Physical Batch Servers

Installation and Configuration Guide for: Physical Batch Servers

	DOCUMENT APPROVAL HISTORY	
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DATE	VERSION	REVISION DESCRIPTION	AUTHOR	REVIEWER
5/1/2015	0.1	Initial release	Carl Weisman	

APPROVAL DATE	APPROVED VERSION	APPROVER

Table of Contents

1. INTRODUCTION

Physical Batch Servers run the daily and weekly batch reports which are handled by the Control-M application. This runbook provides the details steps to install and configure the physical batch servers.

2. ROLES AND RESPONSIBILITIES

The table below lists the roles and responsibilities associated with this application.

Table 1 Roles and Responsibilities

ROLE	RESPONSIBILITY
Systems Administrators	• Documenting the base installation steps • Completing the base installation into each environment using environment specific installation variables provided by Application Engineering • Completing subsequent re-installs based on updated runbook content and environment specific variables provided by Application Engineering
Application Engineering	• Documenting environment specific variables for each application • Maintaining section 10.4 - Post Installation Configuration Procedures of each application runbook • Reviewing and accepting each installation

3. BACKUP & RESTORE PROCESS

All applications and application data are backed up to the ZFS appliance located within the Primary Datacenter. Restorations can be requested through the Service Request portal.

The current backup and retention schedule is as follows:

Table 2 Backup and Retention Schedule

TYPE	SCHEDULE	RETENTION
Daily	M-F @ 10pm	Fourteen (14) days or back to the last Application Software version, whichever is longer;
Weekly	Sunday 11pm	Six (6) weeks
Monthly	Last day of the month @ 11pm	Four (4) months

TYPE	SCHEDULE	RETENTION
Quarterly	Last day of the quarter @ 11pm	Four (4) quarters
Annual	Last day of the year @ 11pm	Seven (7) years
Disaster recovery		Last two (2) functional versions of the Application Software

For more information, see the operations documentation.

4. CONFIGURATION OF SERVICE DEVICE

This runbook provides generic installation, configuration, and support instructions. Because system consists of multiple environments with unique requirements, running across multiple physical and logical devices, these instructions use variables in a way that allows application of a common set of instructions to a diverse set of implementations.

The environment specific value(s) for each variable can be found in SharePoint.

5. MONITORING

5.1 What is Monitored

The Network Operations Center (NOC) is responsible for monitoring availability for all applications and all physical and virtual infrastructure components (servers, vServers, VDIs, networks, network devices). Tools deployed by the NOC team also provide performance and capacity monitoring information used by the Capacity Manager. The NOC team also provided SOC (Security Operations Center) and CSOC (Cyber Security Operations Center) monitoring services using tools deployed by the IT Security Manager.

5.2 How is it Monitored

During the Development and Test phase, the Network and Security Operations Center staff provides co-located application and infrastructure event monitoring Monday through Friday between 6am and 8pm. Additionally, Ops Center personnel can support temporary surges of 24/7 co-located monitoring. Major and critical alerts are also configured to contact Ops Center personnel in real-time.

Devices and individual applications are monitored via full-spectrum monitoring solutions, including Oracle Enterprise Manager and BMC Patrol. Network monitoring is

performed via SolarWinds, which also acts as an additional infrastructure monitoring tool as well. Finally, a proprietary tool known as Total Information Management, created specifically for the program, monitors and reports on infrastructure as well. These tools capture performance and capacity data and provide alerts in the event that a device or application is offline, with a great deal of redundancy in order to catch every possible alert. Presently, security monitoring is conducted via TippingPoint Security Management Server, alerting Ops Center personnel to any suspicious network traffic in real time. ArcSight, an integrated security incident and logging management tool will soon be introduced to the development environment.

Detailed monitoring processes and procedures are provided within the operations documentation.

5.3 Ticket Coding

Through the use of automated scripts and manual templates, Incident tickets are opened for all exceptions identified by the monitoring tools. Many of the scripts and templates include severity and escalation information designed to expedite event investigation and tracking.

5.4 On Call List

For incidents where immediate technical support is required, refer to the On Call list found in the SharePoint. This list is updated weekly.

5.5 Subject Matter Expert List

Business and technical subject matter experts have been identified for each application. This Subject Matter Expert (SME) list is part of the On Call List in SharePoint.

6. PATCHING AND UPDATES

6.1 Schedule

Because version control is critical to the overall stability of each environment, all patches and updates require thorough testing and are completed on an "on request" basis. While the long term plan is to use Oracle OEM as the approved tool for all application patching and updates, this is currently being accomplished in a more manual fashion. In all cases, compliance with the Change Management process is mandatory for all patching and updates.

6.2 Work Instructions

The Application Engineering (AE) team initiates all patch / update activity. AE performs the initial assessment of patches and initiates the Change Request required to gain change approval. When appropriate, specific work instructions will be developed for each patch or update.

6.3 Service Lifecycle

Once implemented, the BMC Configuration Management Database (CMDB) will provide a centralize view into the complete service lifecycle of each Configuration Item (CI). Information found in the CMDB will include "in service" date, version information, pointers to Incidents and Changes, and other elements required to gain a full understanding of the CI lifecycle.

7. RESTORATION

This section details the steps required to successfully restart this application in the event that it fails. Consideration should be given to re-establishing communication with other processes and to potential impact on "in flight" transactions" when the application failed.

7.1 Dependencies including Data Integrity Considerations

No dependencies have been established for restarting this application at this time. This section will be updated as additional information becomes available.

7.2 Restart Instructions

During system startup, application startup scripts are executed to initialize each application.

Specific restart instructions will be provided as they become available.

7.3 Verification Instructions

Specific verification instructions will be provided as they become available.

8. STORAGE MANAGEMENT

8.1 Quotas / Locations

This section establishes storage location and quotas for the application and for the various files that the application creates.

Installation Path <<Installation Path>>

User Data: <<User Data Path>>

Log files: <<Log Path>>

Cache files: <<Cache Path>>

Backup Files: <<Backup Path>>

Disk quotas for this application include:

No application specific quotas have been defined at this time.

8.2 Alert Levels

Storage utilization alerts are set and monitored for each physical and virtual server and for all VDIs. Alert thresholds are as follows:

Informational 70% Utilized

Warning: 80% Utilized

Critical: 95% Utilized

8.3 Retention requirements

During the Development and Test phase of this project, specific requirements for online, near-line, and archival retention have not been set. These requirements will be defined, with County input, prior to go live.

9. DATA INTEGRITY

9.1 What to Monitor

9.2 How to Monitor

10. INSTALLATION GUIDE

10.1 Pre-installation

10.1.1 Download Instructions

1. Find the ILOM IP address from the latest ***Servers-NIC.xls*** spreadsheet. In the example below, the IP address is<<IP Address>>.

Figure 1 Servers-NIC.xls Spreadsheet

170	pdlpdeapp01	DEV- Sun X3-2 Batch Processing 1	Dev	10.67.121.178	eth1		255.255.255.0	10.67.121.253	pdlpdeapp01-ilo IP:10.67.121.142 NM:255.255.255.0 GW:10.67.121.253
171					eth7				
172				10.67.109.166	eth3 (fiber)	sun-dev sw1-13	255.255.255.128	10.67.109.253	
173					eth5 (fiber)	sun-dev sw2-13			

2. Download the Oracle Linux 6.4 (64bit) ISO, named ***OracleLinux6.4.iso***, from the RHEL WebServer located here:

   http://10.67.109.24/web/iso

NOTE: Only the X3-2 version server has the features to install OEL ISO compatibles 6.1 or 6.2. Therefore, the workaround is to install with the ISO 6.2 v29459-01 and let the finish script/yum update bring it in line with latest OEL 6.5 Version.

10.1.2 Account information

10.1.3 Product Key Locations

10.1.4 Other Requirements and Dependencies

10.2 Prerequisites

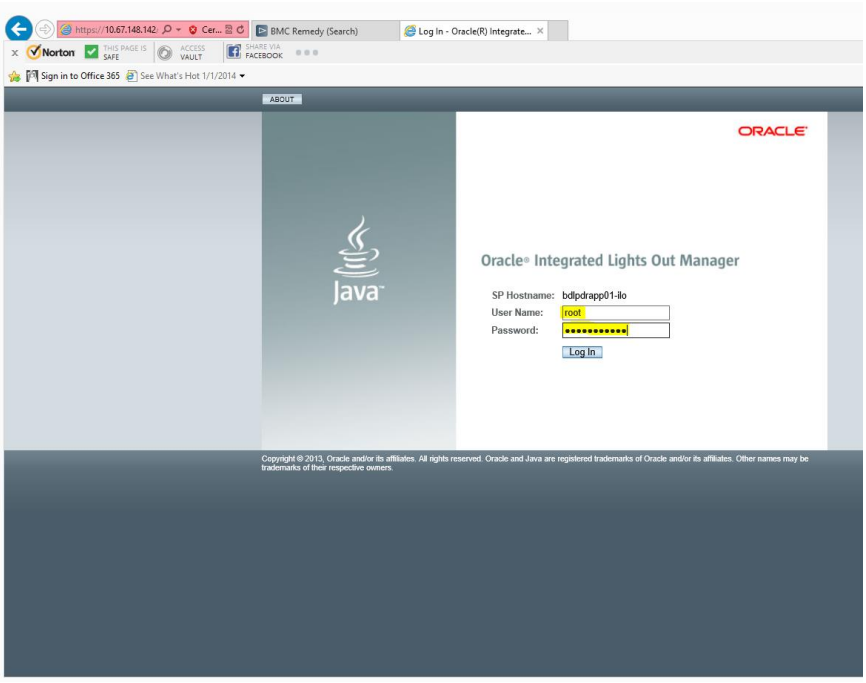
1. The physical server has already been racked.
2. An ILOM (Integrated Lights Out Manager) has already been configured.

WARNING: If an ILOM has not yet been configured, do not proceed with this document.

10.3 Installation Procedures

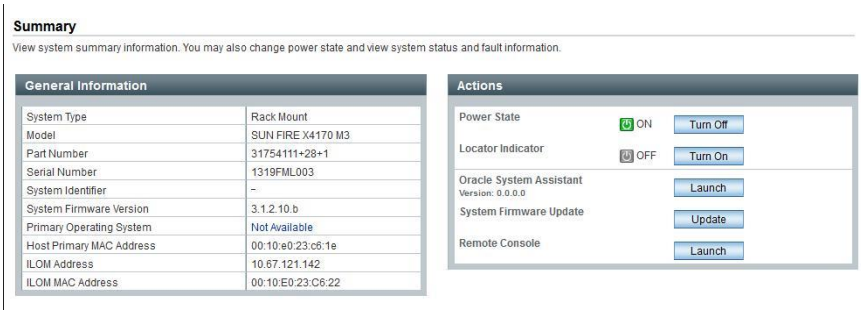
1. Using Internet Explorer (Firefox does not work well for this), point your browser at the ILOM IP and login using the root/<Infrastructure password>.

Figure 2 ILOM Login Screen



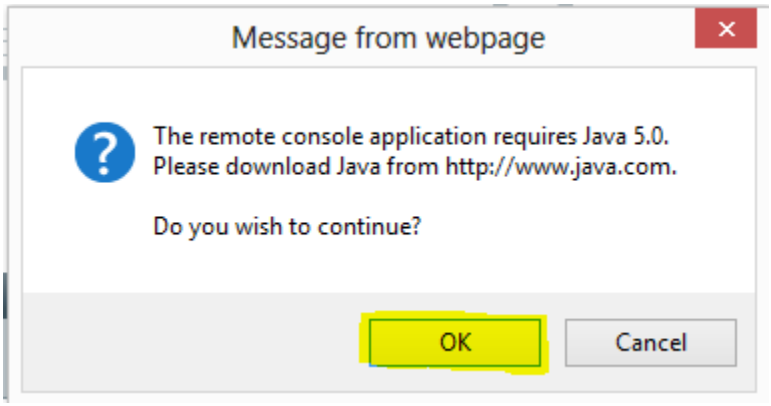
2. After login, click on Remote Console **Launch** button to launch the remote console.

