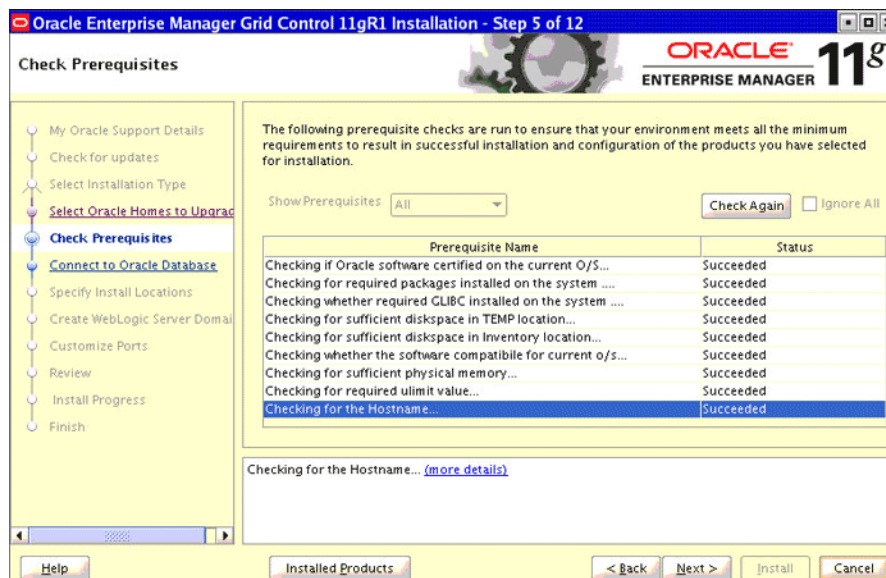
If there are multiple OMSes connecting to one Management Repository, then select only one of the OMSes on this screen, and proceed with the upgrade process to upgrade it. Once that OMS is upgraded, invoke the installer again, and on this screen, select all other OMSes, which connect to the same Management Repository, so that they are upgraded simultaneously.

The Management Agents installed by default with OMSes will be automatically upgraded when you choose to upgrade an OMS.

However, additional Management Agents installations will NOT be listed on this screen, and therefore, they will not be upgraded automatically. To upgrade them, use one of the agent upgrade methods as described in this guide.

9. Click **Next**.

10. **Check Prerequisites**



On the Check Prerequisites screen, check the status of the prerequisite checks run by the installation wizard is shown.

The prerequisite checks can result in either **Warning**, **Failed**, or **Succeeded** status. If all the prerequisite checks succeed, then click **Next** to proceed to the next screen. However, if some checks result in **Warning** or **Failed** status, then do the following:

- For the prerequisite checks with **Failed** status and **Warning** status, investigate and correct the problems before you proceed with the installation. You can also update the prerequisite with the latest software updates, if they have been released by Oracle, and rerun them. To understand how you can manually download the software updates to update the prerequisites, see Step (4).
- After you correct the problems in your environment, you can return to this screen and click **Check Again** to check the prerequisites once again.
- If you prefer to ignore all these checks and proceed, then select **Ignore All**. However, ignoring the prerequisite checks with **Failed** status and **Warning** status might result in an unsuccessful installation, and therefore, Oracle recommends you to correct the problem and then proceed only after all the checks succeed.

11. Click **Next**.

12. **Specify Install Locations**



On the Specify Install Locations screen, provide the information required for installing the core components of Enterprise Manager Grid Control and storing the configuration files.

- For **Oracle Middleware Home Location**, validate and accept the default middleware location, or select or specify another middleware location, which is present on the host where you are installing the product.

Ensure that the middleware location has *write* permission to create the Oracle home for OMS and the Oracle home for Management Agent. For example, if you accept the default location `/u01/app/Oracle/Middleware`, then the Oracle home for OMS is created as `/u01/app/Oracle/Middleware/oms11g`, and the Oracle home for Management Agent is created as `/u01/app/Oracle/Middleware/agent11g`.

Note: Ensure that the Middleware Home you accept, select, or specify here is used only for Enterprise Manager Grid Control. Ensure that no other Oracle Fusion Middleware products or components are installed in the same Middleware Home that is designated for Enterprise Manager Grid Control.

- For **OMS Instance Base Location**, validate and accept the default instance base location, or specify another instance base location, which is present on the host where you installing the product and has *write* permission to store the configuration files of OMS.

By default, the instance base is under the parent directory of the Oracle Middleware Home. And, by default, the instance home is `gc_inst`. You can, however, edit this and specify a custom name.

For example, if the Oracle Middleware Home is `/u01/app/Oracle/Middleware` and if you choose to retain the default instance home name, then the instance home location is `/u01/app/Oracle/gc_inst`.

If the parent directory of the Oracle Middleware Home does not have *write* permission, then the instance base is created in the Oracle Middleware Home itself.

Note: For information about Oracle Middleware Home and OMS Instance Base Location, see the *Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide* available at:

<http://www.oracle.com/technology/documentation/oem.html>

13. Click **Next**.

14. **Connect to Oracle Database**



On the Connect to Oracle Database screen, specify the SYS user account's password of the existing Oracle Database that houses the Management Repository for the selected OMS.

15. Click **Next**.

16. **Create WebLogic Server Domain**

On the Create WebLogic Server Domain screen, specify the WebLogic password, the Node Manager password, and the JVM Diagnostics Data Tablespace password.

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.

During upgrade, an additional JVM Diagnostics Data Tablespace is created for storing JVM-related monitoring data. Specify the full path to a location where the data file (`mgmt_ad4j.dbf`) for that tablespace can be stored. Ensure that the specified path leads up to the file name. For example, `/home/john/oradata/mgmt_ad4j.dbf`

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

Note: If you are upgrading an additional OMS, then specify the Admin Server Host, the Admin Server Port, and the WebLogic Server credentials.

17. Click **Next**.

18. **Customize Ports**



On the Customize Ports screen, customize the ports to be used for various components, and click **Next**.

If 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.

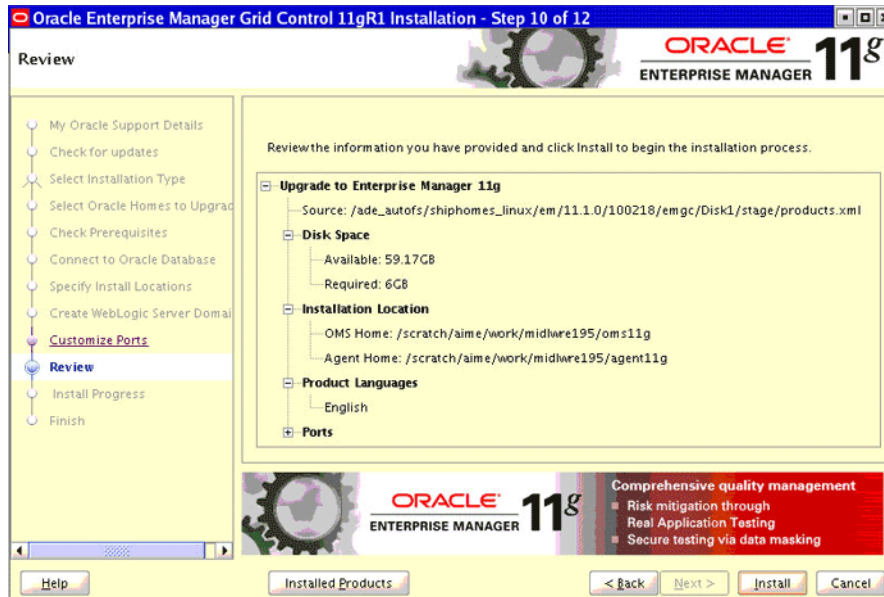
Note: For information about the default ports that are assigned and the possibility of using custom ports instead of default ports, see the *Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide* available at:

<http://www.oracle.com/technology/documentation/oem.html>

You can choose to retain the default port or customize it. To customize the ports, edit the port value in the **Port** column of the table, and specify a free custom port as recommended in the **Recommended Port Range** column.

19. Click **Next**.

20. **Review**



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.
21. Once the software binaries are copied, 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 Configuration Assistants screen as described in Step (23).
22. On the Configuration Assistants screen, you should see the Configuration Assistants run for the upgrade operation. If you see any failed Configuration Assistants and if you want to rerun them, then select the failed ones and click **Retry**. If you prefer to rerun them later in standalone mode, then click **Cancel** to exit the installer.

