Oracle® Enterprise Manager

Management Agent Download Installation Readme

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This document describes how to add additional Host targets to the Enterprise Manager Central Console by installing the Oracle Management Agent. There are a number of strategies for installing the Oracle Management Agent. This readme specifically describes how to install agents using the *download* method: Agent installation files are staged in the OMS home; the agentDownload script is executed on the target host(s) and the files are copied to the destination host(s) over the network using HTTP.

In order to add a host target to your Grid Control console, you must first install the Oracle Management Agent on the computer (host) that you want to manage. When the Management Agent on that host begins communicating with the Oracle Management Service, the agent target and the host target will appear in the list of targets. Refer to the information in this document for instructions on installing the Oracle Management Agent.

This document is installed with the OMS, and is accessible through a web browser at:

```
http://<OMS_host>:<OMS_port>/agent_download/agent_install_readme.html
```

It is also accessible through the file system on the host on which the OMS is installed; the web alias maps to this file location:

```
OMS_HOME/sysman/agent_download/agent_install_readme.html
```

The OMS_HOME is the home directory of the Management Service. For more information about the directories and files installed by the Enterprise Manager installation, see *Oracle Enterprise Manager Advanced Configuration*.

The latest version is also available on the Oracle Technology Network website inside the Mass Agent Deployment download:

http://www.oracle.com/technology/software/products/oem/htdocs/agentsoft.html

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Note: Information on Adding Host Targets is also available in the Grid Control console online help. Click **Help**, and use the search tab to find "Adding Host Targets", or use the Adding Host Targets link on the Hosts page of the Targets tab (Click **Add** in the Targets page. In the Information page that appears, click **Adding Host Targets**.)

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Management Agent Deployment Options

You can deploy the Management Agent on remote hosts using any of the following installation mechanisms:

- agentDownload Script

  This installation type makes use of the `agentDownload` Script that is fully functional and self-documenting. If required, you can customize this script for installations on specific environments. This document describes the agentDownload deployment method; for descriptions of the following methods, refer to *Oracle Enterprise Manager Installation and Basic Configuration*.

- Agent Deploy Application

  Agent Deploy is a J2EE application that is used for mass deployment of Management Agents.

- nfsagentinstall Script

  This installation type uses the nfsagentinstall script. In this method of the agent installation, the agent bits are located on a shared Net App Filer disk. All the other hosts then share these bits and run the agent processes on each host.

- Management Agent Cloning

  This type of installation allows you to clone an installed agent (also termed as the master agent) on multiple destination Oracle homes.

- Silent Installation

  This type of installation is done using the appropriate response files. These response files must be edited to pre-fill the correct values for an uninterrupted installation. You can also use a wrapper script that will perform these tasks and also execute the root.sh script, making this type of installation a fully automated activity.

Installing the Agent Using the agentDownload Script

The downloadable Agent software contains a sample script called `agentDownload`. This script provides a means for installing Management Agents that can be customized for specific environments using a silent, scripted installation. The `agentDownload` script is fully functional and self-documenting so it can be customized easily for specific environments.

About agentDownload Script

The `agentDownload` script uses *pull* technology. That is, even though the script does not have to exist on a local file system, it must always be executed from the target host computer. You must be logged into the target host to run the script. Files are not pushed from a central location to a list of target hosts. Instead, files are pulled to the local `$ORACLE_HOME` from the staged product installation location.

This means that the `agentDownload` needs to be launched from each target host where you want to install the Management Agent. Because the installation is scripted, it is possible to use a wrapper script, `cron` job, `rdist`, or a combination

of operating system features to fully automate this process for mass deployments.

> **Note:** Use the `agentDownload` script to perform an Agent Installation on a Cluster environment. See the Cluster Installation section for more information on deploying Management Agents onto clusters.

Benefits of the agentDownload Script

The download script deploys the standard Management Agent installation with some additional benefits:

- Can be modified for specific user environments.

- Non-interactive, silent, installations.

- Output is text-only (non-graphical).

- Management Agents installed using the script are identical to Management Agents installed with the Oracle Universal Installer graphical installation.

- Simplifies deploying Management Agents in secure Web environments that are configured to provide HTTP access.

- Provides useful install options via the command line (including the ability to control target auto-discovery, auto-starting of the agent, and so on).

- Allows installation onto clustered environments. See the Cluster Installation section for more information.