Figure 3 ILOM Summary Screen



3. On the Java pop up window click **OK**.

Figure 4 Java Pop Up

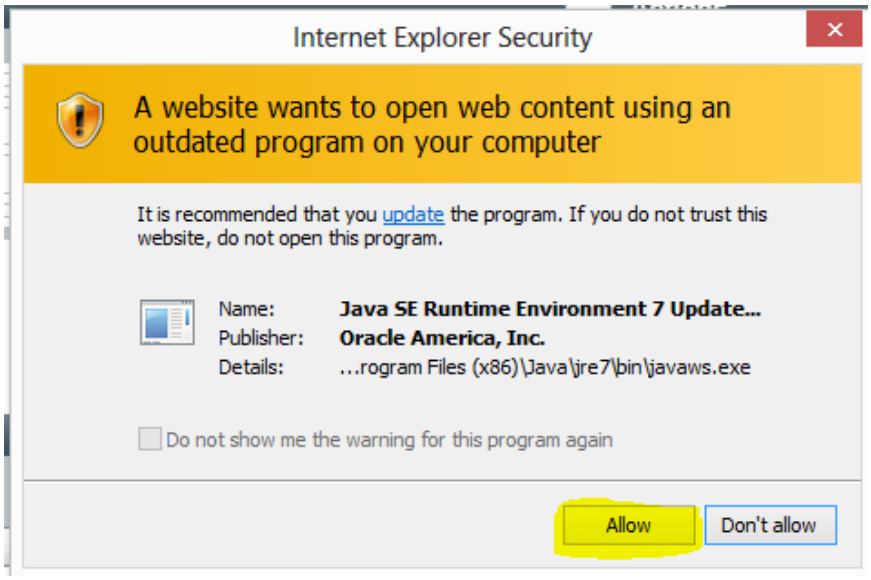


4. On the file message pop up click **Open**.

Figure 5 File Message Pop Up

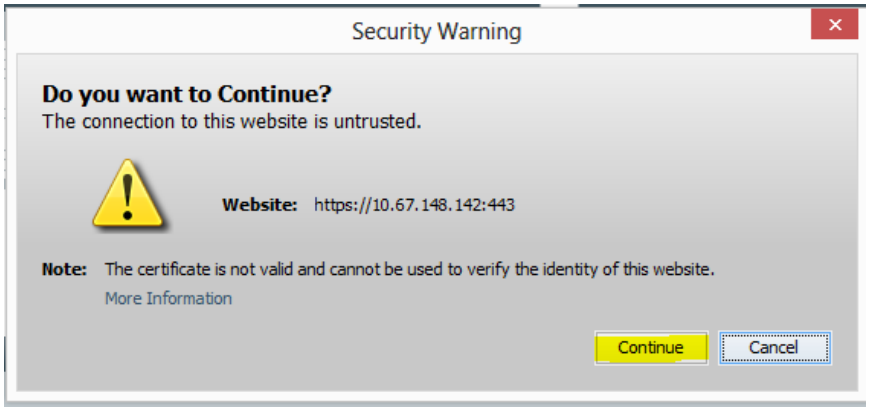
5. On the Internet Explorer Security pop up click **Allow**.

Figure 6 Internet Explorer Security Pop Up



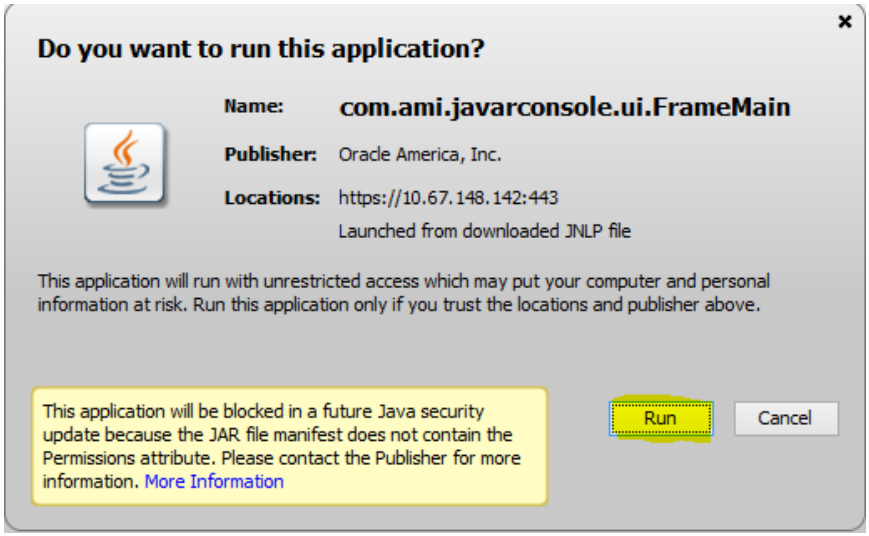
6. On the Security Warning pop up click **Continue**.

Figure 7 Security Warning Pop UP



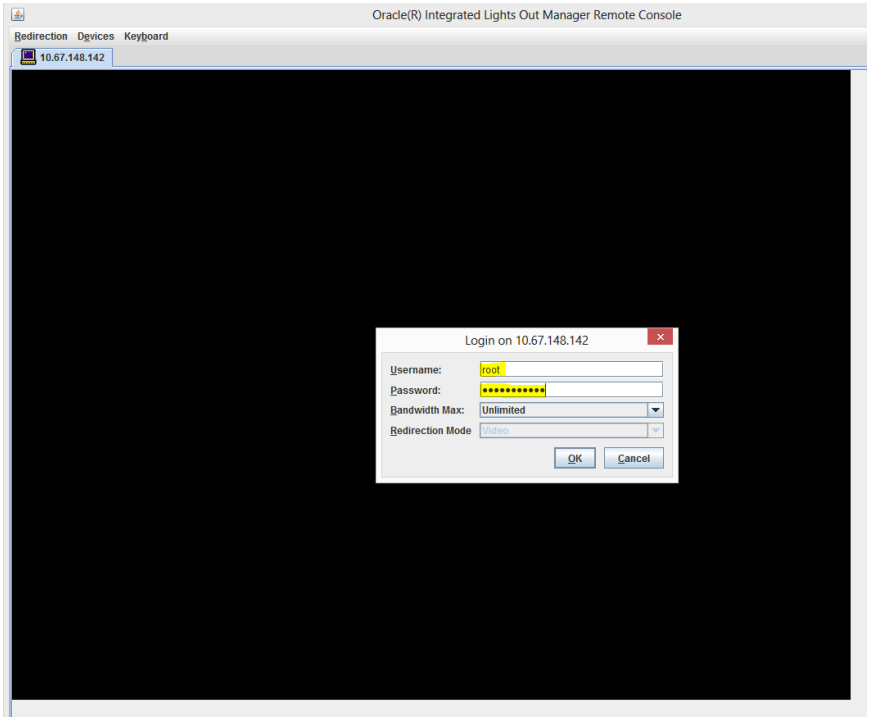
7. When the pop up appears that asks you if you want to run this application click **Run**.

Figure 8 Do You Want to Run This Application Pop Up



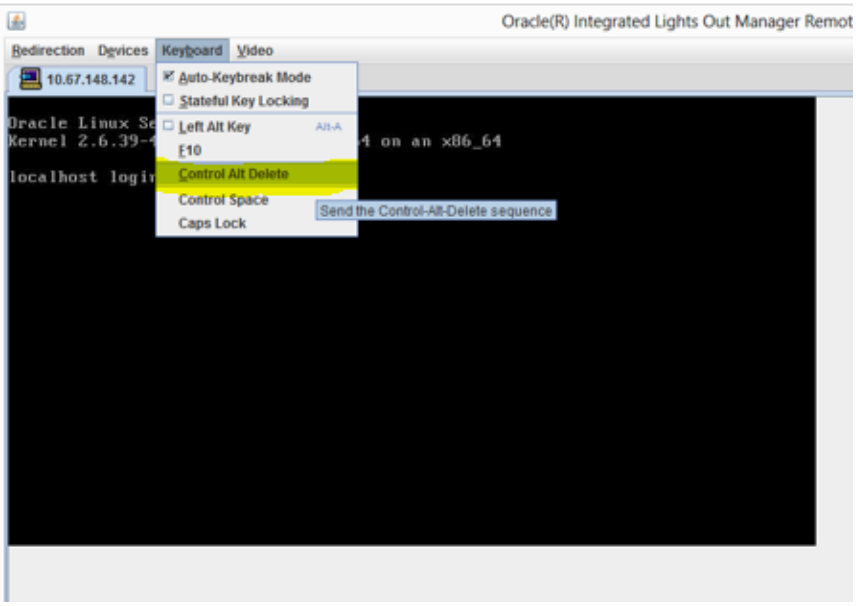
8. If you are prompted for a username and password, use the same one you used in Step 1.

Figure 9 ILOM Remote Console Login



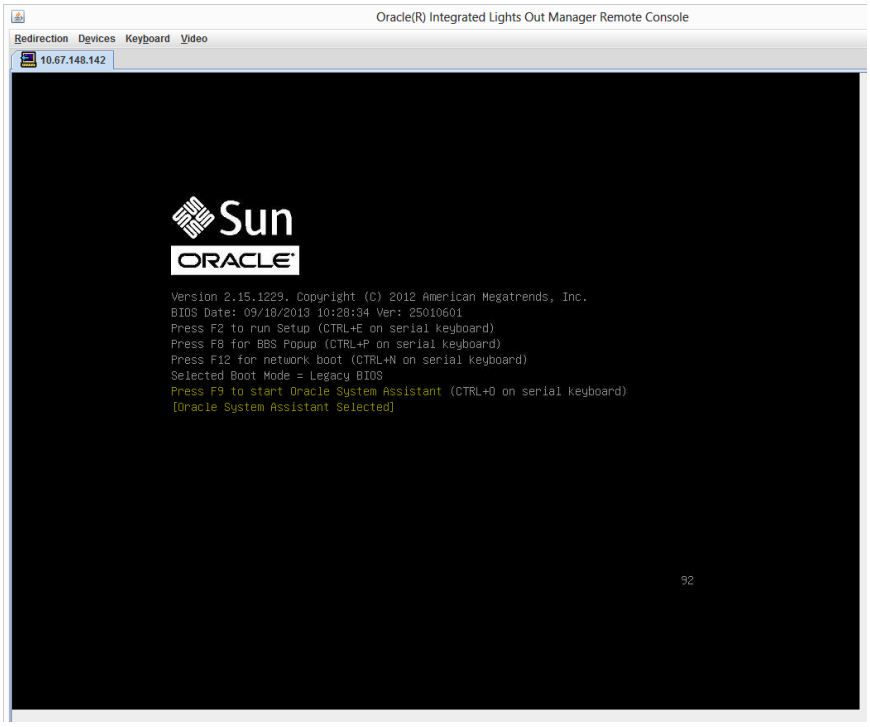
9. You will see a screen similar to the one shown below. Reset it by doing **Keyboard→Control Alt Delete.**