Note: If the Configuration Assistants fail, then review the relevant log files, resolve the issues, and rerun the Configuration Assistants as described in the *Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide* available at:

<http://www.oracle.com/technology/documentation/oem.html>

You can also refer to the *Master Note for Enterprise Manager Grid Control Installation and Upgrade* available in the same location. Once you access the URL, click the **Release Notes** tab, and from the Master Support Notes section, click **HTML**.

23. On the End of Installation screen, you should see information pertaining to the upgrade of Enterprise Manager Grid Control or additional OMS. Review the information and click **Close** to exit the installation wizard.

For more information about this upgrade operation, refer to the following file available in the Oracle home of the OMS:

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

5.4 After You Upgrade

After you upgrade, follow these steps:

1. Start the DBMS Jobs and the DBMS Scheduler. To do so, log in to the database as SYS and perform the following:

- a. Start the DBMS Jobs by setting the `job_queue_processes` to the value you recorded while stopping the DBMS Jobs as a prerequisite.

```
alter system set job_queue_processes=<original_value> scope=both;
```

- b. Start DBMS Scheduler by running the following command:

```
execute dbms_scheduler.set_scheduler_attribute ('SCHEDULER_
DISABLED', 'FALSE');
```

- c. Submit the DBMS jobs by running the following command:

```
execute emd_maintenance.submit_em_dbms_jobs;
```

2. Start the Gather Statistics job in the existing database by running the following as SYS:

For Oracle Database 10g (10.2.0.4) or higher

```
execute dbms_scheduler.enable('GATHER_STATS_JOB');
```

For Oracle Database 11g (11.1.0.7) or higher

```
execute dbms_auto_task_admin.enable('auto optimizer stats
collection',null,null);
```

3. To use a secure protocol (HTTPS) to connect to the Enterprise Manager Administration Server, do the following:
 - a. Specify additional SSL arguments in the environment. To do so, set `JAVA_OPTIONS` to append the appropriate SSL arguments to use before invoking the `ocmrepeaterctl` script.

For information about these JAVA options, access these URLs:

http://download.oracle.com/docs/cd/E12840_01/wls/docs103/client/security.html#wp1077561

http://download-llnw.oracle.com/docs/cd/E12840_01/wls/docs103/config_scripting/using_WLST.html#wp1093943

Depending on whether a Demo or a Custom Trust certificate is used by the SSL realm, the SSL arguments will include the following:

```
[
  [
    <
      -Dweblogic.security.TrustKeyStore=DemoTrust
    [ -Dweblogic.security.JavaStandardTrustKeystorePassPhrase=password ]
    >
  ]
]
```

```

|
<
  -Dweblogic.security.CustomTrustKeyStoreFileName=filename
  -Dweblogic.security.TrustKeystoreType=CustomTrust
  [ -Dweblogic.security.CustomTrustKeystorePassPhrase=password ]
>
]
[
  < -Dweblogic.security.SSL.hostnameVerifier=classname >
  |
  < -Dweblogic.security.SSL.ignoreHostnameVerification=true >
]
]

```

- (i) From the **Domain Structure** panel on the left side of the Home page, expand **Environment** and click **Servers**.
 - (ii) On the Summary of Servers page, from the Servers table, click the Admin Server.
 - (iii) On the Settings for <Admin_Server> page, click the **Protocols** tab, and then click the **HTTP** subtab.
 - (iv) On the HTTP page, select **Enable Tunneling**, and click **Save**.
4. If you upgraded an additional OMS, then refresh the Oracle WebLogic Server Domain, which hosts the Enterprise Manager application, so that the configuration changes made to the domain as a result of adding an additional OMS are reflected in the Grid Control console. To refresh the Oracle WebLogic Server Domain, follow these steps:

 - a. In Enterprise Manager Grid Control, navigate to the Home page for the Oracle WebLogic Server Domain that hosts the Enterprise Manager application. In most cases, the following is the direct URL to the Home page. If your domain name is not GCDomain, then replace that string with your domain name:

```
[protocol]://[host]:[port]/em/faces/as/as/domainHome?target=/secFarm_GCDomain/GCDomain&type=weblogic_domain
```
 - b. From the WebLogic Domain menu, click **Refresh WebLogic Domain**.
 - c. On the Refresh WebLogic Domain page, click **Continue**.

Note: This submits a WebLogic Domain Refresh job, which captures the domain configuration changes and reflects them in the Enterprise Manager Grid Control console. The job repeats itself once a day, and therefore, if you add any more additional OMSes or remove OMSes from your Enterprise Manager system in the future, this job automatically captures the configuration changes to the Oracle WebLogic Server Domain. You do NOT have to repeat this procedure every time you add an additional OMS.

5. Remove Oracle Application Server-related targets such as Oracle Application Server, Oracle HTTP Server, OC4J, and Oracle Web Cache from the Management Repository.

In particular, remove <OLD_OMS_NAME>, <OLD_OMS_NAME>_home, <OLD_OMS_NAME>_OC4J_EM, <OLD_OMS_NAME>_OC4J_EMPROV, <OLD_OMS_NAME>_HTTP Server, and <OLD_OMS_NAME>Web Cache.

Table 5–2 shows how these targets might appear in Enterprise Manager Grid Control.

Table 5–2 Oracle Application Server Targets to be Removed

Target Name	Target Type
EnterpriseManager0.hostname.com	Oracle Application Server
EnterpriseManager0.hostname.com_home	OC4J
EnterpriseManager0.hostname.com_HTTP Server	Oracle HTTP Server
EnterpriseManager0.hostname.com_OC4J_EM	OC4J
EnterpriseManager0.hostname.com_OC4J_EMPROV	OC4J
EnterpriseManager0.hostname.com_Web Cache	Web Cache

To remove these targets, log in to Enterprise Manager Grid Control, click **All Targets**, select for the target, and click **Remove**.

- Discover all new targets such as Scan Listener and so on either using the Enterprise Manager Grid Control console or by running the following command from the Oracle home of the Management Agent where the new targets are running:

```
$<ORACLE_HOME>/bin/agentca -d
```

- In Enterprise Manager 11g Grid Control, the `emoms.properties` file is no longer supported. To view details related to the Management Repository, run the following command:

```
emctl config oms -list_repos_details
```

- (Optional) If you want to connect to another 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
myreposhost.mydomain.com -repos_port 12345 -repos_sid mydb
-repos_conndesc
' "(DESCRIPTION=(ADDRESS=(PROTOCOL=TCP) (HOST=myreposhost.mydo
main.com) (PORT=12345)) (CONNECT_DATA=(SID=mydb))) "' -repos_
user sysman
```

For example, on Microsoft Windows:

```
emctl config oms -store_repos_details -repos_host
myreposhost.mydomain.com -repos_port 12345 -repos_sid mydb
-repos_conndesc
(DESCRIPTION=(ADDRESS=(PROTOCOL=TCP) (HOST=myreposhost.mydoma
in.com) (PORT=12345)) (CONNECT_DATA=(SID=mydb))) -repos_user
sysman
```

9. (Optional) If you want to discover the newly installed targets, if you want to convert the standalone Management Agent to a cluster-based Management Agent, if you want to discover the targets on the new nodes of the cluster, or if you want to reconfigure the cluster-based Management Agent, you must run the `agentca` script to reconfigure and discover all new targets. For information about the `agentca` script and to know how you can reconfigure the Management Agent and discover all new targets, see *Oracle Enterprise Manager Grid Control Advanced Installation and Configuration Guide* available at:

<http://www.oracle.com/technology/documentation/oem.html>

10. (Optional) If you want to enable the *Request Monitoring* feature for tracing transaction requests in WLS, you need JVM Diagnostics as well as Application Dependency and Performance (ADP) managers and agents configured against the target to be monitored.

For information about installing JVM Diagnostics and enabling the *Request Monitoring* feature, refer to the *Oracle Enterprise Manager Administration Guide*.

For information about enabling the ADP feature in Enterprise Manager Grid Control, refer to the *Oracle Enterprise Manager Getting Started with Management Pack Plus for SOA*.

Both these guides are available at:

<http://www.oracle.com/technology/documentation/oem.html>

11. Delete the old Oracle homes of OMS (oms10g) and Management Agent (agent10g). Also remove their entries, oms10g and agent10g, from the `/etc/oratab` file. However, do NOT delete the Oracle home of the database because it contains the upgrade schemas.

Part III

Appendixes

This part contains the following appendixes:

- [Appendix A, "Meeting Hardware Requirements"](#)
- [Appendix B, "Meeting Package, Kernel Parameter, and Library Requirements"](#)
- [Appendix C, "Creating Operating System Groups and Users Requirements"](#)
- [Appendix D, "Setting Up SSH Connectivity"](#)
- [Appendix E, "Validating Command Locations"](#)
- [Appendix F, "Passing Additional Parameters"](#)
- [Appendix G, "Configuring Database and ASM Targets for Monitoring"](#)
- [Appendix H, "Setting Up Proxy Configuration for Oracle Management Service"](#)

Meeting Hardware Requirements

This appendix describes the hardware requirements you must meet before installing Oracle Management Service (OMS), a standalone Oracle Management Agent (Management Agent), and Oracle Management Repository.

Note: For information about the hard disk space required and the ulimits to be set for OMS and standalone Management Agent, see *My Oracle Support* note 1076752.1. For information about planning and sizing your Enterprise Manager deployment, refer to the *Oracle Enterprise Manager Administration Guide* available at:

<http://www.oracle.com/technology/documentation/oem.html>

Table A-1 shows the *minimum* physical memory (RAM) required for installing an OMS and a standalone Management Agent:

Table A-1 Required Physical Memory for Oracle Management Service and Oracle Management Agent

Installation Type	Physical Memory (RAM)
Oracle Management Service	3 GB
Oracle Management Service with ADP Manager ¹	6 GB
Oracle Management Agent (standalone)	512 MB
Oracle Management Agent (standalone) with ADP Manager	1 GB

¹ ADP Manager is Application Dependency and Performance Manager

Note:

- For information about ADP and for instructions to enable the ADP feature in Enterprise Manager Grid Control, refer to the *Oracle Enterprise Manager Getting Started with Management Pack Plus for SOA*.

Both these guides are available at:

<http://www.oracle.com/technology/documentation/oem.html>

- For Microsoft Windows 32-bit hosts, the RAM required is 4 GB.
-
-

Table A-2 shows the *recommended* physical memory (RAM) for installing an OMS and a standalone Management Agent:

Table A-2 Recommended Physical Memory for Oracle Management Service and Oracle Management Agent

Deployment Size	Installation Type	Physical Memory (RAM)
Small	Oracle Management Service	3 GB
(< 100 monitored targets)	Oracle Management Service with ADP Manager ¹	6 GB
Medium	Oracle Management Service	4 GB
(< 1000 monitored targets)	Oracle Management Service with ADP Manager	6 GB
Large	Oracle Management Service	6 GB
(< 10,000 monitored targets)	Oracle Management Service with ADP Manager	8 GB

¹ ADP Manager is Application Dependency and Performance Manager

Table A-3 shows the *recommended* physical memory (RAM) and the hard disk space required for configuring a Management Repository.

Table A-3 Recommended Physical Memory and Hard Disk Space for Oracle Management Repository

Deployment Size	Physical Memory (RAM)	Hard Disk Space
Small	2 GB	50 GB
(< 100 monitored targets)		
Medium	4 GB	100 GB
(< 1000 monitored targets)		
Large	6 GB	400 GB
(< 10,000 monitored targets)		

Meeting Package, Kernel Parameter, and Library Requirements

This appendix describes the packages and libraries required on different operating systems (32-bit as well as 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 appendix covers the following:

- [Package Requirements for Oracle Management Service](#)
- [Package Requirements for Oracle Management Agent](#)
- [Kernel Parameter Requirements for Oracle Management Service and Oracle Management Agent](#)
- [Library Requirements for Oracle Management Service](#)

Note: The packages and libraries are NOT required for Microsoft Windows operating systems.

B.1 Package Requirements for Oracle Management Service

[Table B-1](#) describes the packages required on different operating systems for installing a new Enterprise Manager system and an additional OMS:

Table B–1 Package Requirements for Oracle Management Service

Operating System	Package
Red Hat Enterprise Linux 4 Oracle Linux 4	<ul style="list-style-type: none"> ■ kernel-utils-2.4 ■ make-3.80 ■ binutils-2.15.92.0.2-13 ■ gcc-3.4.5 ■ libaio-0.3.105 ■ glibc-common-2.3.4-2.9 ■ compat-libstdc++-296 -2.96-132.7.2 ■ libstdc++-3.4.3-22.1 ■ libstdc++-devel-3.4.3-22.1 ■ pdksh-5.2.14-30 ■ setarch-1.6-1 ■ sysstat-5.0.5-1 ■ compat-db-4.1.25-9
Red Hat Enterprise Linux 5.x Oracle Linux 5.x	<ul style="list-style-type: none"> ■ rng-utils-2 ■ make-3.81 ■ binutils-2.17.50.0.6 ■ gcc-4.1.1 ■ libaio-0.3.106 ■ glibc-common-2.3.4-2.9 ■ compat-libstdc++-296 -2.96-132.7.2 ■ libstdc++-4.1.1 ■ libstdc++-devel-4.1.1 ■ setarch-1.6-1 ■ sysstat-5.0.5-1 ■ compat-db-4.1.25-9
Asianux Linux 3	<ul style="list-style-type: none"> ■ 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-3.4.3 ■ setarch-1.6-1 ■ sysstat-5.0.5-1 ■ compat-db-4.1.25
SUSE Linux Enterprise Server 10	<ul style="list-style-type: none"> ■ make-3.80 ■ binutils-2.16.91.0.5 ■ gcc-4.1.0

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

Operating System	Package
Solaris Sparc 5.9	<ul style="list-style-type: none"> ■ SUNWlibm ■ SUNWlibms ■ SUNWspot ■ SUNWspox ■ SUNWtoo ■ SUNWi1of ■ SUNWxwfont
Solaris Sparc 5.10	SUNWbtool
HP PA-RISC 11.23	BUNDLE11i(B.11.23.0409.3)
HP PA-RISC 11.31	<ul style="list-style-type: none"> ■ Base-VXFS(B.11.31) ■ OnlineDiag(B.11.31.01.03)
HP-UX Itanium-11.23	BUNDLE11i(B.11.23.0409.3)
HP-UX Itanium-11.31	BUNDLE(B.11.31)
IBM AIX 5.3	<ul style="list-style-type: none"> ■ bos.perf.proctools(5.3.0.50) ■ bos.adt.base.0.0 ■ bos.adt.libm.0.0 <p>In addition, manually enable asynchronous I/O. To do so, follow these steps:</p> <ol style="list-style-type: none"> 1. Start smitty aio. 2. Run Change/Show Characteristics of Asynchronous I/O. 3. Set the STATE to be configured at system restart as available. <p>Note: This procedure does not require you to restart the system.</p>
IBM AIX 6.1	<ul style="list-style-type: none"> ■ bos.adt.base.0.0 ■ bos.adt.lib.0.0 ■ bos.adt.libm.0.0 ■ bos.perf.libperfstat0.0 ■ bos.perf.perfstat0.0 ■ bos.perf.proctools0.0 ■ rsct.basic.rte0.0 ■ rsct.compat.clients.rte0.0 ■ xlc.aix61.rte.9.0.0.0 ■ xlc.rte.9.0.0.0 <p>In addition, manually enable asynchronous I/O. To do so, follow these steps:</p> <ol style="list-style-type: none"> 1. Start smitty aio. 2. Run Change/Show Characteristics of Asynchronous I/O. 3. Set the STATE to be configured at system restart as available. <p>Note: This procedure does not require you to restart the system.</p>

B.2 Package Requirements for Oracle Management Agent

Table B–2 describes the packages required on different operating systems for installing a standalone Management Agent:

Table B–2 *Package Requirements for Oracle Management Agent*

Operating System	Package
Red Hat Enterprise Linux 4	<ul style="list-style-type: none"> ▪ make-3.80
Oracle Linux 4	<ul style="list-style-type: none"> ▪ binutils-2.15.92.0.2 ▪ gcc-3.4.5 ▪ libstdc++-3.4.5
Oracle Linux 6.x (64 bit) (Red Hat 6 Kernel and Unbreakable Enterprise Kernel (UEK))	<ul style="list-style-type: none"> ▪ 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 ▪ sysstat-5.0.5
Red Hat Enterprise Linux 5.x	<ul style="list-style-type: none"> ▪ make-3.81
Oracle Linux 5.x	<ul style="list-style-type: none"> ▪ binutils-2.17.50.0.6 ▪ gcc-4.1.1 ▪ libstdc++-4.1.1 ▪ libaio ▪ glibc-devel (64-bit) ▪ glibc-devel (32-bit)
Asianux Linux 1	<ul style="list-style-type: none"> ▪ make-3.79 ▪ binutils-2.14 ▪ gcc-3.2
Asianux Linux 2	<ul style="list-style-type: none"> ▪ make-3.80 ▪ binutils-2.15.92.0.2 ▪ gcc-3.4.5 ▪ libstdc++-3.4.5
Asianux Linux 3	<ul style="list-style-type: none"> ▪ make-3.81 ▪ binutils-2.17.50.0.6 ▪ gcc-4.1.1 ▪ libstdc++-4.1.1
United Linux 1	<ul style="list-style-type: none"> ▪ make-3.79 ▪ binutils-2.14 ▪ gcc VERSION-3.2
SUSE Linux Enterprise Server 10	<ul style="list-style-type: none"> ▪ make-3.80
SUSE Linux Enterprise Server 11	<ul style="list-style-type: none"> ▪ binutils-2.16.91.0.5 ▪ gcc-4.1.0 ▪ libstdc++-4.1.0

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

Operating System	Package
Solaris Express 5.11 x86-64	<ul style="list-style-type: none"> ■ SUNWbtool
<p>Note: The supported kernel ID is 175.0.0.0.2.0,151.0.1.12.</p> <p>To check the kernel ID, run the following command:</p> <pre>uname -X grep KernelID</pre>	<ul style="list-style-type: none"> ■ sunwarc ■ SUNWhea ■ SUNWlibm ■ SUNWlibms ■ SUNWsprot ■ SUNWtoo ■ SUNWlibC ■ SUNWcsl <p>Note: While installing the Management Agent, there might be prerequisite checks checking for obsolete packages on Solaris Express 5.11 x86-64 and Solaris Sparc Express 5.11 (64 bit), particularly packages such as SUNWi1of, SUNWi1cs, SUNWi15cs, and SUNWxfnt. If such prerequisite checks fail, ignore the failure and proceed with the installation.</p>
Solaris Sparc 5.9	<ul style="list-style-type: none"> ■ SUNWlibm ■ SUNWlibms ■ SUNWsprot ■ SUNWsprox ■ SUNWtoo ■ SUNWi1of ■ SUNWxfnt
Solaris Sparc 5.10	SUNWbtool
Solaris Sparc Express 5.11	<ul style="list-style-type: none"> ■ SUNWbtool
<p>Note: The supported Kernel ID is 175.0.0.0.2.0,151.0.1.12.</p> <p>To check kernel ID, run the following command:</p> <pre>uname -X grep KernelID</pre>	<ul style="list-style-type: none"> ■ sunwarc ■ SUNWhea ■ SUNWlibm ■ SUNWlibms ■ SUNWsprot ■ SUNWtoo ■ SUNWlibC ■ SUNWcsl <p>Note: While installing the Management Agent, there might be prerequisite checks checking for obsolete packages on Solaris Express 5.11 x86-64 and Solaris Sparc Express 5.11 (64 bit), particularly packages such as SUNWi1of, SUNWi1cs, SUNWi15cs, and SUNWxfnt. If such prerequisite checks fail, ignore the failure and proceed with the installation.</p>
HP PA-RISC 11.23	BUNDLE11i(B.11.23.0409.3)
HP PA-RISC 11.31	<ul style="list-style-type: none"> ■ Base-VXFS(B.11.31) ■ OnlineDiag(B.11.31.01.03)
HP-UX Itanium-11.23	BUNDLE11i(B.11.23.0409.3)

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

Operating System	Package
HP-UX Itanium-11.31	BUNDLE(B.11.31)
IBM AIX 5.3	bos.perf.proctools(5.3.0.50)
IBM AIX 6.1	<ul style="list-style-type: none"> ▪ bos.adt.base.0.0 ▪ bos.adt.lib.0.0 ▪ bos.adt.libm.0.0 ▪ bos.perf.libperfstat0.0 ▪ bos.perf.perfstat0.0 ▪ bos.perf.proctools0.0 ▪ rsct.basic.rte0.0 ▪ rsct.compat.clients.rte0.0 ▪ xlc.aix61.rte.9.0.0.0 ▪ xlc.rte.9.0.0.0

B.3 Kernel Parameter Requirements for Oracle Management Service and Oracle Management Agent

If you are installing a new Enterprise Manager system, an additional OMS, or a standalone Management Agent on any Linux operating system (*Red Hat Enterprise Linux 4 or 5, Oracle Linux 4 or 5, Asianux Linux 3, and SUSE Linux Enterprise Server 10*), then set the `kernel.shmmax` parameter to a value that is not greater than 4 GB. This parameter is present in the `/etc/sysctl.conf` file.

B.4 Library Requirements for Oracle Management Service

[Table B–3](#) describes the libraries required on different operating systems for installing a new Enterprise Manager system or an additional OMS:

Table B–3 Library Requirements for Oracle Management Service

Operating System	Library
Red Hat Enterprise Linux 4	GLIBC-2.3.4-2.19
Oracle Linux 4	
Red Hat Enterprise Linux 5.x	GLIBC-2.5-12
Oracle Linux 5.x	
Asianux Linux 3	GLIBC-2.3.4-2.9
SUSE Linux Enterprise Server 10	GLIBC-2.2.4-31.7

Creating Operating System Groups and Users Requirements

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

- [What Operating System Groups and Users Are Required?](#)
- [How To Create the Operating System Groups and Users?](#)

C.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 (`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. However, you can choose to create different Oracle software owner users, OSDBA groups, and OSOPER groups (other than `oracle`, `dba`, and `oper`) for separate installations. By using different groups for different installations, members of these different groups have DBA privileges only on the associated databases rather than on all databases on the system.

C.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 OSDBA Group](#)
- [Creating an OSOPER Group \(Optional\)](#)
- [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.

C.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.

C.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 output of this command shows the `oinstall` group name, then the group already exists.

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`.

C.2.1.2 Creating the Oracle Inventory Group

If the `oraInst.loc` file does not exist, then create the Oracle Inventory group using the following command:

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

C.2.2 Creating the OSDBA Group

You must create an OSDBA group in the following cases:

- An OSDBA group does not exist, for example, if you do not have Oracle Database already installed on the system.

- An OSDBA group exists, but you want to give a different group of operating system users database administrative privileges in a new Oracle installation.

If the OSDBA group does not exist or if you require a new OSDBA group, then create it as follows. In the following command, use the group name `dba` unless a group with that name already exists.

