



ORACLE

Oracle Enterprise Manager 13.4

Enterprise Manager Installation and Best Practices

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Product Management
June, 2020

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Agenda

- 1 What's New in EM 13.4 LCM
- 2 Ease of Lifecycle Management
- 3 Enterprise Manager Infrastructure Requirements
- 4 Enterprise Manager Installation Types
- 5 Database Templates for Enterprise Manager Installation
- 6 Primary and Additional OMS Deployment
- 7 Installation Best Practices
- 8 Installation Log file Locations

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What's New in EM 13.4 Lifecycle Management

- Oracle Enterprise Manager 13.4 shipped with
 - Weblogic – 12.2.1.3.0
 - JDK 1.8 u231 - Default shipped version
 - BI Publisher – 12.2.1.3
 - JDK 1.8 u251 : Updated as part of RU2
- Oracle Enterprise Manager 13.4 release will allow you
 - Fresh Install – EM 13.4
 - Upgrade to EM 13.4
- Repository Database Versions and Type Supported – Single Instance, RAC, PDB
 - DB 12.1.0.2, 12.2
 - DB 18c (18.3/4/5/6/7/8)
 - DB 19c (19.3/5/6)



What's New in EM 13.4 Lifecycle Management

- Upgrade optimization
 - Additional OMS's Parallel Upgrade
- Repository Data Extraction Through REST
 - SQL Execution via REST API
- Mass Agent Decommission
- DB 18.6 and 19.5 Templates available for Install



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Ease of EM 13.4 Lifecycle Management

Software and Add-on Plug-ins Download

- Oracle Enterprise Manager software binaries for all platforms are available on oracle.com and edelivery.oracle.com
- Download the binaries from:
 - www.oracle.com/enterprise-manager/downloads/cloud-control-downloads.html (or)
 - <https://edelivery.oracle.com/osdc/faces/SoftwareDelivery>
- Add-on Plug-ins like Golden Gate, ODA, EBS, etc.
- Download for Install/Upgrade from:
 - <https://www.oracle.com/enterprise-manager/downloads/oem-v134-update-plugins-downloads.html>

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Infrastructure requirements - Oracle Management Repository

CPU, RAM, and Hard Disk Space Requirements

- Minimum RAM and hard disk space requirements for configuring Oracle Management Repository
- For high availability, Oracle Real Application Cluster (Oracle RAC) database must be set up.

	SMALL	MEDIUM	LARGE
CPU Cores/Host	4	6	12
RAM	7 GB	10 GB	18 GB
Hard Disk Space	147 GB	455 GB	649 GB

Infrastructure requirements - Oracle Management Service

CPU, RAM, Heap, and Hard Disk Space Requirements

- Minimum CPU, physical memory (RAM), heap size, and hard disk space requirements Per Oracle Management Service

	SMALL	MEDIUM	LARGE
CPU Cores/Host	4	6	12
RAM	10 GB	12 GB	24 GB
Hard Disk Space	28 GB	28 GB	28 GB
Temporary Directory Hard Disk Space	14 GB	14 GB	14 GB
Oracle WebLogic Server JVM Heap Size	1.7 GB	4 GB	8 GB

Infrastructure requirements - Oracle Management Agent

CPU, RAM, and Hard Disk Space Requirements

- Minimum CPU, RAM, and hard disk space requirements for installing Oracle Management Agents (Management Agent), Hybrid Cloud Agents, and Hybrid Cloud Gateway Agents.

	CPU Cores Per Host	RAM	Hard Disk Space	Swap Space	Temporary Directory Space
Agent Install	2	512 MB	1.5 GB	500 MB	1 GB



Enterprise Manager Deployment - Sizing Specifications

- Enterprise Manager offers an option to select the deployment size - **Small**, **Medium**, or **Large** of your choice and depending on the deployment size you select configures with the required memory
- The deployment size essentially indicates the number of targets you plan to monitor, the number of Management Agents you plan to have, and the number of concurrent user sessions you plan to have.