Figure 10 ILOM Remote Console



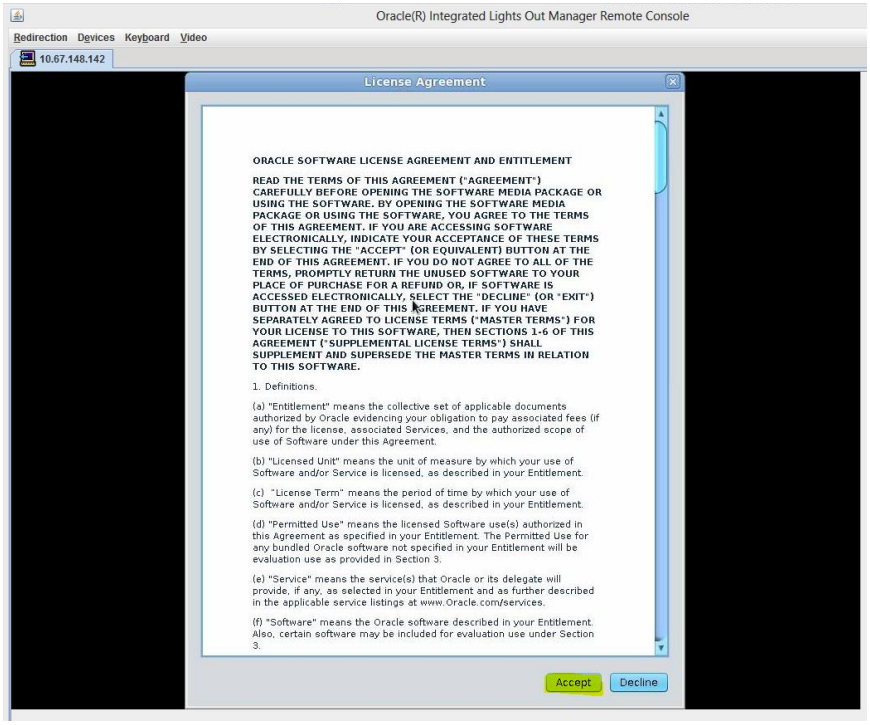
10. Press **F9** to launch the Oracle SystemAssistant.

Figure 11 ILOM Remote Console After Reset



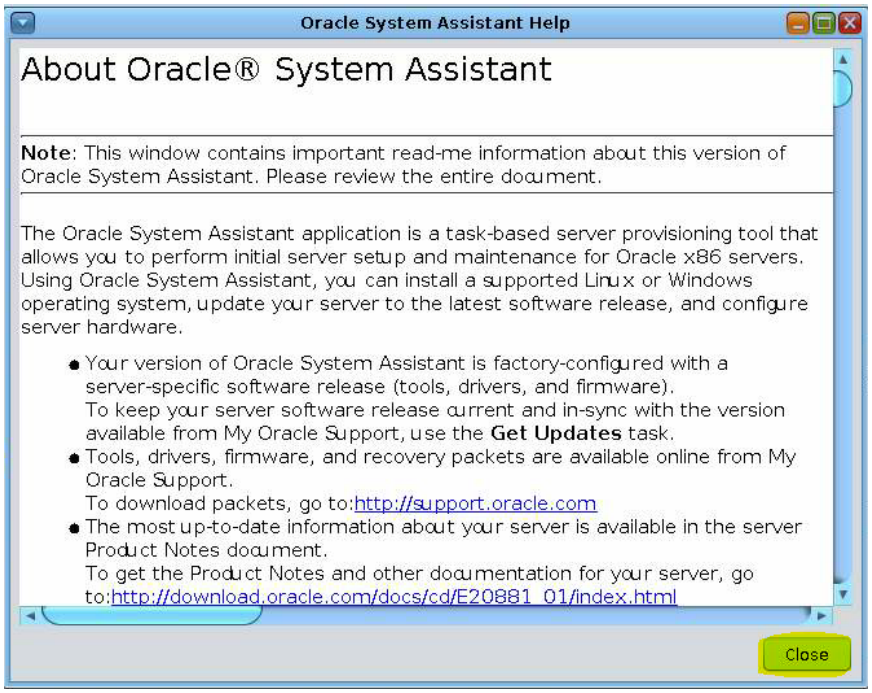
11. The system will appear to be looping about a dozen times. Then you will see a screen similar to the one shown below. Click **Accept**.

Figure 12 Software License Agreement Window



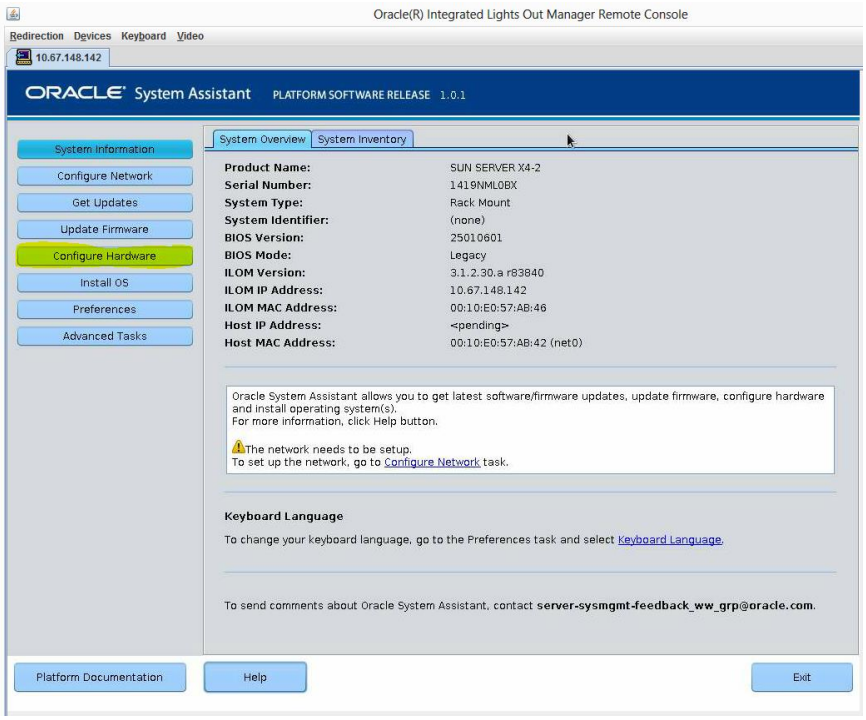
12. When the following window appears click **Close**.

Figure 13 About Oracle System Assistant Window



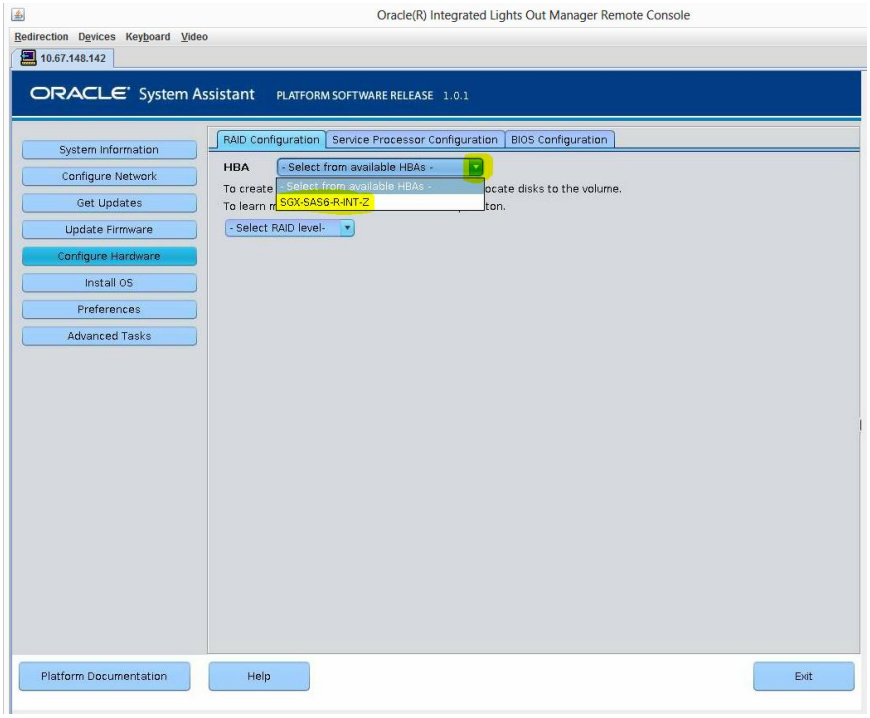
13. The Oracle System Assistant will appear. Click on the **Configure Hardware** button.

Figure 14 Oracle System Assistant



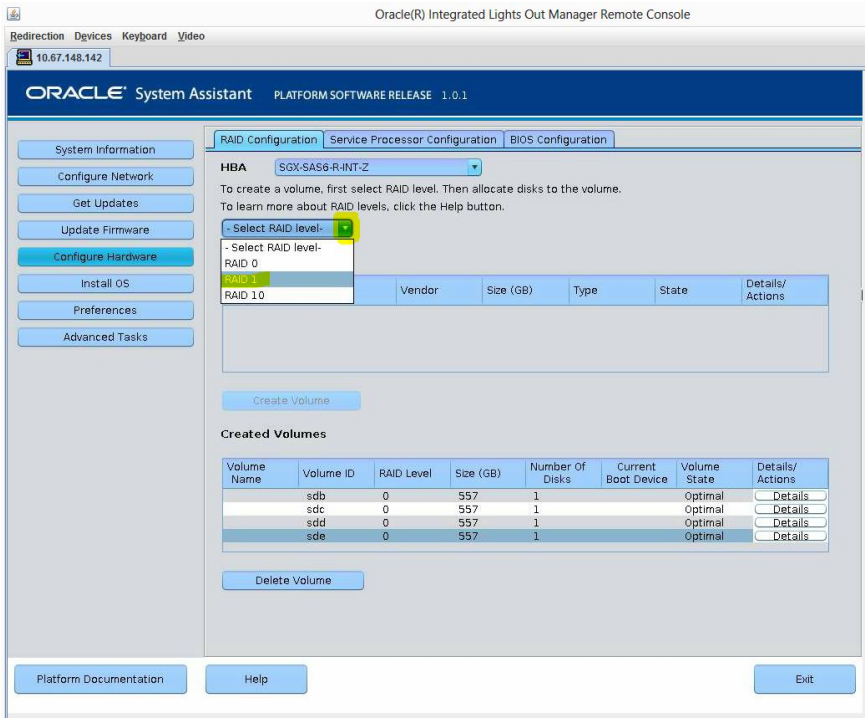
14. On the RAID Configuration tab, from the HBA dropdown select the available hardware bus adapter.

Figure 15 RAID Configuration Tab – HBA Dropdown



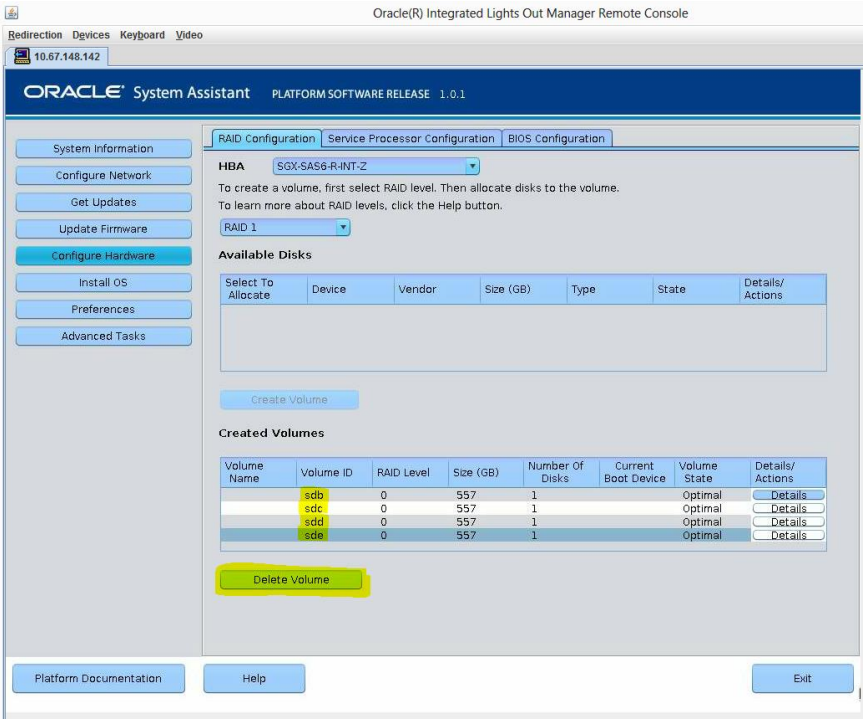
15. From the Select RAID level dropdown choose **RAID 1**. This creates an OS mirror.