```
# /usr/sbin/groupadd dba
```

C.2.3 Creating an OSOPER Group (Optional)

Create an OSOPER group only if you want to identify a group of operating system users with a limited set of database administrative privileges (SYSOPER operator privileges). For most installations, it is sufficient to create only the OSDBA group. If you want to use an OSOPER group, then you must create it in the following circumstances:

- If an OSOPER group does not exist, for example, if this is the first installation of Oracle Database software on the system
- If an OSOPER group exists, but you want to give a different group of operating system users database operator privileges in a new Oracle installation

If you require a new OSOPER group, then create it as follows. In the following command, use the group name `oper` unless a group with that name already exists.

```
# /usr/sbin/groupadd oper
```

C.2.4 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

C.2.4.1 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 and that it is a member of the appropriate OSDBA and OSOPER groups.
- To modify an existing user, refer to the [Section C.2.4.3, "Modifying an Oracle Software Owner User"](#).
- To create a user, refer to [Section C.2.4.2, "Creating an Oracle Software Owner User"](#).

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

C.2.4.2 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 -G dba[,oper] oracle
```

In this command:

- The `-g` option specifies the primary group, which must be the Oracle Inventory group, for example `oinstall`
 - The `-G` option specifies the secondary groups, which must include the OSDBA group and if required, the OSOPER group. For example, `dba` or `dba,oper`
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 shared file system loader and Oracle Software Library. If the UIDs are different, then the files created by one OMS cannot be modified by another OMS.

C.2.4.3 Modifying an Oracle Software Owner User

If the `oracle` user exists, but its primary group is not `oinstall` or it is not a member of the appropriate OSDBA or OSOPER groups, then enter a command similar to the following to modify it. Specify the primary group using the `-g` option and any required secondary group using the `-G` option:

```
# /usr/sbin/usermod -g oinstall -G dba[,oper] oracle
```

C.2.4.4 Verifying that the User `nobody` Exists

Before installing the software, follow these steps to verify that the `nobody` user exists on the system:

1. To determine whether the user exists, enter the following command:

```
# id nobody
```

If this command displays information about the `nobody` user, then you do not have to create that user.