Obtaining the agentDownload Script

The downloadable Agent software for the operating system of the OMS platform is available from inside an installed Oracle Management Service Oracle home, and from the following Oracle Technology Network Web site under Mass Agent Deployment:

http://www.oracle.com/technology/software/products/oem/htdocs/agentsoft.html

There is a separate downloadable agent for each operating system platform. See Uploading Agent Installation Software for Different Platforms for more information on obtaining agent installables for different platforms.

Using the agentDownload Script

In use, the agentDownload script is downloaded to a target node and executed to initiate a silent Oracle Universal Install session. The agent files are copied from the staging area in the OMS home to the target node via HTTP.

To deploy multiple Management Agents using the `agentDownload` script, you must do the following:

1. Install the Oracle Management Service.

   Install the Management Service using the Oracle Universal Installer. The Management Service is installed and deployed into its own Oracle Application Server home directory.

> **See Also:** For more information about the directory structure of a typical Management Service installation, see *Oracle Enterprise Manager Advanced Configuration.*

2. The download stage for the Management Service platform is installed with the Management Service. For example, for Linux operating systems, the download stage can be found in:

```
OMS_HOME/sysman/agent_download/<version>/linux
```

- The agentDownload script is located at OMS_HOME/sysman/agent_ download/<version>/<platform>

  For example, for Enterprise Manager 10g R2, the <version> value in the above syntax will be 10.2.0.1.0.

- The readme file is available at OMS_HOME/sysman/agent_ download/agent_install_readme.html.

> **Important:** If the Management Service is using a load balancer, you must modify the OMShost and httpPort values in the download script file to reflect the load balancer host and port before using the agentDownload script.

3. Download the agentDownload script to the target host from the Management Service URL.

   The Management Service installation creates a Web sever alias called agent_ download that maps to a physical directory in the Oracle Application Server home directory where the Management Service is installed and deployed. For example, if you installed the Management Service on a host named mgmthost27.acme.com, you could access the following URL from a browser:

```
http://mgmthost27.acme.com:4889/agent_download/10.2.0.1.0/<platform>
```

> **Note:** Port 4889 is the default port for Grid Control. This should be available after you install the Management Service.

   Using this Web server alias, you can download the script to the target host computer using the following URL. Save the script locally as agentDownload.

```
http://mgmthost27.acme.com:4889/agent_
download/10.2.0.1.0/<platform>/agentDownload.<OS>
```

   Where OS represents the operating system platform. For example, for Linux operating systems, the script is named agentDownload.linux.

   Any method of retrieving the file is acceptable: cp, rcp, scp, FTP, and so on. The script can also be retrieved by launching a browser on the target machine and saving the link to a local file.

> **Note:** If you opt to perform the installation using a file-based protocol rather than HTTP, you need to modify the `$AgentDownload` URL variable in the script to access the file system on the Management Server host instead of a URL.
>
> The URL:
>
> ```
> http://${OMShost}:${httpPort}/agent_download/
> ```
>
> is a Web alias for:
>
> ```
> $OMS_HOME/sysman/agent_download/
> ```

4. Execute the `agentDownload` script on the target host.

   Before launching the script, ensure that:

   - The execute bit is set and the script file has the proper file protection settings (use `chmod` to ensure the file has the correct privileges).

   - The base directory is specified at the command line. This will be the location of the Management Agent home on the target host. If the directory does not exist, it is created during the installation. If it exists, ensure it is empty. If the variable is not set, the script exits with an error.

     > **Note:** The base directory for the agent installation must be specified using the -b option. For example, if you specified the parent directory to be agent_download (`/scratch/agent_download`), then the command to be specified is:
     >
     > ```
     > -b /scratch/agent_download
     > ```
     >
     > The agent Oracle home (agent10g) is created as a sub-directory under this parent directory.

   - The `jar` executable file is in the PATH environment variable. If the file is not found, the script exits with an error.

   - The `wget` (or other file transfer mechanism) has been defined in the script. The script checks for the existence of `wget` in `/usr/local/bin/wget`, followed by `/usr/bin/wget`. If `wget` is not found in either of those locations, then it must be included in the `$PATH` or the script will exit with an error.

   - The `$AGENT_INSTALL_PASSWORD` environment variable is set in the environment if the Management Agent is uploading to a secure Management Service.