Figure 16 RAID Configuration Tab – Select RAID Level Dropdown



16. Highlight and delete all previously allocated volumes by first clicking on the volume in the Volume ID column then clicking the **Delete Volume** button.

Figure 17 RAID Configuration Tab – Delete Volume

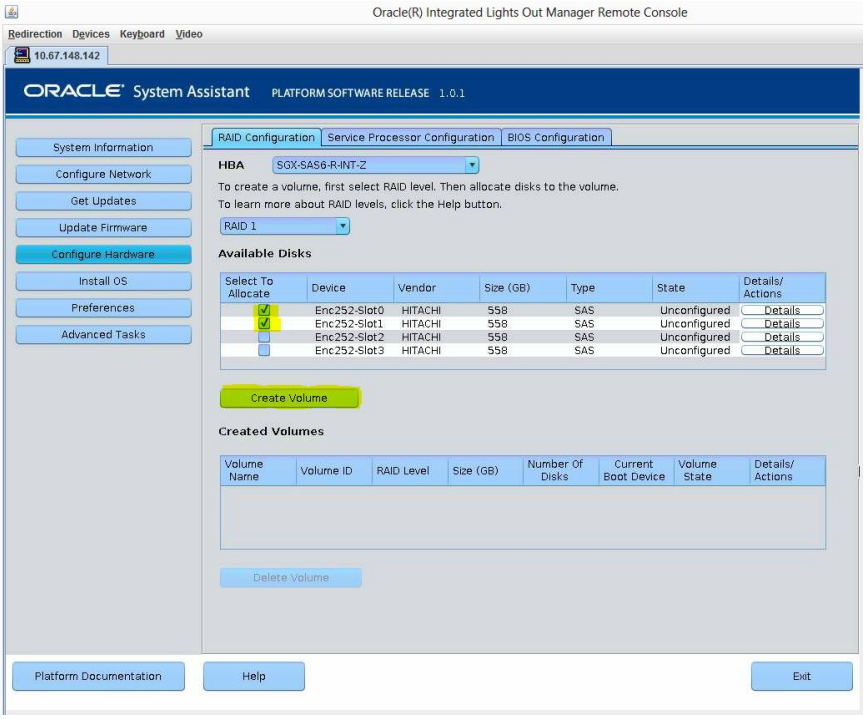


17. When the Warning message appears click **Yes**.

Figure 18 Warning Message

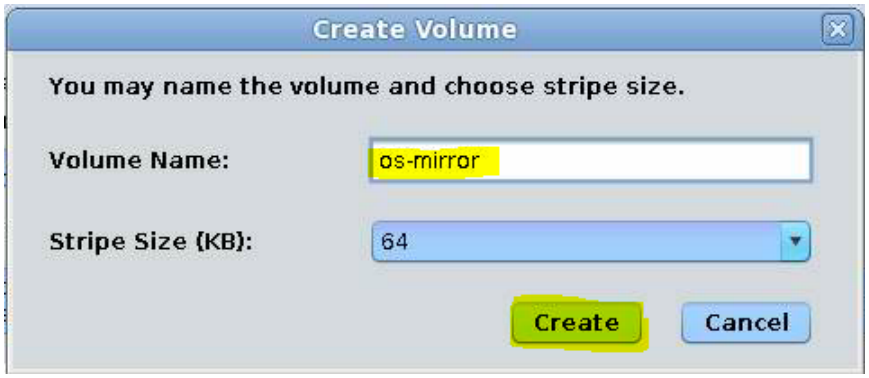
18. To create a new volume, in the Available Disks table check the boxes for disk0 and disk1 only (the top two boxes) for the mirror. Then click the **Create Volume** button.

Figure 19 RAID Configuration Tab – Create Volume



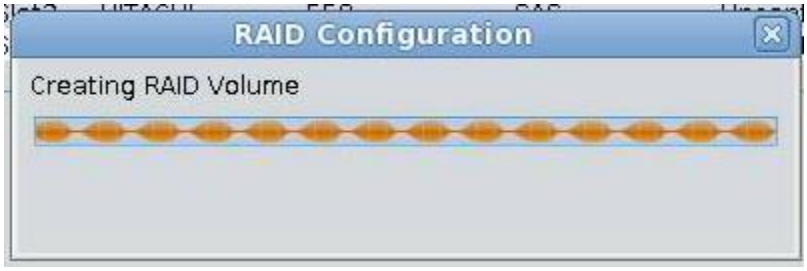
19. In the Create Volume window that appears, enter ***os-mirrow*** in the Volume Name textbox and click the **Create** button.

Figure 20 Create Volume Window



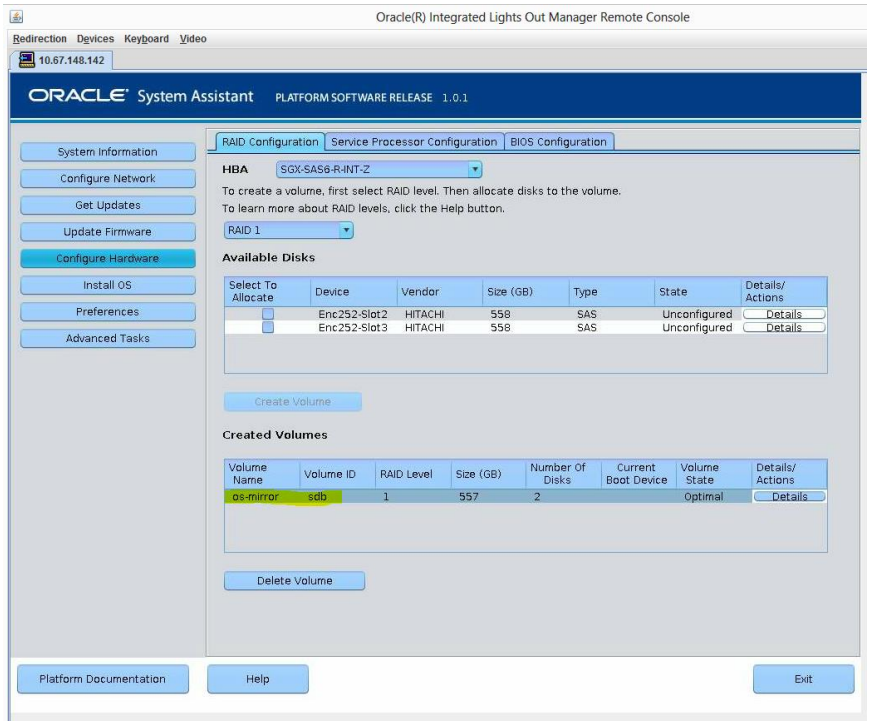
20. The RAID Configuration Progress window will appear.

Figure 21 RAID Configuration Progress Window



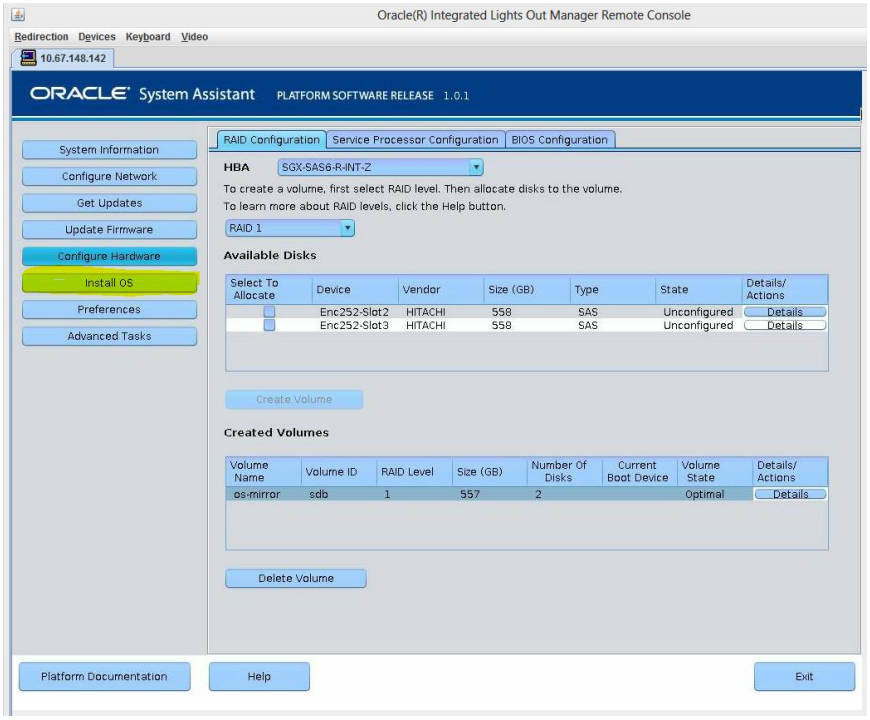
21. Make a note of the new volume ID. In the example below the ID is ***sdb***.

Figure 22 RAID Configuration Tab – New Volume



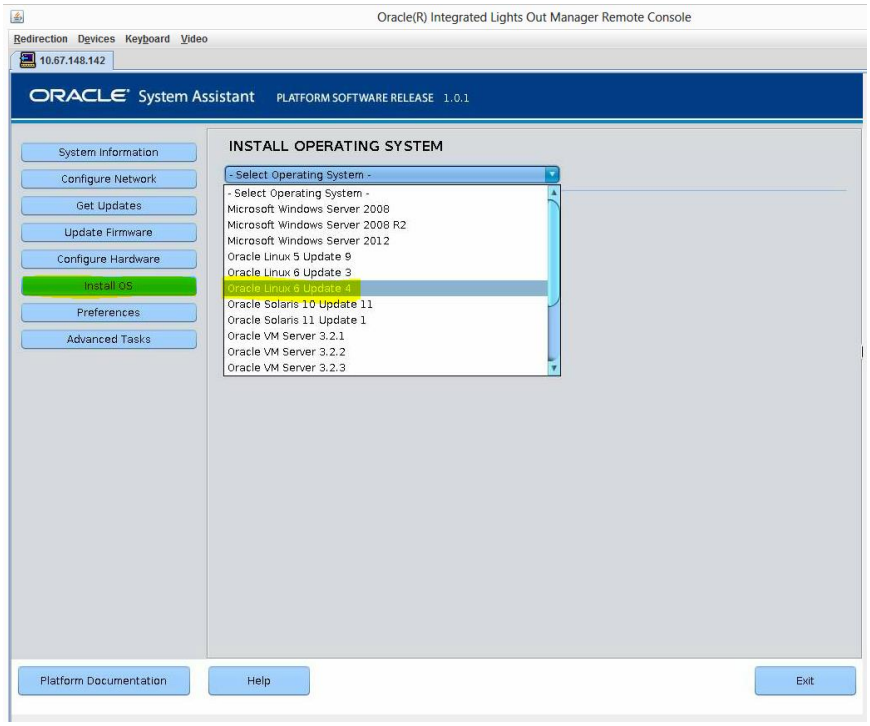
22. Now it is time to install the OS. On the left side of the Oracle System Assistant click on the **Install OS** button.