Size	Agent Count	Target Count	Concurrent User Sessions
Eval	< 10	< 100	<3
SMALL	< 100	< 1000	<10
MEDIUM	>= 100, < 1000	>= 1000, < 10,000	>= 10, < 25
LARGE	>= 1000	>= 10,000	>= 25, <= 50
Extra LARGE	>= 5000	>=50,000	>=50, <=100

Enterprise Manager Deployment - Firewall Port Requirements

- Following are the defaults port used for installation

Components	Port Range
Upload Port (HTTPS)	4899 to 4908
Upload Port (HTTP)	4889 to 4898
Console Port (HTTPS)	7799 - 7809
Console (HTTP)	7788 - 7798
Oracle Management Agent	Default- 3872, 1830 to 1849
Administration Server	7101 to 7200
Node Manager	7401 to 7500
Managed Server	7301 to 7400
Oracle BI Publisher (HTTPS)	9801 to 9850
Oracle BI Publisher (HTTP)	9701 to 9750
Oracle HTTP Server (HTTPS)	9851 to 9900
Oracle HTTP Server (HTTP)	9751 to 9800

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Enterprise Manager Installation Types - Simple Install

- Installs with minimal, default configuration settings. Does not offer too many options to customize your installation
- Installs mandatory plug-ins
 - Oracle Database plug-in
 - Oracle Fusion Middleware plug-in
 - Oracle Exadata plug-in
 - Oracle Cloud Framework plug-in
 - Oracle System Infrastructure plug-in
- Creates a default user account *weblogic* for the WebLogic domain *GCDomain*
- Common password for WebLogic Server administration, Node Manager, SYSMAN user account, and Management Agent registration
- Installs with default ports. No option to customize ports
- Few interview screens to fill in the Enterprise Manager Cloud Control Installation Wizard

Enterprise Manager Installation Types - **Advanced Install**

- Meant for small, medium, and large deployments, and when you want to customize your installation with custom locations, directory names, and passwords
- Installs mandatory plug-ins and allows to select other plug-in in the Installation Wizard
- Allows you to change the name of the default user account *weblogic* for the WebLogic domain *GCDomain*
- Separate, distinct passwords for WebLogic Server administration, Node Manager, SYSMAN user account, and Management Agent registration
- Allows you to change
 - The name of the default OMS instance base directory (*gc_inst*) to a name of your choice
 - The locations of the tablespaces for management, configuration data, and JVM diagnostics data
- Allows you to customize the ports according to your environment

Enterprise Manager Installation Modes

- Enterprise Manager 13.4.0.0.0 can be installed in
 - **Graphical Mode**
 - **Silent Mode**
- Graphical Mode
 - Graphical mode is the Graphical User Interface (GUI) method that involves usage of a Java-based installation wizard or a browser-based application that is built into and accessed from the Enterprise Manager Cloud Control console. This method is best suited for first-time installations because you are guided through the entire installation process and your installation details are captured using the interview screens
- Silent Mode
 - Silent method involves usage of Oracle-supplied response files or scripts that capture all the information required for installation. This method is simpler and faster, but requires you to have some knowledge on the installation process so that you can provide your installation details in the response files without having to see the interview screens of the installation wizard.

Enterprise Manager Installation Modes

1. Graphical Mode Enterprise Manager 13.4.0.0.0 Install

- Invoke the installer using : `em13400_<platform>.bin` (Installation + Configuration)

2. Silent Mode Enterprise Manager 13.4.0.0.0 Install







- a. Invoke the installer and generate the response file you need to use for performing a silent installation
 - `em13400_<platform>.bin -getResponseFileTemplates -outputLoc <absolute_path_to_a_directory_to_store_the_generated_response_file>`
- b. Edit the Response file (`new_install.rsp`). Invoke the installer in silent mode and pass the response file
 - `em13400_<platform>.bin -silent -responseFile <absolute_path_to_the_directory_where_the_generated_and_updated_response_file_is_stored>/new_install.rsp`







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Enterprise Manager 13.4 DB Templates

- Pre-configured Repository Database Templates are live on oracle.com for customer download
- Templates available - DB 18.6 & 19.5 [Single Instance] on all platforms
- Download URL: <https://www.oracle.com/enterprise-manager/downloads/db-templates-13c-release4-downloads.html>