     > **ATTENTION:** The agent that you are installing is not secure by default. If you want to secure the agent, you must specify the password using the AGENT_INSTALL_PASSWORD environment variable, or by executing the following command after the installation is complete:
     >
     > ```
     > <Agent_Home>/bin/emctl secure agent <password>
     > ```

> **See Also:** For more information about enabling Security for Enterprise Manager components, see *Oracle Enterprise Manager Advanced Configuration*.

- The script user has the necessary file access permissions for the Management Agent home directory.

5. After the Management Agent installation is complete, change the directory to the Agent home directory and run the `root.sh` script as the `root` user.

For example:

```
$PROMPT>su root
Password: root_password
#./root.sh
#exit
$PROMPT>
```

The `root.sh` script must be run as `root` or with `sudo` privileges; otherwise, it exits and the Enterprise Manager job system will not be available. The job system is required for some Enterprise Manager features, such as hardware and software configuration tasks and configuring managed database targets.

Cluster Installation

The agentDownload script can be used to install Management Agents onto clustered environments. In order to perform this type of installation, the following command-line switches are used:

Table 1   Command-line Switches to be Used

Command-line Switches	Description
-c	This option is followed by a comma-separated list of the nodes in the cluster. It is possible to install a standalone agent that will still discover cluster targets by not specifying this option while still specifying the cluster name with the `-n` option.
-n	This option is followed by the name of the cluster. This option is required for 9*i* clusters; for 10*g* clusters, if this option is not specified, the default cluster name from the `targets.xml` file will be used.
-l	This option specifies that the install should be done just on the local node of the cluster.

For example, to use the `agentDownload` script to install a Management Agent on just the local node of a cluster that consists of nodes host1, host2, and host3, with cluster name *myCRS*, you must execute the following:

```
./agentDownload.<platform> -b /scratch/agentInstall -c "host1,host2,host3" -n
myCRS -l
```

Script Details

The `agentDownload` script performs the following actions:

- Creates a home directory for the Management Agent and Oracle Universal Installer if they do not exist, based on the parent directory path specified through the command line.

- Downloads the `agent_download.rsp` response file from the Management Service Web server.

  The Management Service instantiates the response file with the name and port number of the Management Service. As a result, the Management Agent you install is configured to use the Management Service from which the response file was downloaded.

- Downloads an Oracle Universal Installer JAR file for the target operating system from the Management Service Web server (for Linux only).

- Unjars the Oracle Universal Installer and points the Oracle Universal Installer to the product definition file (`products.xml`) hosted by the Management Service Web server.

- Launches the Oracle Universal Installer in silent mode from the local machine; the Universal Installer pulls files from the Web server to the target machine via HTTP.

  > **Note:** This script uses the `-ignoresysPrereqs` flag to bypass prerequisite check messages for operating system-specific patches during installation; prerequisite checks are still performed and saved to the installer logs. While this makes the Management Agent easier to deploy, check the logs to make sure the target machines on which you are installing Management Agents are properly configured for successful installation.

- The resulting installation and configuration, including the automatic discovery of managed targets on the Management Agent host, is identical to that provided by the Management Agent install on the Enterprise Manager DVD set.

- The `agentDownload` script creates a log file in `$ORACLE HOME/cfgtoollogs/cfgfw`.

- At the end of a successful installation, the Agent starts and should begin successfully uploading to the OMS, presuming automatic discovery and automatic start were not disabled at the command line.

To run the script, use the following command:

```
./agentDownload.<platform> [-bcdhilmnoprstux]
```

Descriptions of the script options follow:

Table 2   AgentDownload Script Options

Option	Description
-b	Base directory of the Agent Oracle home.
-c	CLUSTER_NODES (to specify the cluster nodes)
	Note that there should not be any spaces between the comma-separated nodes list.
-d	Do not automatically discover targets during installation.
-h	Displays and describes the options that can be used with this script.

Table 2 (Cont.) AgentDownload Script Options

Option	Description
-i	Inventory pointer location file: Can be used to point the installer to a non-default inventory. (For advanced users only.)
-l	local (pass -local to runInstaller)
-n	Specify the cluster name.
-o	OLD_ORACLE_HOME during upgrade
-s	Installer stage directory: Points to an installer previously downloaded by the script. If defined, the local installer is launched and the jarred installer is not downloaded.
-t	Do not automatically start the agent at the end of the installation.
-u	Upgrade
-x	Debug output: Turns on shell debugging.