Figure 23 Oracle System Assistant – Install OS



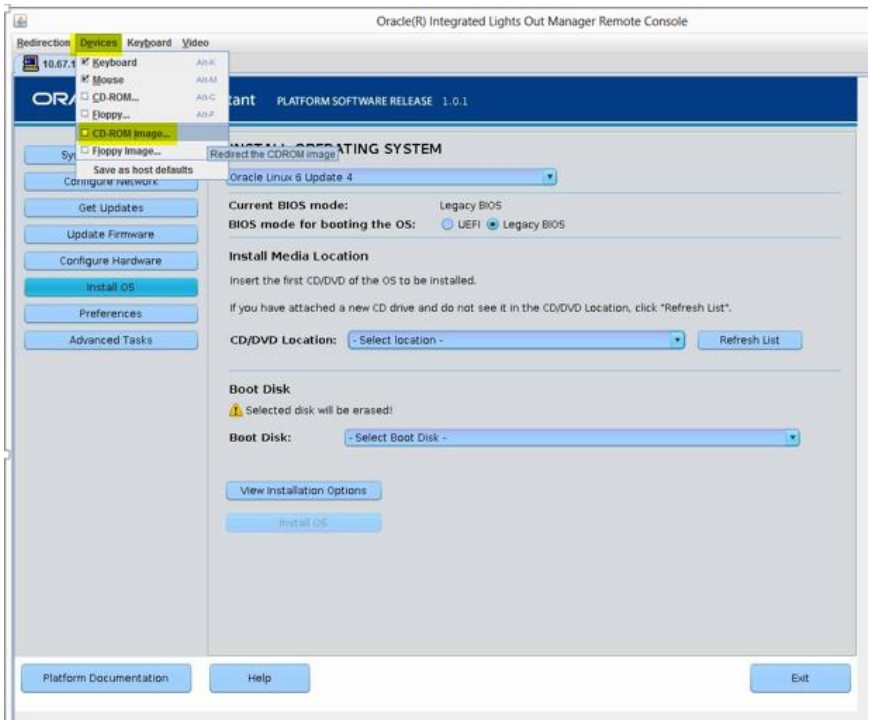
23. From the Select Operating System dropdown select **Oracle Unix 6 Update 4**.

Figure 24 Install Operating System



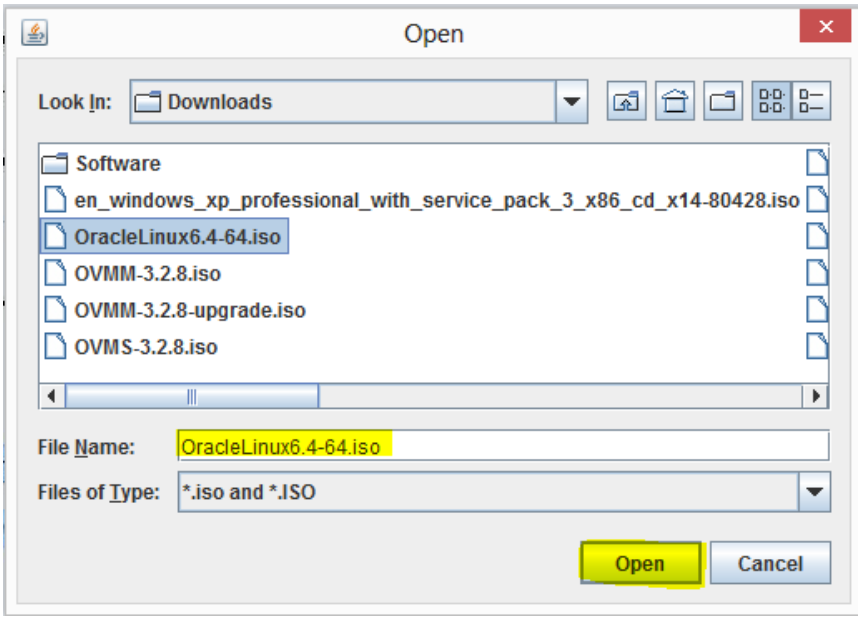
24. On the Oracle System Assistant menu do **Devices→CD ROM Image**.

Figure 25 Oracle System Assistant Device Menu



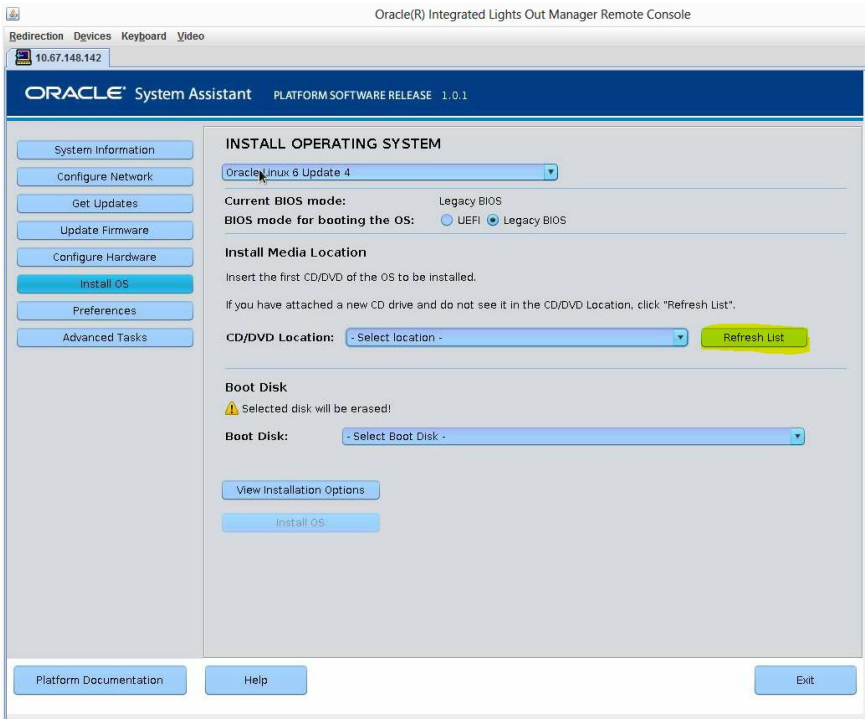
25. Navigate to your local copy of the ISO image and click **Open**.

Figure 26 File Navigation Window



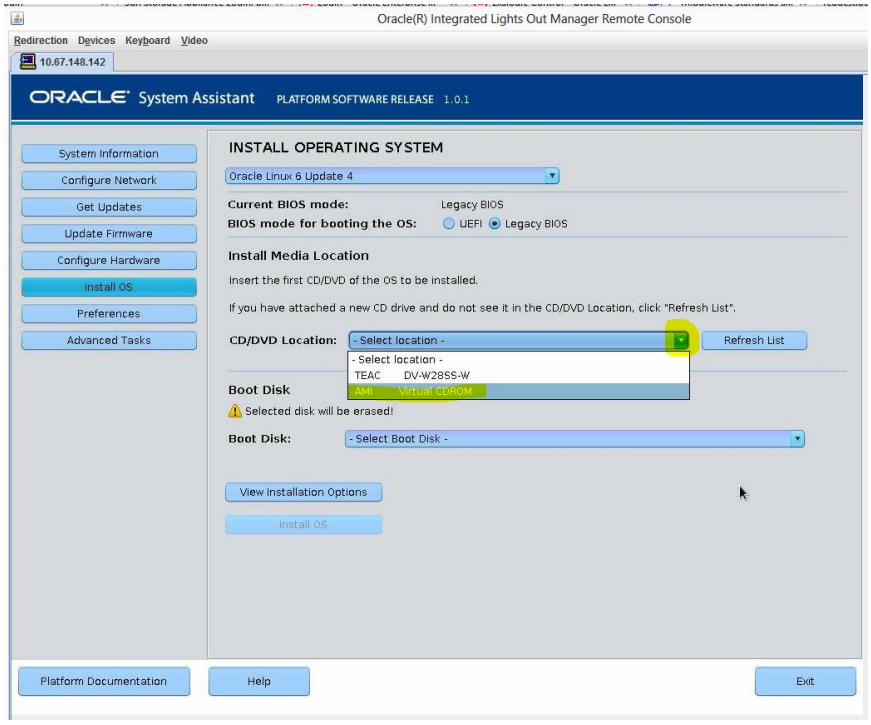
26. Click on the **Refresh List** button to get the newly mounted ISO image to display in the dropdown.

Figure 27 Install Operating System – Refresh List



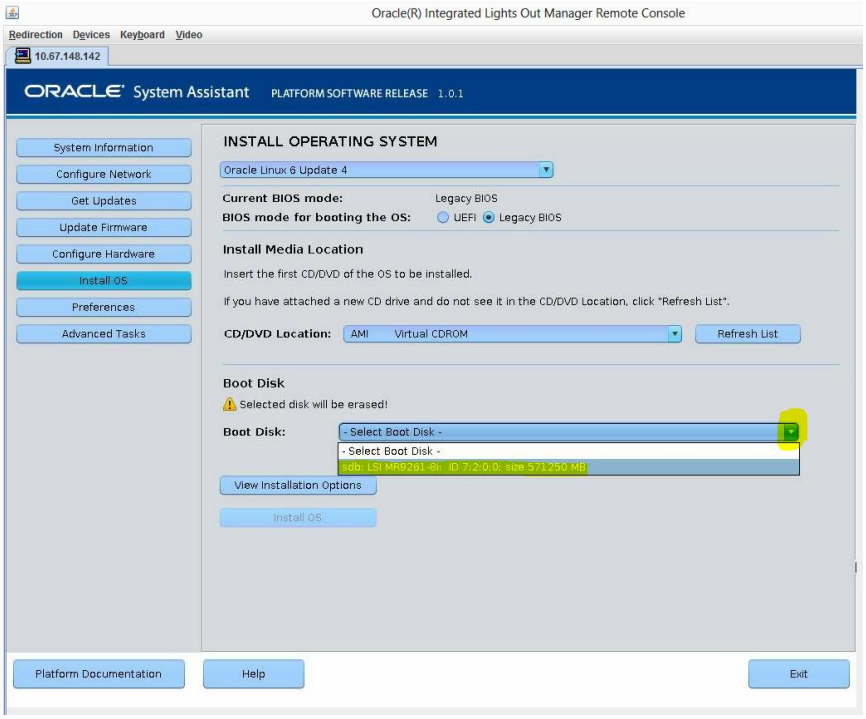
27. From the CD/DVD Location dropdown select **Virtual CDROM.**

Figure 28 CD/DVD Locations Dropdown



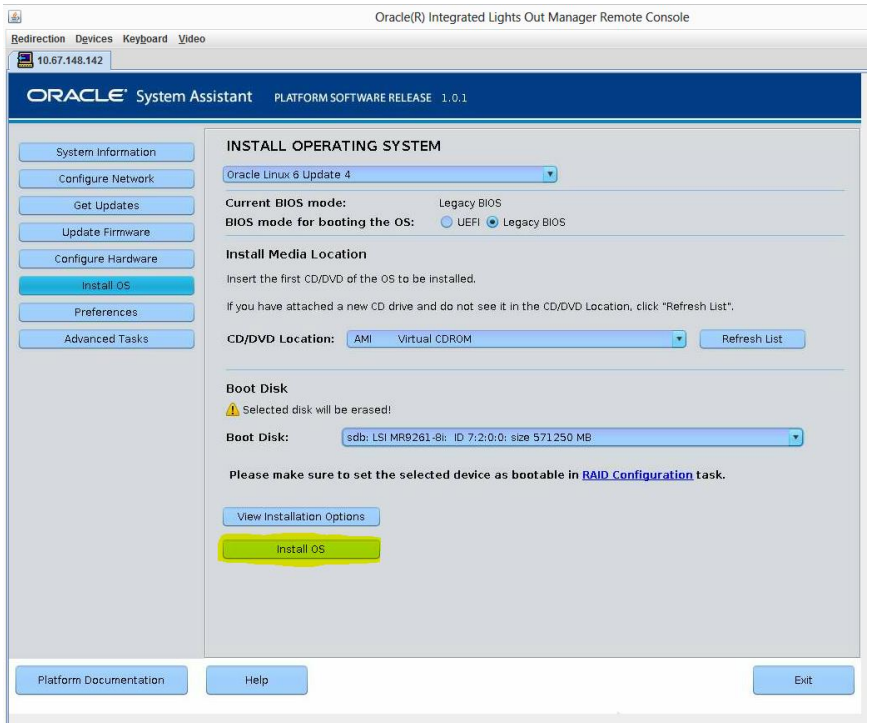
28. Make the new mirrored volume bootable. From the Boot Disk dropdown select the available boot disk.