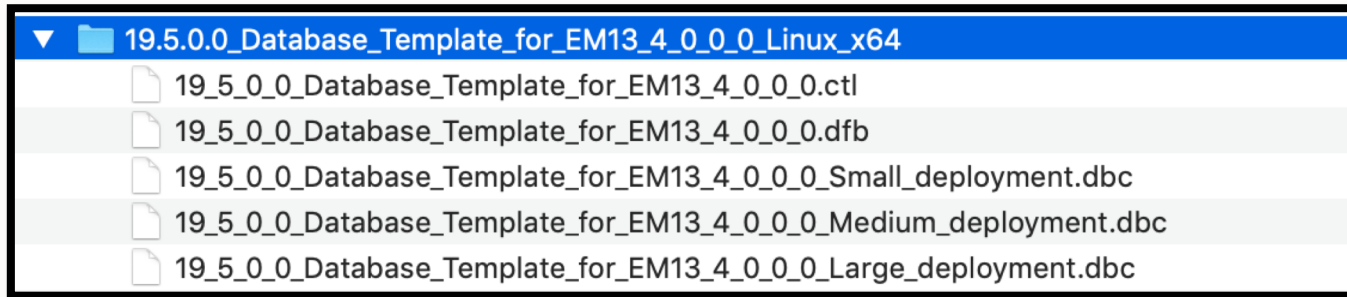
18.6.0.0 DB Templates	
Download	
	18.6.0.0 DB Template for EM 13.4.0.0.0 on Linux x86-64
	18.6.0.0 DB Template for EM 13.4.0.0.0 on WindowsX64
	18.6.0.0 DB Template for EM 13.4.0.0.0 on Solaris SPARC
	18.6.0.0 DB Template for EM 13.4.0.0.0 on SolarisX64
	18.6.0.0 DB Template for EM 13.4.0.0.0 on AIX
	18.6.0.0 DB Template for EM 13.4.0.0.0 on HP-UX

19.5.0.0 DB Templates	
Download	
	19.5.0.0 DB Template for EM 13.4.0.0.0 on Linux x86-64
	19.5.0.0 DB Template for EM 13.4.0.0.0 on WindowsX64
	19.5.0.0 DB Template for EM 13.4.0.0.0 on Solaris SPARC
	19.5.0.0 DB Template for EM 13.4.0.0.0 on SolarisX64
	19.5.0.0 DB Template for EM 13.4.0.0.0 on AIX
	19.5.0.0 DB Template for EM 13.4.0.0.0 on HP-UX

Enterprise Manager 13.4 – DB Templates

How does DB templates work?

- Download the 18.6 or 19.5 template zip file

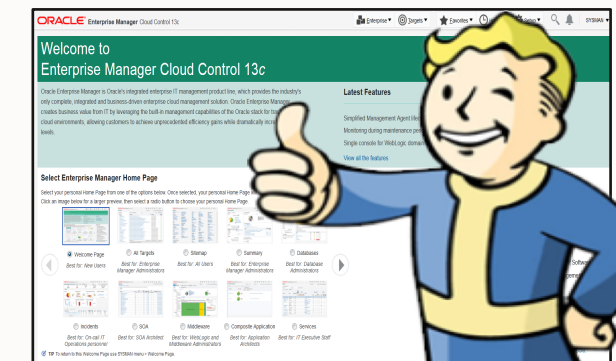
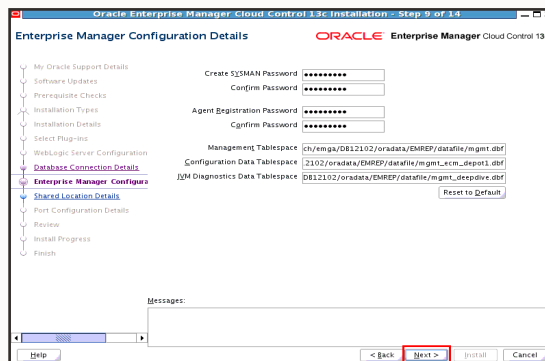
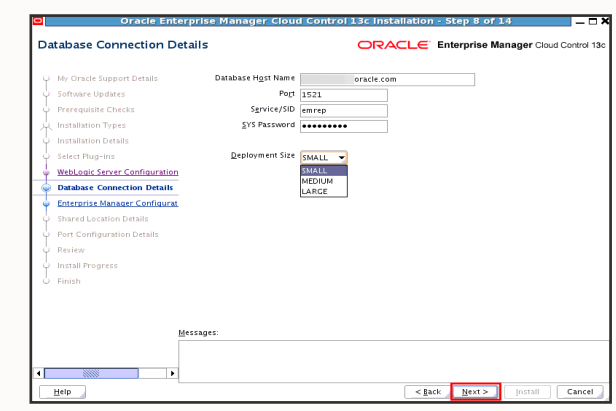
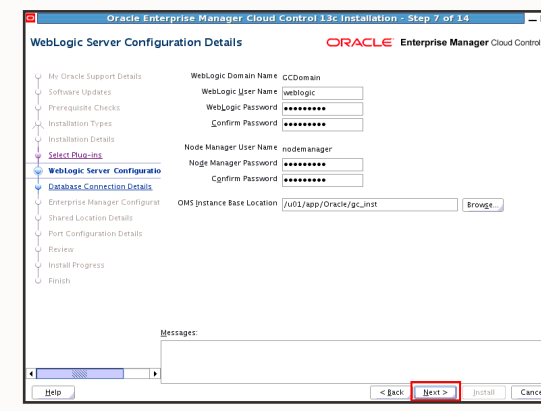
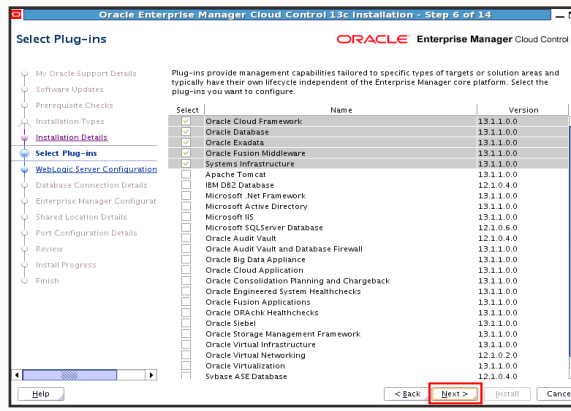
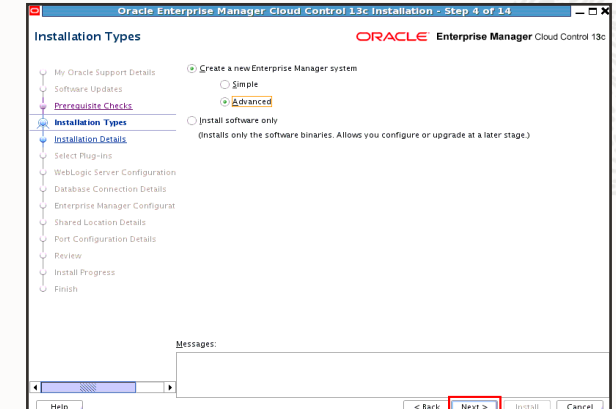