2. If the `nobody` user does not exist, then enter the following command to create it:

```
# /usr/sbin/useradd nobody
```

Setting Up SSH Connectivity

This appendix explains how you can set up SSH connectivity before installing Oracle Management Agent (Management Agent) on Microsoft Windows operating systems. In particular, this appendix covers the following:

- [Overview](#)
- [Setting Up SSH Server \(SSHD\) on Microsoft Windows](#)
- [Setting Up SSH on Microsoft Windows Using sshUserSetupNT.sh](#)
- [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 Agent Deployment Wizard is running on Microsoft Windows.
-
-

D.1 Overview

SSH (Secure Shell) Setup is the connectivity that is established between the host running Oracle Management Service (OMS) and the host where the Management Agent needs to be installed. This is primarily required for the Agent Deployment Wizard to install Management Agents over HTTP on remote hosts.

The Agent Deployment Wizard is an application that is part of the Enterprise Manager Grid Control console. It is used for deploying Management Agents in your environment using an interactive user interface. The installation of a Management Agent from the source host to the remote destination host happens using SSH protocol, and for this communication to happen over SSH, an SSH setup is required between the two hosts. This also helps to avoid SSH authentication calls during future Agent Deploy operations.

Caution: The SSH Setup must always be set between the destination hosts and the OMS, and never among the destination hosts.

In Enterprise Manager 11g Grid Control Release 1 (11.1.0.1.0), the Agent Deployment Wizard sets up and drops the SSH connectivity automatically, but if the Management Agent is going to be on a Microsoft Windows operating systems, then you need to manually install and configure Cygwin on that host.

Note: The Agent Deployment Wizard is certified and supported with Cygwin 1.5.

D.2 Setting Up SSH Server (SSHD) on Microsoft Windows

D.2.1 Before You Begin

Before starting with the SSHD setup, ensure you are not using OpenSSH and MKSNT when using the Agent Deploy application. To do so, perform the following checks:

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 that appears, 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 that appears, delete these two values from the PATH, and click **OK**.
2. Stop the SSH Daemon if it is running from `OpenSSH`, `MKS` or any other vendor. If the SSH Daemon is running, stop it by doing the following:
 - 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/MKS Secure Shell service and click **Stop**.

D.2.2 Installing Cygwin

To install Cygwin and start the SSH daemon on Microsoft Windows hosts, follow these steps:

1. Download the *setup-legacy.exe* file corresponding to **Cygwin 1.5** from the following Website, and install the Cygwin software in the `C:\cygwin` directory:

<http://cygwin.com/win-9x.html>

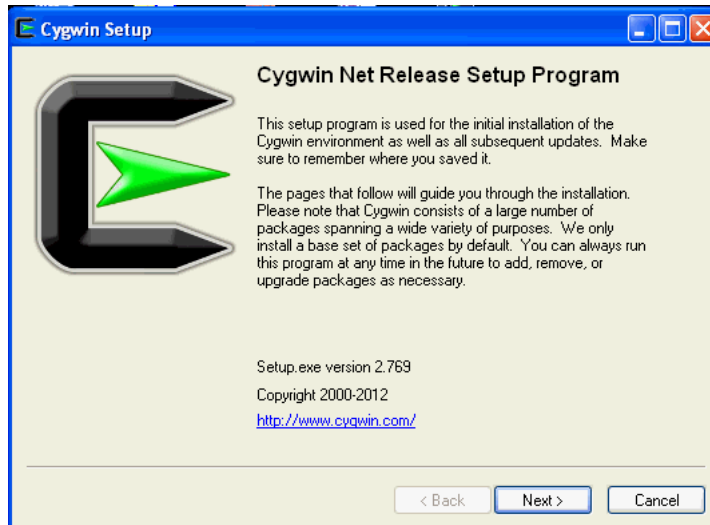
If you go directly to <http://cygwin.com> and download the *setup.exe* file, it will install **Cygwin 1.7** which is not supported on this version.

Note: If you install Cygwin in a different directory than what has been previously mentioned, ensure you update the `$OMS_INSTANCE_HOME/sysman/prov/resources/ssPaths_msplats.properties` file with the proper Cygwin binary values after installing Oracle Enterprise Manager Grid Control.

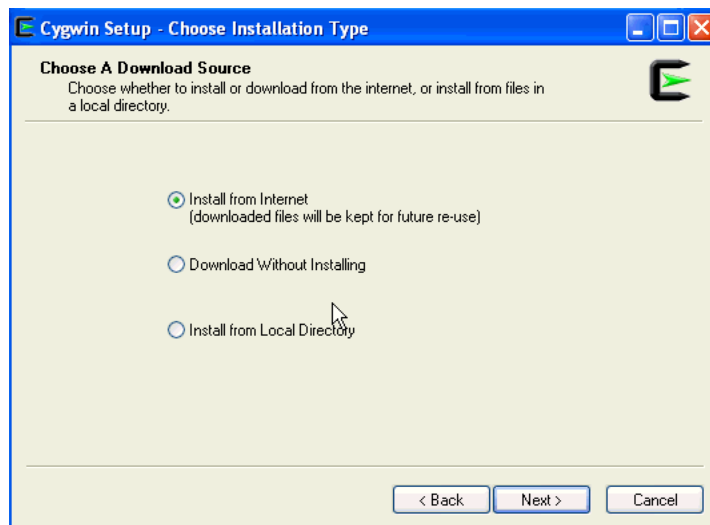
Caution: If you are installing *Cygwin* at a directory that is other than `C:\cygwin` on a remote machine, you must also ensure that *Cygwin* is installed on the OMS machine at the exact same location.

The *Cygwin* installation directory should not contain any spaces.

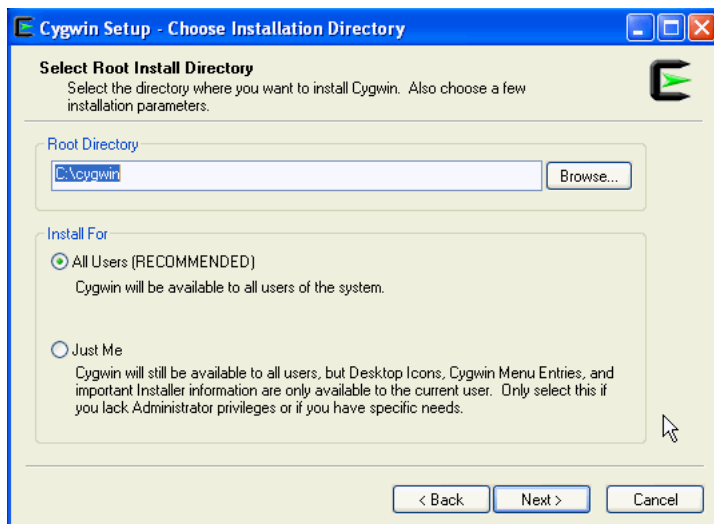
- a. Invoke *Cygwin* setup, and click **Next** to proceed.



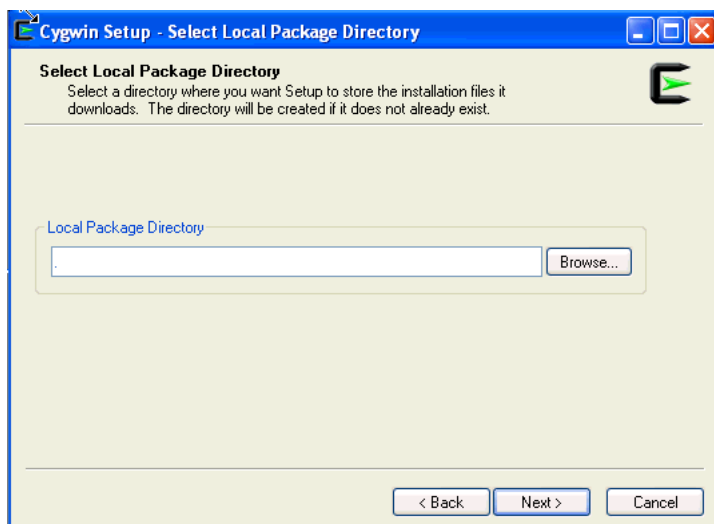
- b. On the Choose Installation Type screen, select **Install from Internet**, and click **Next**.