Figure 29 Boot Disk Dropdown



29. Click **Install OS.**

Figure 30 Install OS



30. In the Warning popup click **Yes**.

Figure 31Warning Popup

31. The Install OS progress screen will appear.

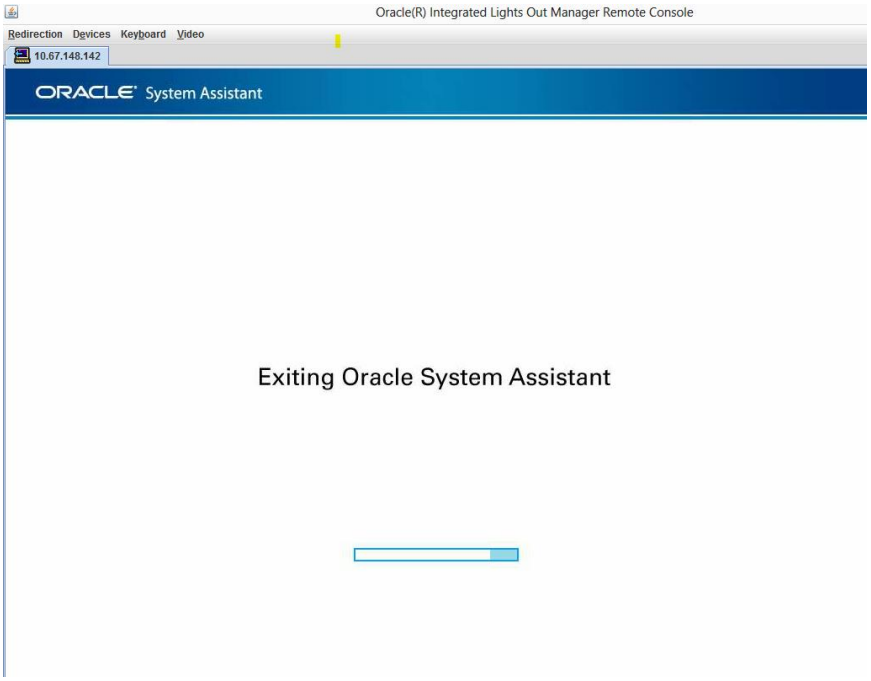
Figure 32 Install OS Progress Screen

32. When the Warning popup appears click **OK**.

Figure 33 Warning Popup

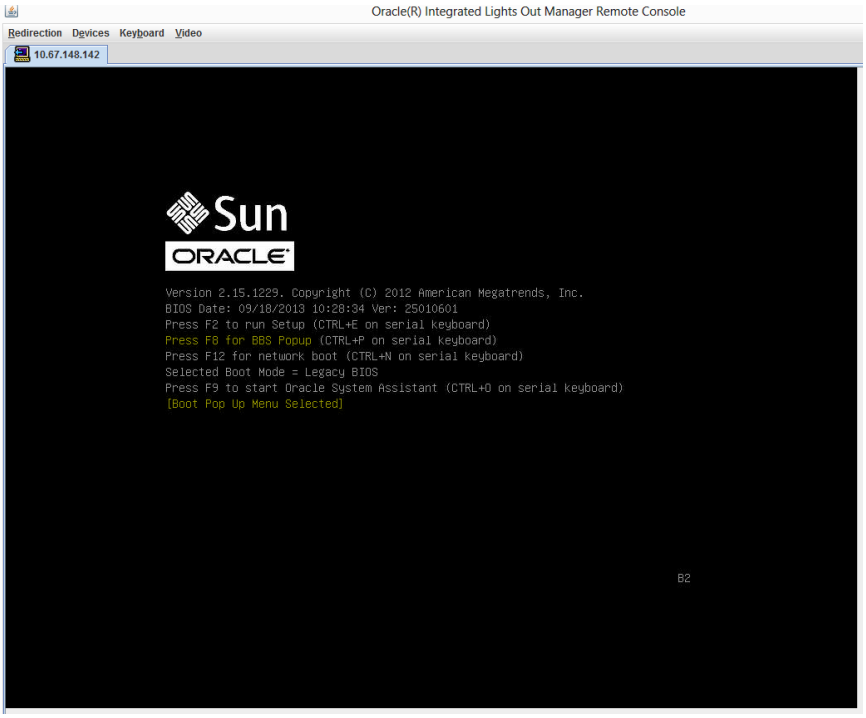
33. The Exiting Oracle System Assistant progress window appears.

Figure 34



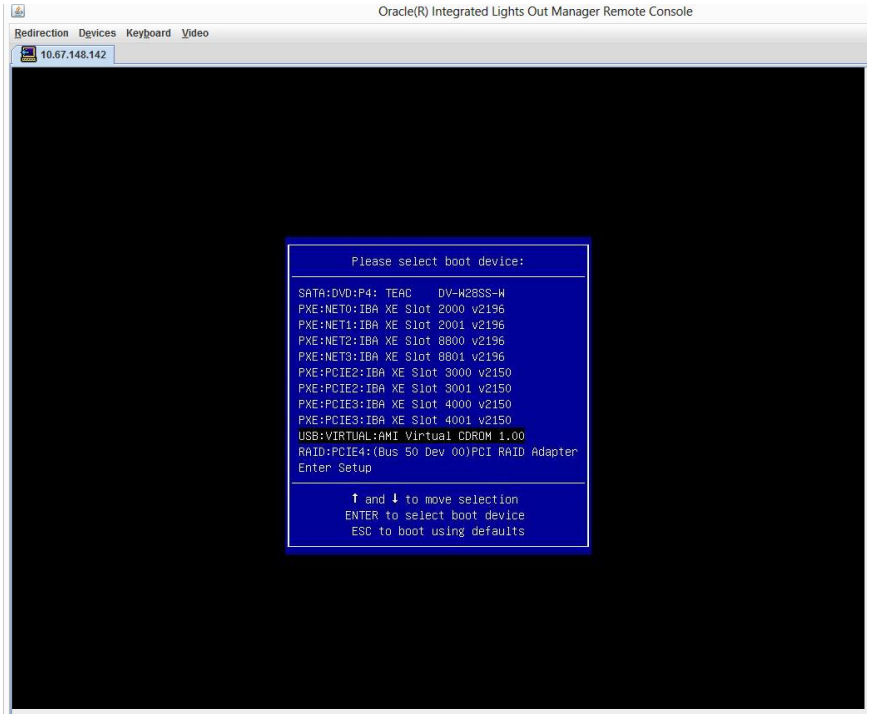
34. When complete, the ILOM Remote Console will appear. Press **F8** to display the BBS Popup menu.

Figure 35



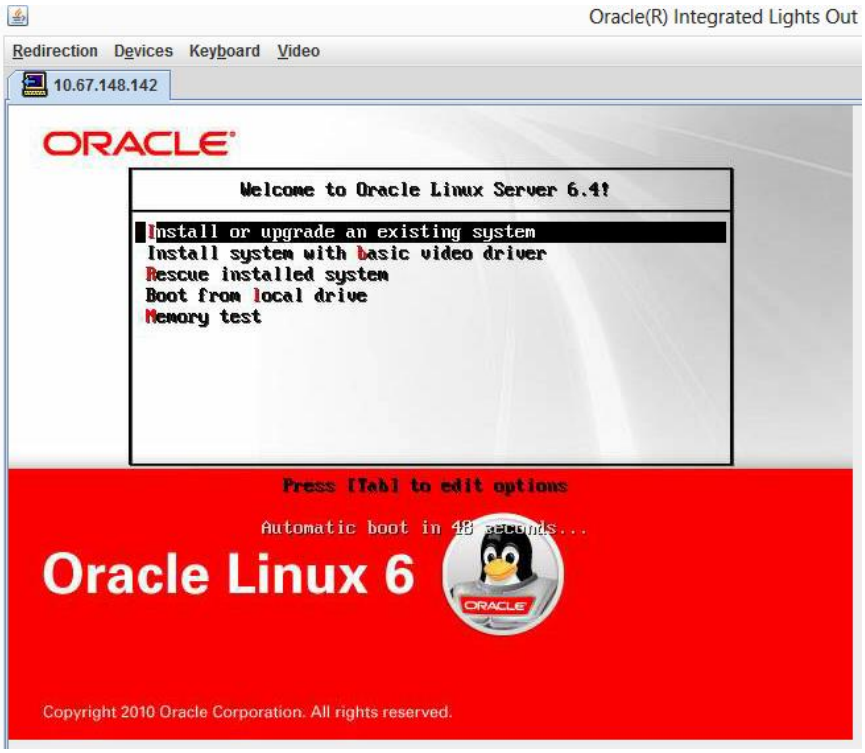
35. Select **Virtual CDROM** (your locally mounted ISO).

Figure 36 BBS Popup Menu



36. It takes a while for the Oracle Linux Server Welcome screen to appear. If it takes longer than 5 minutes, or if it goes into a screen where it is waiting for a PXE Server to respond, you will need to send a **Control-Alt-Delete** from the keyboard then try pressing **F8** again. If all goes well, you should see the screen below.