- Install 18.6 or 19.5 Database Software
- Copy the 18.6 or 19.5 template to <DB_Home>/assistants/dbca/templates
- Unzip 18.6 or 19.5_Database_Template_for_EM13_4_0_0_0_<platform>.zip
- Invoke dbca from <DB_Home>/bin. Pick your deployment template: Small, Medium, Large
- Finish the configuration and proceed with EM13.4 install

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Enterprise Manager Install Steps Overview - Primary OMS



Enterprise Manager Install - Additional OMS

- Additional Oracle Management Service can be installed using
 1. Add Management Service Deployment Procedure
 - The Add Management Service deployment procedure helps you meet such high-availability requirements. The deployment procedure offers a wizard that enables you to install an additional Oracle Management Service 13c by cloning an existing OMS that is running on an AdminServer host. The entire Middleware home of the source OMS is cloned to the destination host.
 2. Additional Oracle Management Service in Silent Mode
 - Silent install mode is non-interactive and software deployment and configuration will be done through the commands

Enterprise Manager Install - Additional OMS Deployment Procedure

- Prerequisites
 - Deploy an Agent on the Additional OMS host
 - Ensure the configured Software Library are accessible (read/write) from the destination hosts
 - Ensure the Hardware, OS, Package, Firewall requirements are taken care on the destination hosts
- Additional OMS Deployment Procedure
 - Launch the procedure from Enterprise → Provisioning and Patching → Procedure Library
 - Select Add Oracle Management Service and click on Launch
 - Select the Destination host and mode of file transfer FTP or HTTPS
 - Select the Source and Destination host credentials
 - Submit the Deployment procedure