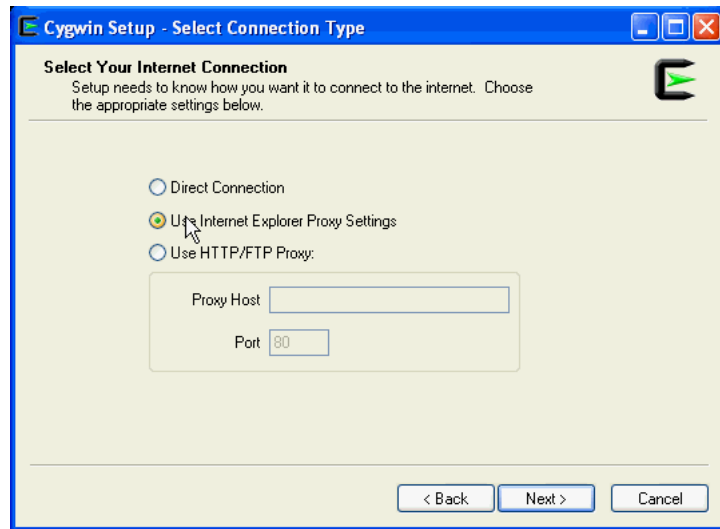
- c. On the Choose Installation Directory screen, enter `C:\cygwin` as the Root Directory, and click **Next**.



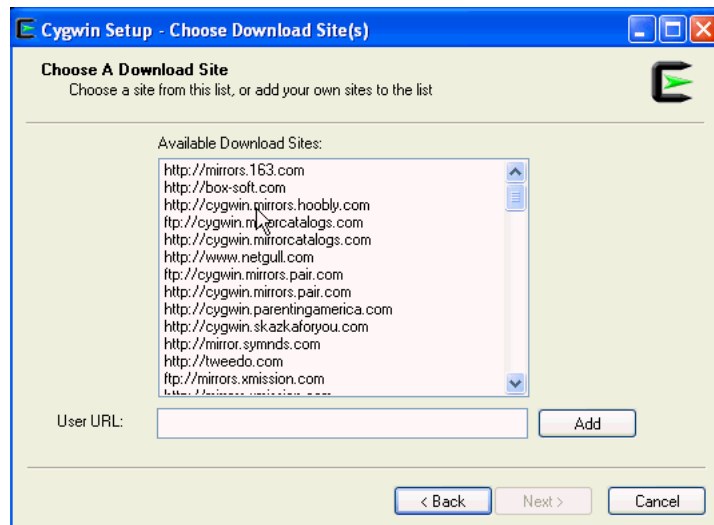
- d. On the Select Local Package Directory screen, select a directory on your local machine where you want the Setup to store the installation files it downloads, and click **Next**.



- e. On the Select Connection Type screen, select appropriate settings to connect to the internet, and click **Next**.



- f. On the Choose Download Site(s) screen, select any site from the available list, and click **Next**.



- g. On the select packages screen, ensure that you select the following packages, and click **Next**:

From the **Archive** category, select `unzip` and `zip` as follows:

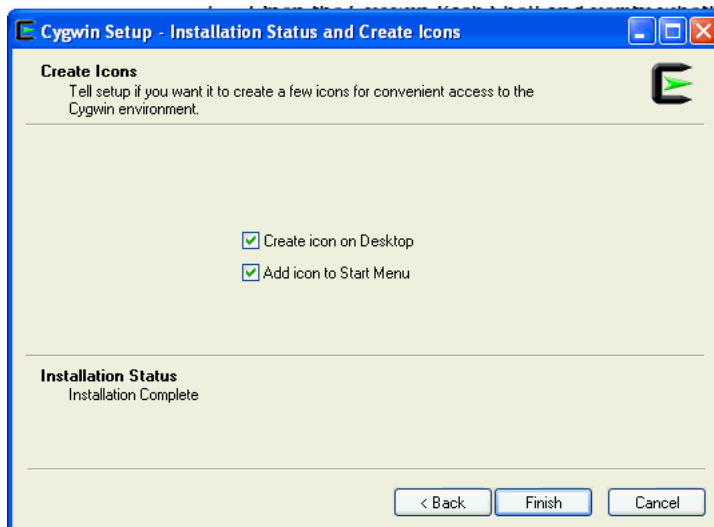
6.0-10	<input checked="" type="checkbox"/>	<input type="checkbox"/>	253k	unzip: Info-ZIP decompression utility
3.0-11	<input checked="" type="checkbox"/>	<input type="checkbox"/>	259k	zip: Info-ZIP compression utility

From the **Net** category, select `openssh` as follows:

6.0p1-1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	844k	openssh: The OpenSSH server and client programs
1.0.1a-1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	503k	openssl: The OpenSSL base environment

After selecting the packages, a Resolving Dependencies screen is displayed. Click **Next** to proceed.

- h. On the Installation Status and Create Icons screen, do not make any changes. Click **Finish** to complete the installation process.



2. After you install Cygwin, navigate to the `C:\cygwin` directory, open the `Cygwin.bat` file in edit mode, and add the following line before invoking the bash shell.

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

3. To verify if Cygwin (`cygrunsrv`) is installed properly, run `C:\cygwin\Cygwin.bat`, and execute the following command:

```
cygrunsrv -h
```

If Cygwin is installed properly, then all the Cygwin help options are displayed on the screen. However, if this returns an error message, then it means you are not on the right track, and might have to reinstall Cygwin.

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.

4. To install SSHD service, run `C:\cygwin\Cygwin.bat`, and execute the following command:

```
ssh-host-config
```

Note: Enter *no* when prompted to create sshd user account (message reads "sshd user account needs to be created").

Enter *yes* at 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"
```

5. Backup the `/etc/passwd` file and then use a *vim* or *vi* editor to open it in edit mode. Remove only those entries of the user that you will use to connect to the destination host on which you want to install the Management Agent. Ask the user to make a backup of the `/etc/passwd` file before editing.

- If the user that you are employing to connect to the destination host on which you want to install the Management Agent is a local user, run `C:\cygwin\Cygwin.bat` and execute the following:

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

- If the user you are employing to connect to the destination host on which you want to install the Management Agent running is a domain user, run `C:\cygwin\Cygwin.bat` and execute the following:

```
/bin/mkpasswd -d -u <USER> >> /etc/passwd
/bin/mkgroup -d >> /etc/group
```

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

6. (*domain user only*) If the user you are employing to connect to the destination host on which you want to install the Management Agent is a domain user, do the following to start the SSH daemon:

- 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/username and password. Click **Apply**.
- f. Run `C:\cygwin\Cygwin.bat`, and execute the following:

```
chown <USERNAME> /var/log/sshd.log
chown -R <USERNAME> /var/empty
chown <USERNAME> /etc/ssh*
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 commands:

```
chown <USERNAME> /var/log/sshd.log
chmod 644 /var/log/sshd.log
```

7. Perform one of the following steps to start the SSH daemon:

Run `C:/cygwin/Cygwin.bat` and execute the following command:

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

OR

Run `C:/cygwin/Cygwin.bat` and execute the following command:

```
cygrunsrv -S sshd
```

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

8. 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 egal07.db.funds.com 'date'
```

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

D.3 Setting Up SSH on Microsoft Windows Using sshUserSetupNT.sh

Note: Before executing the `sshUserSetupNT.sh` script, execute the following commands to ensure the home directory has been correctly set:

1. Execute `echo $HOME`

Ensure this displays the home directory of the current user.

2. If it points to the home directory of another user, execute the following command:

```
export HOME=<Windows style absolute path of homedir>
```

3. Now, execute `echo $HOME` again, to verify the home directory. The `$HOME` value must be the same as that passed to `-homeDir`
-
-

This is the script that should be executed to set up SSH on Microsoft Windows operating systems. The usage of the script is as follows:

```
./sshUserSetupNT.sh -user -asUser -asUserGrp -sshLocalDir -homeDir -hosts
-hostfile
```

Note: After the `SSHUserSetupNT.sh` script has been executed, you must verify the successful SSH user setup on all the hosts, individually.

That is, if you have run the script to set up SSH on two hosts (host1, and host2), you must run the following command on each host to verify successful SSH setup:

```
ssh -l <username> host1 'date'
```

and then run:

```
ssh -l <username> host2 'date'
```

Caution: You must execute the `sshUserSetupNT.sh` script on the local OMS machine from within the `cygwin` (BASH) shell only. The script will fail to execute if done from outside this location.

All the previously mentioned options are mandatory, and should be passed while executing the script.

Note: It is assumed that `C:\cygwin` is the default installation directory for the `Cygwin` binaries.

If you install `cygwin` at a location other than `c:\cygwin` (default location), it can cause the SSH setup to fail, and in turn, the agent installation will fail.

To work around this issue, you must either install `cygwin` in the default directory (`c:\cygwin`), or update the `ssPaths_msplats.properties` file with the correct path to the `cygwin` binaries. The `ssPaths_msplats.properties` is available in `<OMS_INSTANCE_HOME>/sysman/prov/resources/`.

Description

This script is used on Microsoft Windows operating systems to set up SSH from the host on which it is run to the specified remote hosts. After this script is run, you can use SSH to execute commands on the remote hosts, or copy files between the local host and the remote hosts without being prompted for passwords or confirmations.

The list of remote hosts and their user names are specified as command-line parameters to the script.

- `-asUser`

This is the user of the local machine on which the setup must be performed. For example, `SYSTEM`.

- `-asuserGrp`

This is the group to which the specified `asUser` belongs.

- `-sshLocalDir`

This is the full path to the directory where the keys should be generated for the `asUser` on the local machine.

- `-homeDir`

This is the full path to the home directory of the current user.

If the `/home` key (in `regedit`) is seen as a subkey under the Cygnus Solutions key, then the value of the `/home` key must have `/<username>` as a suffix and then be used as `-homeDir` value.

If the `/home` key is not found, go to the Cygwin BASH prompt and check the value of `$HOME`. You can now use the same value of `$HOME` as the value for `-homeDir`.

If `$HOME` does not have any value (is empty), then you must update the `/etc/passwd` file.

Identifying the Correct Entry in the `/etc/passwd` File

If the `/etc/passwd` file has only one entry for the user, you can simply modify that value. In the event that there are multiple entries in this file, you must first identify the correct entry and then modify it.

To identify the correct entry:

- Execute the following command if you have specified a local user during SSH setup:

```
/bin/mkpasswd -l -u <username>
```

- Execute the following command if you have specified a domain user during SSH setup:

```
/bin/mkpasswd -d -u <username>
```

Now, match the output with the corresponding entry in the `/etc/passwd` file. This is the entry that you must modify.

Updating the `-homeDir` value

All values for all users are listed as colon (`:`) separated entries (or fields). To update the user entry that you have identified previously, go to the penultimate value (or field) of that user entry, and modify the value of the home directory for that user.

Always specify the absolute path needed by Cygwin as value for the home directory. For example, if the path is `C:\Documents and Settings\pjohn`, modify it to:

```
/cygdrive/c/Documents and Settings/pjohn
```

Or, if the path reads `C:\cygwin\pjohn`, modify this to:

```
/cygdrive/c/cygwin/pjohn
```

Now, save the password file and reenter the BASH shell.

Note: If you have used spaces in the `$HOME` value (for example, `/cygdrive/c/Documents and Settings/pjohn`), specify the `$HOME` value in Microsoft Windows style and within double quotation marks (for example, `"C:\ Documents and Settings\pjohn"`).

Note: Specify the full path within double quotation marks (" ").

Caution: You must execute the `sshUserSetupNT.sh` script on the local OMS machine from within the `cygwin` (BASH) shell only. The script will fail to execute if done from outside this location.

D.4 Setting Up the Timezone Variable on Remote Hosts

This section lists the steps you must follow to set up the timezone environment 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:

D.4.1 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 executing the following command:

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'
```

D.4.2 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'
```

Validating Command Locations

This appendix describes what property files and the command locations within them you need to validate before installing Oracle Management Agent (Management Agent). In particular, this appendix covers the following:

E.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 for commands that are required for successful running of 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](#)

E.1.1 Property Files Loaded from platformInfo.properties File

[Table E-1](#) describes the property files loaded from the `platformInfo.properties` file.

Table E-1 *Property Files Loaded from platformInfo.properties File*

Loading Order	Property File Name	Type	Description
1	<code>Paths.properties</code>	Generic	Contains arguments that need to be passed every time the commands listed in this file are run.
2	<code>sPaths.properties</code>	Generic	Contains paths for all the commands that need to be run, regardless of the operating system.
3	<code>ssPaths_<platform>.properties</code>	Operating System-Specific	<p>Contains commands that need to be run for that operating system. For example, <code>ssPaths_linux_zseries64.properties</code>.</p> <p>On Microsoft Windows, the path to the Cygwin binaries is hardcoded in the <code>ssPaths_msplats.properties</code> file. If you install Cygwin in a location other than <code>c:\cygwin</code> (default location), it can cause the Management Agent installation to fail. To resolve this issue, you must either install Cygwin in the default directory (<code>c:\cygwin</code>), or update this properties file with the correct path to the Cygwin binaries.</p>

Table E-1 (Cont.) Property Files Loaded from platformInfo.properties File

Loading Order	Property File Name	Type	Description
4	userPaths.properties	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 as `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`.

E.1.2 Other Property Files Loaded

[Table E-2](#) describes the other property files that are loaded.

Table E-2 Other Property Files Loaded

Property File Name	Type	Description
<code>system.properties</code>	Generic	<p>Contains properties that help you control the activity and performance of the application. For example, these:</p> <ul style="list-style-type: none"> ■ <code>oracle.system.prov.threadpoolsize</code> 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. ■ <code>oracle.sysman.prov.threadpoolmaxsize</code> 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.

Table E-2 (Cont.) Other Property Files Loaded

Property File Name	Type	Description
ignoreMessages.txt	Generic	<p>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 <code>ignoreMessages.txt</code> file.</p> <p>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.</p> <p>So, to ignore such error messages, you must add these messages (including the banner) to the <code>ignoreMessages.txt</code> file.</p> <p>For example, when you run <code>/usr/local/bin/sudo</code> on a remote host, it writes the following messages on to the error stream. Error messages of this kind can be added to the <code>ignoreMessages.txt</code> file.</p> <pre>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 to the user and does not constitute the failure of the executed command.</pre>

Note: The data format for these files mandates only one property per line. You must specify the property values in the format: `variable=value`.

E.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.

This section describes what property files and command locations within them you need to validate before you install a Management Agent. In particular, this section covers the following:

- [Validating Command Locations on the OMS Host](#)
- [Validating Command Locations on the Destination Host](#)

E.2.1 Validating Command Locations on the OMS Host

In the property files present in the `<OMS_INSTANCE_HOME>/sysman/prov/resources/` location, validate the command locations (on the OMS host) for the following variables:

- `SH_PATH`
- `SSH_ARGS`
- `SSH_KEYGEN_PATH`
- `SSH_PATH`

- SCP_ARGS
- SCP_PATH
- UNZIP_ARGS
- UNZIP_PATH
- TAR_PATH

Instead of manually reviewing each of the property files, you can run the following command from the OMS instance home to automatically list the variables that are not found in the default locations.

```
$<OMS_INSTANCE_HOME>/sysman/prov/resources/scripts/validatePaths -dirloc  
oms/sysman/prov/resources/
```

Note: Before running the command, set the environment variable `JARS_LOC` to the following location of the OMS home where `OraInstaller.jar` and `remoteinterfaces.jar` are present:

```
$<ORACLE_HOME>/sysman/prov/agentpush/jlib
```

E.2.2 Validating Command Locations on the Destination Host

In the property files present in the `<OMS_INSTANCE_HOME>/sysman/prov/resources/` location, validate the command locations (on the destination host) for the following variables:

- SH_PATH
- SH_ARGS
- SCP_PATH
- SCP_ARGS
- SUDO_PATH
- SSH_HOST_KEY_LOC
- ZIP_PATH
- TAR_PATH

Passing Additional Parameters

This appendix describes the additional parameters you can pass while installing Oracle Management Agent (Management Agent) using the Agent Deployment Wizard and the `agentDownload` script. In particular, this appendix covers the following:

- [Additional Parameters Supported by agentDownload Script](#)
- [Additional Parameters Supported by Agent Deployment Wizard for Custom Location](#)

F.1 Additional Parameters Supported by agentDownload Script

If you install a Management Agent using the `agentDownload` script, then you can pass the following additional parameters while invoking the script.

You can also pass these additional parameters in the Additional Parameters section of the Agent Deployment Wizard if you install a Management Agent using the default source location in the Agent Deployment Wizard.

Note: On Microsoft Windows, do not hyphenate the arguments. For example, the `-b` argument when run on Microsoft Windows is `b`.

Table F-1 Additional Parameters You Can Pass While Running `agentDownload` Script

Option	Optional/Mandatory	Description
<code>-b</code>	Mandatory	Specify the full path to the installation base directory where you want to install the Management Agent. For example, <code>/scratch/OracleHomes/</code>
<code>-c</code>	Optional	Specify the short names of the nodes of the cluster separated by a comma. Do NOT specify their fully-qualified names. Do NOT include any white spaces between the node names.
<code>-d</code>	Optional	Use this option only if you do not want automatic discovery of targets to be initiated after the installation ends.
<code>-h</code>	Optional	Use this option if you want to view an entire list of options that can be passed with the command. It essentially displays this entire table.

Table F-1 (Cont.) Additional Parameters You Can Pass While Running agentDownload

Option	Optional/Mandatory	Description
-i	Optional	Specify the full path to the location (leading to the file name) where the <code>oraInst.loc</code> file is available. For example, <code>-i /scratch/oraInst.loc</code> The <code>oraInst.loc</code> file contains the following entries: <code>inventory_loc=<location_of_central_inventory></code> <code>inst_group=<group_of_the_user_that_is_installing_the_agent></code>
-l	Optional	Use this to indicate that the installation must be done on the local host.
-m	Mandatory (Only if OMS host is not specified in the response file)	Specify the host name where OMS is running. This is to download the Management Agent software. For example, <code>software.server.com</code>
-n	Optional	Specify the name of the cluster.
-N	Optional	Use this option only if you DO NOT want to be prompted for Management Agent registration password.
-o	Optional	Specify the full path to the Oracle home of the lower version of the Management Agent that you want to upgrade. For example, <code>/scratch/OracleHomes/agent10g</code>
-p	Optional	Specify the full path to the location (leading to the file name) where the <code>staticports.ini</code> file is available.
-r	Mandatory	Specify the port number of the OMS from where the Management Agent software needs to be downloaded.
-R	Optional	Use this option to use virtual host name (ORACLE_HOSTNAME) for the installation. If this is being used along with more than one cluster node through "-c" option, then "-l" option also needs to be passed.
-t	Optional	Use this option only when you DO NOT want to start the Management Agent after the installation ends.
-u	Optional	Use this option when you want to upgrade the Management Agent.
-v	Optional	Specify the location to the inventory directory. For example, <code>/scratch/oraInventory</code> . This option is recommended only when it is a fresh installation and when the host does not have a central inventory.
-x	Optional	Use this option to debug output.
-y	Optional	Indicates that you want to decline the security updates.

F.2 Additional Parameters Supported by Agent Deployment Wizard for Custom Location

If you install a Management Agent using a custom source location in the Agent Deployment Wizard, then you can pass the following additional parameters in the Additional Parameters section of the Agent Deployment Wizard.

Note: On Microsoft Windows, do not hyphenate the arguments. For example, the `-b` argument when run on Microsoft Windows is `b`.

Table F-2 Additional Parameters You Can Pass in Agent Deployment Wizard

Parameter	Description
<code>-clusterware oracle.crs, <crs version></code>	Specify the version of the installed Oracle Clusterware.
<code>-crslocation <path></code>	For cluster installs, specify the path to the Oracle home of the clusterware. If you specify this, then it overrides the clusterware information obtained from the central inventory.
<code>-invPtrLoc <full path of oraInst.loc></code>	Specify the full path to the location (leading to the file name) where the <code>oraInst.loc</code> file is available. For example, <code>-invPtrLoc /scratch/oraInst.loc</code> The <code>oraInst.loc</code> file contains the following entries: <code>inventory_loc=<location_of_central_inventory></code> <code>inst_group=<group_of_the_user_that_is_installing_the_agent></code>
<code>INVENTORY_LOCATION=<location></code>	Specify the inventory location. Instead of using the <code>-invPtrLoc</code> parameter to point to a file that has the inventory location details, you can use <code>INVENTORY_LOCATION</code> parameter to directly pass the inventory location. Therefore, this is an alternative to <code>-invPtrLoc</code> . This option is recommended only when it is a fresh installation and when the host does not have a central inventory.
<code>-jreLoc <location></code>	Specify the path where the Java Runtime Environment (JRE) is installed.
<code>-logLevel <level></code>	Specify the filter log messages that have a lesser priority level than <code><level></code> . Valid options are: severe, warning, info, config, fine, finer, finest, basic, general, detailed, trace. The use of basic, general, detailed, and trace is deprecated.
<code>-paramFile <location of file></code>	Specify the location of <code>oraparam.ini</code> file to be used.
<code>-responseFile <Path></code>	Specify the full path to the response file. The path must lead up to the response file name.
<code>-sourceLoc <location of products.xml></code>	Specify the full path to the source location where the software is available.
<code>-cfs</code>	Indicates that the Oracle home specified is on the cluster file system (shared). This is mandatory when <code>'-local'</code> is specified so that the Oracle home can be appropriately registered in the inventory.
<code>-debug</code>	Indicates that you want to get debug information.
<code>-executeSysPrereqs</code>	Indicates that you want to run system prerequisite checks.
<code>-force</code>	Indicates that you want to allow silent mode installation into a non-empty directory.
<code>-help</code>	Indicates that you want to display the usage of all supported options.
<code>-ignoreSysPrereqs</code>	Indicates that you want to Ignore the results of the system prerequisite checks.

Table F-2 (Cont.) Additional Parameters You Can Pass in Agent Deployment Wizard

Parameter	Description
-local	Indicates that you want to perform the operation on the local node regardless of the number of cluster nodes you have specified.
-printmemory	Indicates that you want the log debug information for memory usage.
-printtime	Indicates that you want to log debug information for time usage.
-updateNodeList	Indicates that you want to update the node list for this Oracle home in the inventory.

Configuring Database and ASM Targets for Monitoring

In the Enterprise Manager Grid Control console, when you view the Home page for an Oracle Database target for the first time, the Database Home page may not display any monitoring data, and the status of the database may indicate that there is a metric collection error. This is because the DBSNMP credentials have not been configured, or have been locked due to unsuccessful login attempts.

Similarly, when you view the Home page of an Oracle Automatic Storage Management (Oracle ASM) target for the first time, the status of the Oracle ASM instance may be unknown or unavailable, and the Home page may indicate that the Management Agent is unavailable (down). Again, this is because you have not specified the ASM SYS credentials.

To fix this problem for an Oracle Database target, follow these steps:

1. If your DBSNMP user account is locked, then unlock it. To do so, follow these steps:
 - a. In Grid Control, click **Targets** and then **Databases**.
 - b. On the Databases page, from the table that lists all databases, click a database name.
 - c. On the Database Home page, click the **Server** tab.
 - d. On the Server page, from the Security section, click **Users**. If you are prompted to log in to the database, make sure to use a database user account with DBA privileges such as SYSTEM.
 - e. On the Users page, find and select the DBSNMP user account. From the **Actions** list, select **Unlock User**, and click **Go**. If you are asked to confirm whether you want to unlock the DBSNMP user account, click **Yes**.
2. Set the monitoring credentials for a standalone Oracle Database or Oracle RAC database. To do so, follow these steps:
 - a. In Grid Control, click **Targets** and then **Databases**.
 - b. On the Databases page, find and select the database target and click **Monitoring Configuration**.
 - c. On the Properties page, specify the password for the DBSNMP user in the **Monitor Password** field. To verify the monitoring credentials, click **Test Connection**.
 - d. If the connection is successful, click **Next**, then click **Submit**.
3. Set the monitoring credentials for Oracle ASM. To do so, follow these steps:

-
- a. In Grid Control, click **Targets** and then **Databases**.
 - b. On the Databases page, find and select the Oracle ASM target and click **Monitoring Configuration**.
 - c. On the Properties page, specify the password for the ASMSYS user in the **Password** field. To verify the monitoring credentials, click **Test Connection**.
 - d. If the connection is successful, click **Next**, then click **Submit**.

Setting Up Proxy Configuration for Oracle Management Service

For the following reasons, set up the proxy server settings in Enterprise Manager Grid 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 Enterprise Manager Grid Control, click **Setup** from the top-right corner of the home page.
2. On the Overview of Setup page, from the vertical menu to the left, click **Patching Setup**.
3. On the Patching 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.

4. If you want to use the same proxy settings for communicating with the Management Agents, then go to Step (6). Otherwise, go to Step (5).
5. 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.

6. 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 communication with Management Agents are propagated across all OMSeS.

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