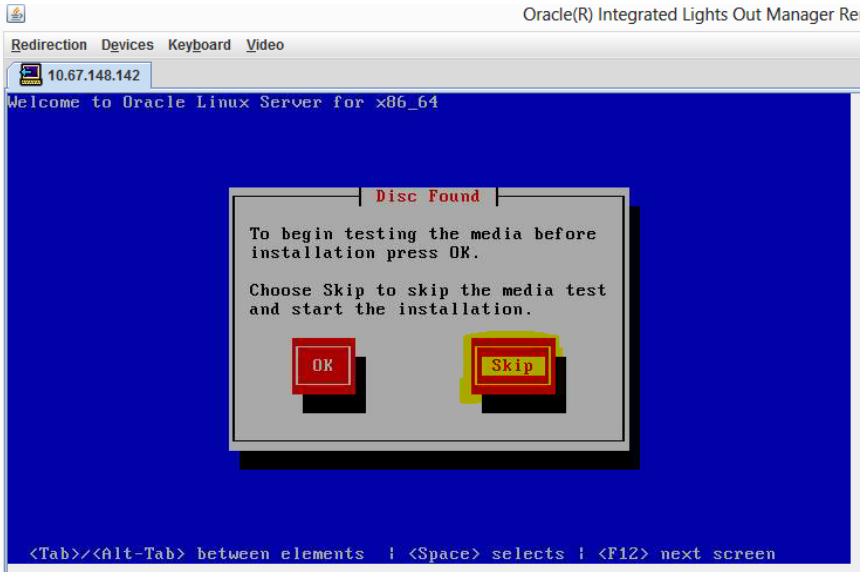
Figure 37 Oracle Linux Server Welcome Screen



37. From the Oracle Linux Welcome screen select **Install or upgrade an existing system**.

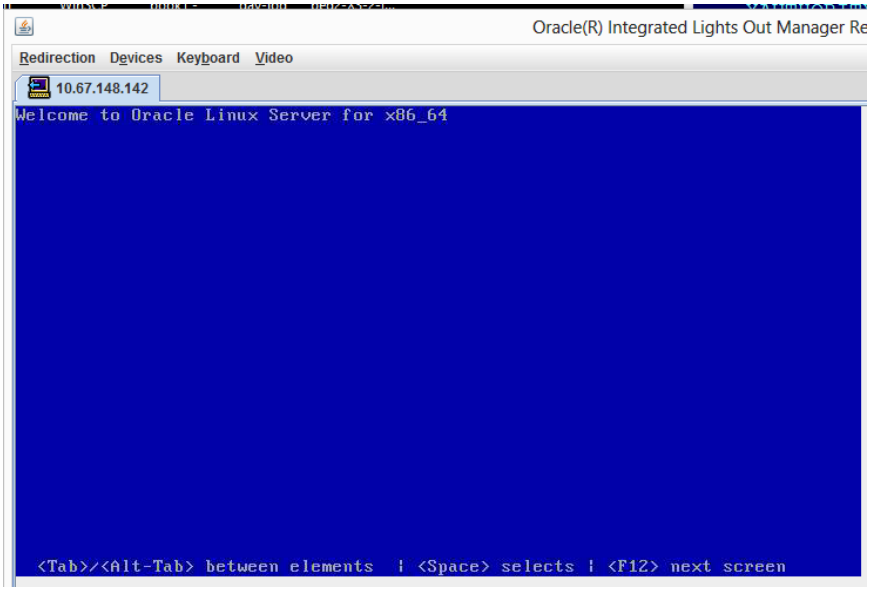
38. When the Disc Found message appears click **Skip**.

Figure 38 Disc Found Message



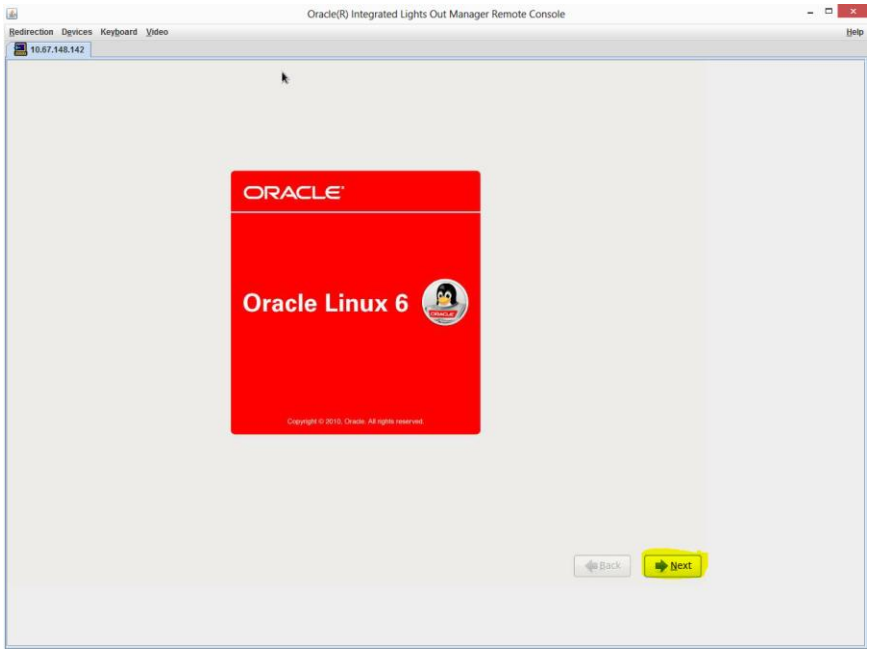
39. A blue screen appears with the message "Welcome to Oracle Linux Server for x86_64."

Figure 39 Blue Screen With Welcome Message



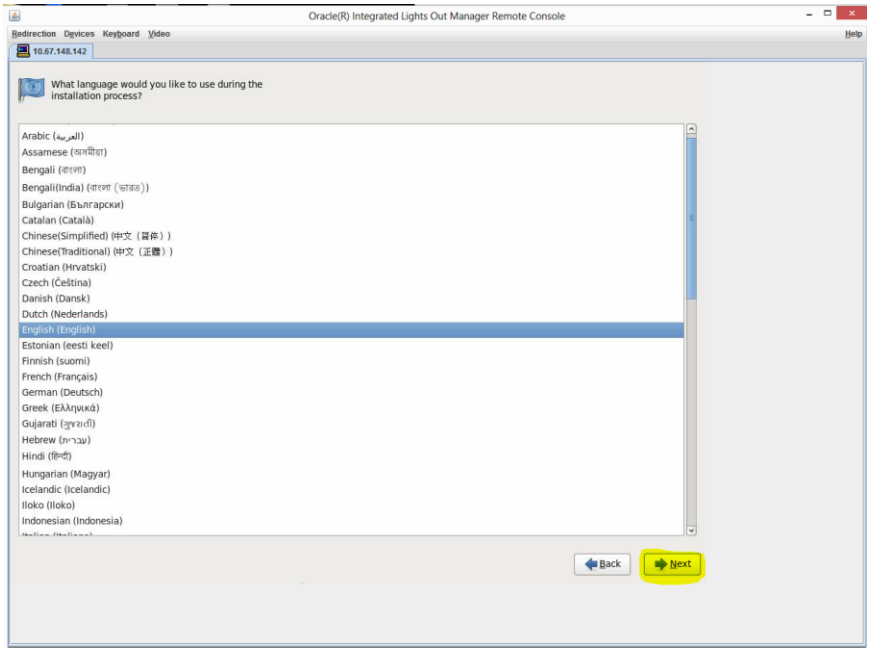
40. Eventually the Oracle Linux 6 screen will appear. Click **Next**.

Figure 40 Oracle Linux 6 Screen



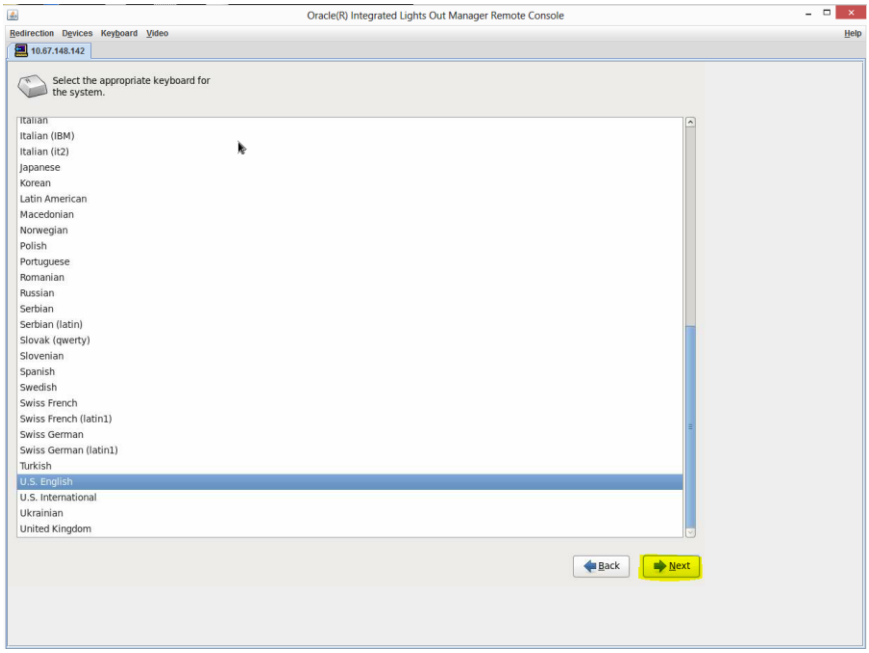
41. In the language selection window highlight English and click **Next**.

Figure 41 Language Selection Window



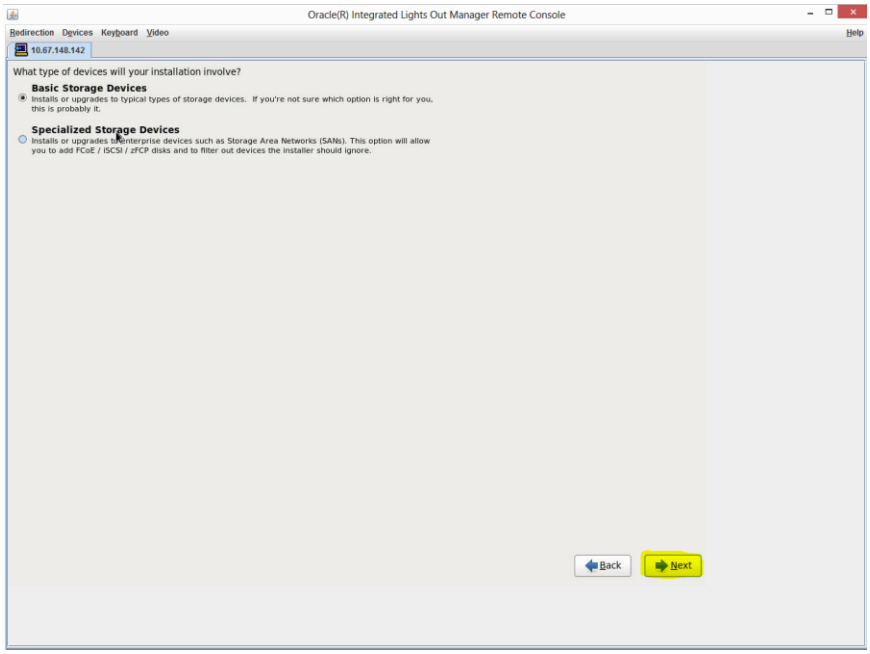
42. In the keyboard selection window highlight U.S. English and click **Next**.

Figure 42 Keyboard Selection Window



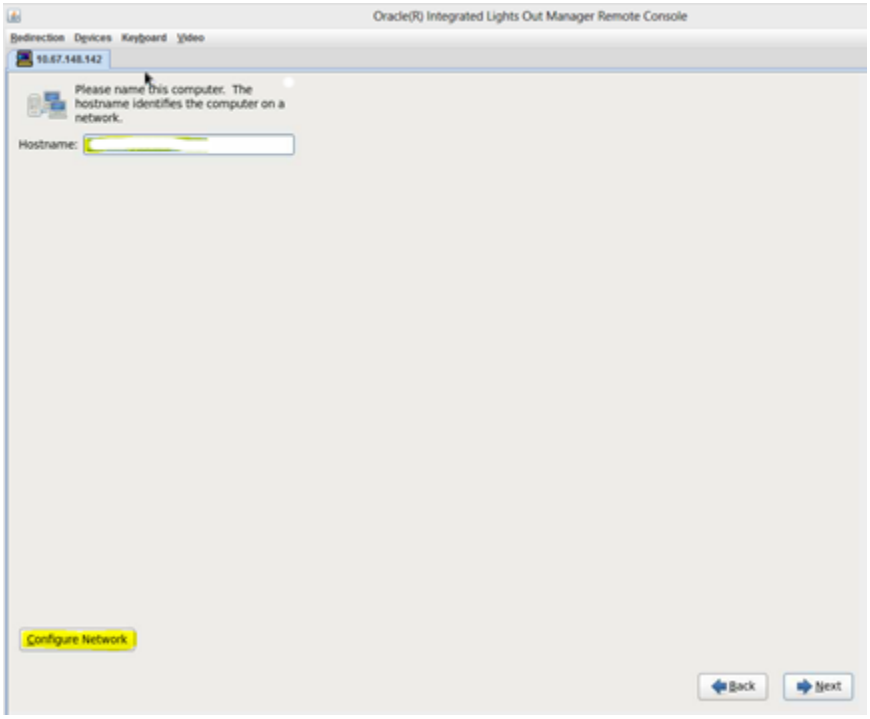
43. When the device type installation window appears, click the **Basic Storage Device** radio button and click **Next**.