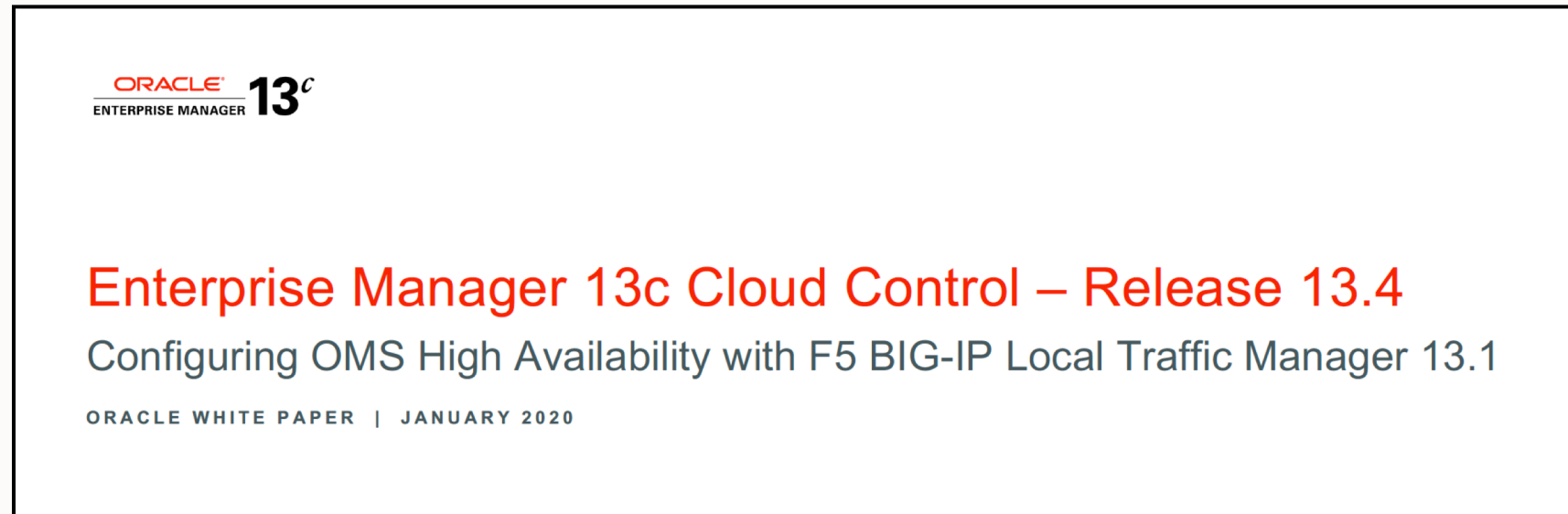
Enterprise Manager Install - Additional OMS Silent Method

- Prerequisites
 - Ensure the configured Software Library are accessible (read/write) from the destination hosts
- Additional OMS Deployment Procedure - omsca recovery command
 - Install software-only on the destination host. Do not run the 'ConfigureGC.sh' script
 - Deploy the plug-ins using Plug-inInstall.sh script (`$<ORACLE_HOME>/sysman/install/PluginInstall.sh`)
 - If the Primary OMS is installed with patches apply the same patches on destination hosts using 'omspatcher' command
 - Export the configuration details of the Primary OMS (`$<ORACLE_HOME>/bin/emctl exportconfig oms`)
 - Copy the exported configuration details file from the first OMS host to the additional OMS host
 - Recover the configuration details onto the additional OMS using command `$<ORACLE_HOME>/bin/omsca recover -ms`

Load Balancer Configuration

- Refer to this White paper for SLB config for OMS and BIP

<https://www.oracle.com/technetwork/database/availability/wp-em13c-config-oms-ha-bigip-2994990.pdf>



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Enterprise Manager Installation - Best Practices

- Make sure that the binaries downloaded from oracle.com/download have correct bytes/checksum values as displayed on oracle.com/download
- Do not unzip the binaries files. Just execute the `em13400_<platform>.bin` file to invoke the installer
- Check the MOS certification matrix for the supported OS before installing Enterprise Manager 13.4
- Check the install documentation to ensure the required packages, hardware resources are allocated on the host
- Before installing OMS ensure the certified version of Oracle database is installed as an Oracle Management Repository
- Use the DB Templates available on oracle.com/download as a seed database template for install

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Installation Log File Locations

- Installation Logs
 - oraInventory/logs/*.*
 - <ORACLE_HOME>/cfgtoollogs/oui/*.* : Eg. **ORACLE_HOME=/u01/app/oracle/mw13c**
- Configuration Logs
 - <ORACLE_HOME>/cfgtoollogs/cfgfw/*.*
- Specific Configuration tool logs
 - **OMS configuration tool logs**: <ORACLE_HOME>/cfgtoollogs/omsca/*.*
 - **PluginCA configuration tool logs**: <ORACLE_HOME>/cfgtoollogs/pluginca
 - **Repository configuration tool logs**: <ORACLE_HOME>/sysman/log/schemamanager

Additional Resources

[Enterprise Manager Page on O.com](#)

[Install and Upgrade Page on OTN](#)

[Basic Install Guide](#)

[Advanced Install Guide](#)

Web: <http://www.oracle.com/enterprise-manager>

Blogs: <http://blogs.oracle.com/oem>

Communities: <https://einstein.oracle.com/apex/f?p=EINSTEIN:QUESTIONS:115355775023301::NO:RP:DOMAIN:em-support>



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