For example, to use the `agentDownload` script to install a Management Agent on just the local node of a cluster that consists of nodes host1, host2, and host3, with cluster name *myCRS*, you must execute the following:

```
./agentDownload.<platform> -b /scratch/agentInstall -c "host1,host2,host3" -n
myCRS -l
```

Customizing the agentDownload Script

You can edit the contents of the `agentDownload` script so it uses a specific tool for transferring files from the Management Service Web server. The contents of the file contain instructions for doing so, as shown in the following example:

```
WGET="/usr/local/bin/wget --dot-style=mega --verbose --tries=5"
InstallerDownloadCmd=$WGET
# Define the command to be used to download the jarred installer from
# the web server hosting the OMS.
# Other download possibilities: ftp; cp/scp; use local browser to save the
# link to a file on the target machine.
# This example uses wget, a GNU tool for http and ftp file transfers.
# If the products.xml referenced by the Oracle Installer is a URL, then the
# Installer will download its files via http. This greatly facilitates
# performing installs in a secure environment that may include firewalls
# and servers with limited access (no ftp server, NFS mounts not available,
# etc.).
# Enterprise Manager version number. This is used to construct the
# home name used by the installer
```

GNU wget is available for most platforms and can be downloaded from the following location:

```
http://www.gnu.org/software/wget/wget.html
```

Uploading Agent Installation Software for Different Platforms

To obtain the agent download for other platforms, you must complete the following steps to make the Management Agent installable from the Management Service Oracle home.

For example:

To obtain the agentdownload for Linux:

1. Download the `Linux_Grid_Control_agent_download_10_2_0_1.cpio.gz` file from OTN:

   `http://www.oracle.com/technology/software/products/oem/htdocs/agentsoft.html`

2. Copy the downloaded file to the `<OMS_HOME>/sysman/agent_download/10.2.0.1.0` directory.

   > **Note:** Create the `<OMS_HOME>/sysman/agent_download/10.2.0.1.0` directory, if it does not exist.

3. Go to this directory by executing the following:

   `cd <OMS_HOME>/sysman/agent_download/10.2.0.1.0`

   When you are here, confirm that the size and checksum calculation of the downloaded file match the information specified on the OTN download page.

4. Run `gunzip` by executing the following:

   `gunzip Linux_Grid_Control_agent_download_10_2_0_1.cpio.gz`

5. Execute the following command to extract the archive:

   `cpio -idcmv < Linux_Grid_Control_agent_download_10_2_0_1.cpio`

6. Edit the `<OMS_HOME>/sysman/agent_download/10.2.0.1.0/linux/agentDownload.linux` file and modify `OMShost=REPLACE_WITH_OMS_HOST` and `httpPort=REPLACE_WITH_OMS_PORT` with the correct OMSHost and OMSPort.(Even if you are specifying a secure Management Service, you must still enter the non-secure port number here.) For example:

   ```
   OMShost=stadv26.us.oracle.com
   httpPort=4889
   ```

To obtain the agentdownload for Windows:

1. Download the `Linux_Grid_Control_agent_download_10_2_0_1.zip` file from OTN:

   `http://www.oracle.com/technology/software/products/oem/htdocs/agentsoft.html`

2. Copy the downloaded file to the `<OMS_HOME>/sysman/agent_download/10.2.0.1.0` directory.

   > **Note:** Create the `<OMS_HOME>/sysman/agent_download/10.2.0.1.0` directory, if it does not exist.

3. Go to this directory by executing the following:

   `cd <OMS_HOME>/sysman/agent_download/10.2.0.1.0`

When you are here, confirm that the size and checksum calculation of the downloaded file match the information specified on the OTN download page.

4. Unzip this file by executing the following:

```
unzip Linux_Grid_Control_agent_download_10_2_0_1.zip
```

5. After unzipping, the `agentdownload.vbs` will be available at `<OMSHOME>/sysman/agent_download/10.2.0.1/win32/agentdownload.vbs`.

6. Download the `agentDownload.vbs` on the machine where you want to install the Management Agent.

7. Run `agentDownload.vbs` by executing the following:

```
cscript.exe agentDownload.vbs (followed by the appropriate options to
specify the OMS Oracle home and port)
```

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