Figure 43 Installation Device Type Window



44. When the hostname window appears, enter the hostname in the Hostname text box according to the following format:
    - Hostname: ***<<servername>>.xxx.org***

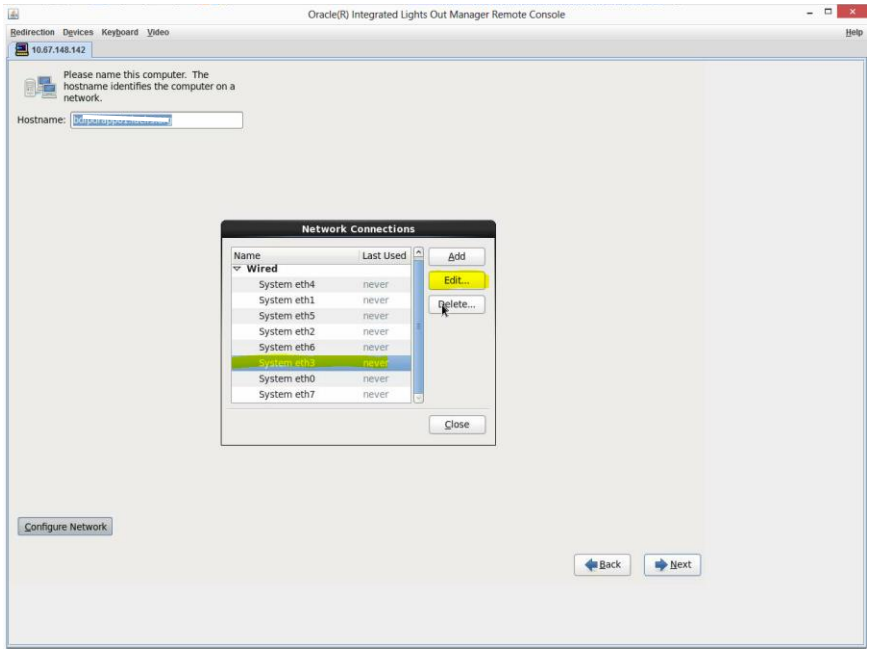
Figure 44 Hostname Window



45. Click **Configure Network**.

46. In the Network Connections Window, highlight the appropriate interface from the Servers-NIC-v??.xls spreadsheet and click **Edit…**

Figure 45 Network Connections Window



47. In the Editing System eth*X* window, check the **Connect automatically** check box then click on **IPv4 Settings** tab.

Figure 46 Edit System Window

48. In the IPv4 Settings tab, from the Method dropdown select **Manual** then click the **Add** button.

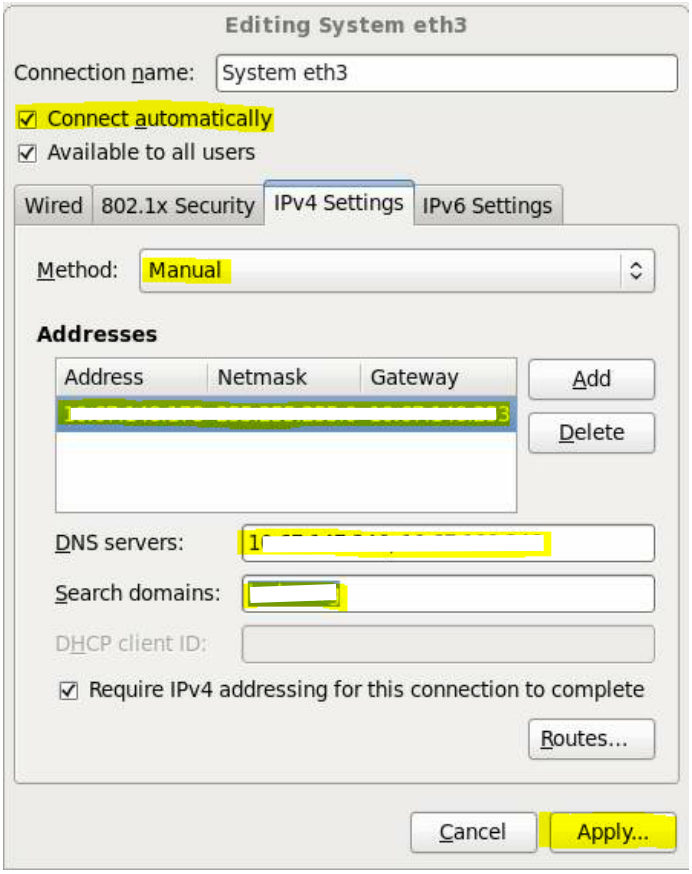
Figure 47 IPv4 Tab

49. In the popup that appears, enter the following information and then click **OK**.
    - Address: ***<<IP address>>***
    - Netmask: ***255.255.255.0***
    - Gateway: ***<<Gateway>>***

50. In the IPv4 tab, enter the following information and then click **Apply…**

- DNS servers: ***<<DNS IP1>>***, ***<<DNS IP2>>***
- Search domains: ***xxx.org***

Figure 48 DNS Servers and Search Domains

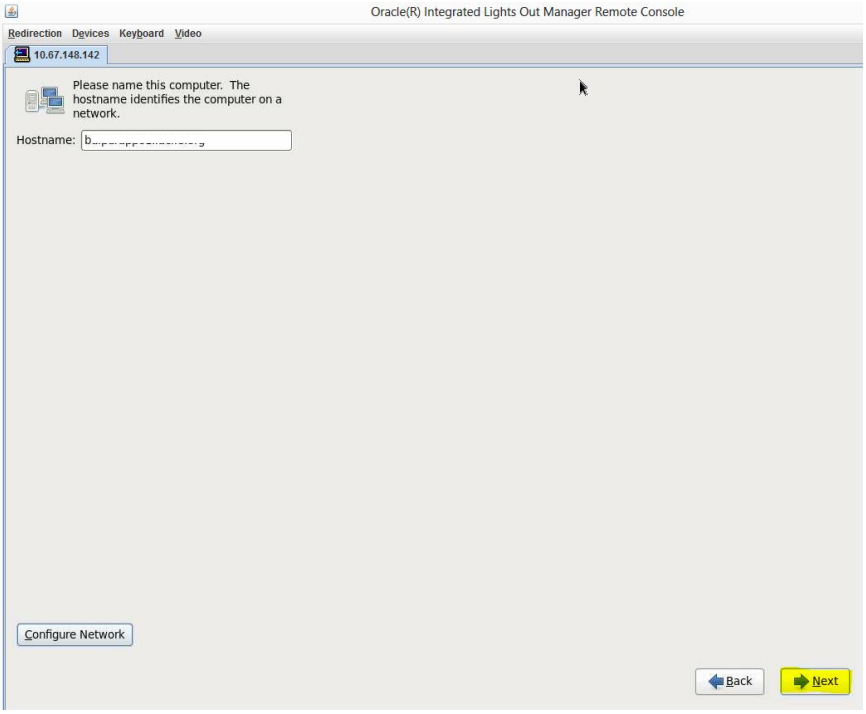


51. When the Network Connections window reappears click **Close**.

Figure 49 Network Connections Window

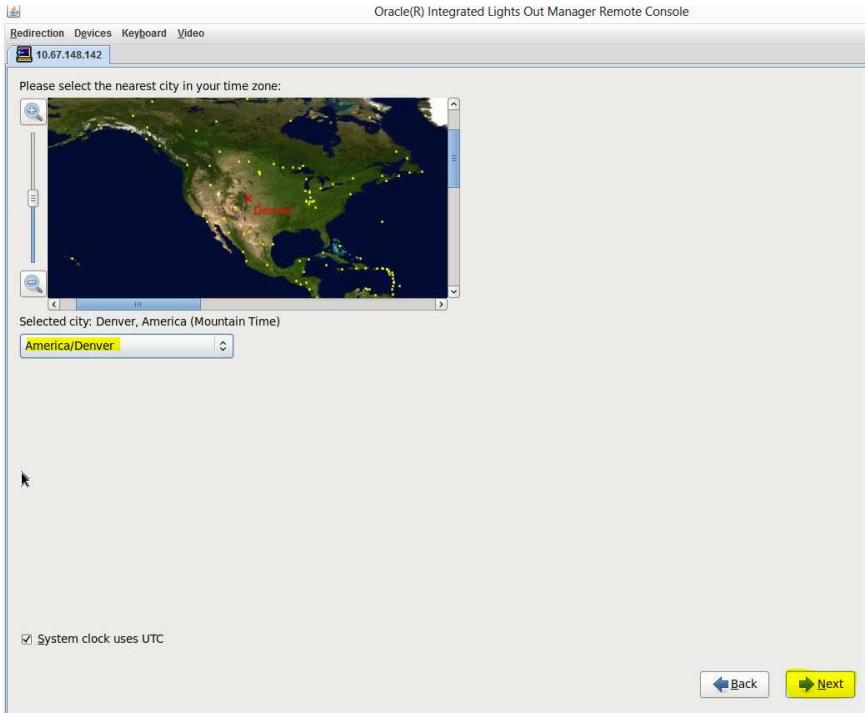
52. When the hostname window reappears click **Next**.

Figure 50 Hostname Window



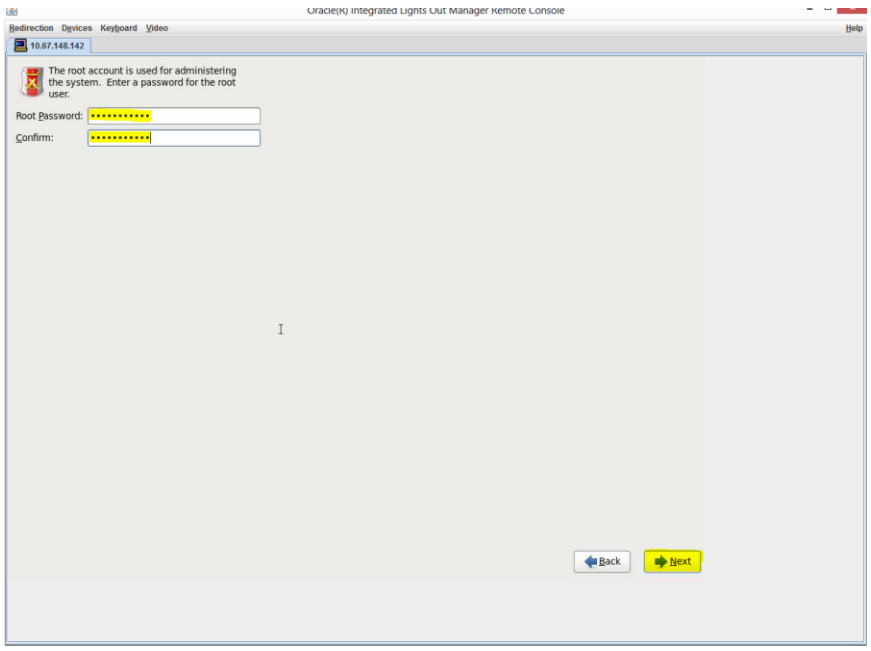
53. In the time zone window, from the Selected city dropdown select ***America/Los Angeles*** for the Primary Data Center or ***America/Denver*** for the Backup Data Center. Then click **Next**.

Figure 51 Time Zone Window



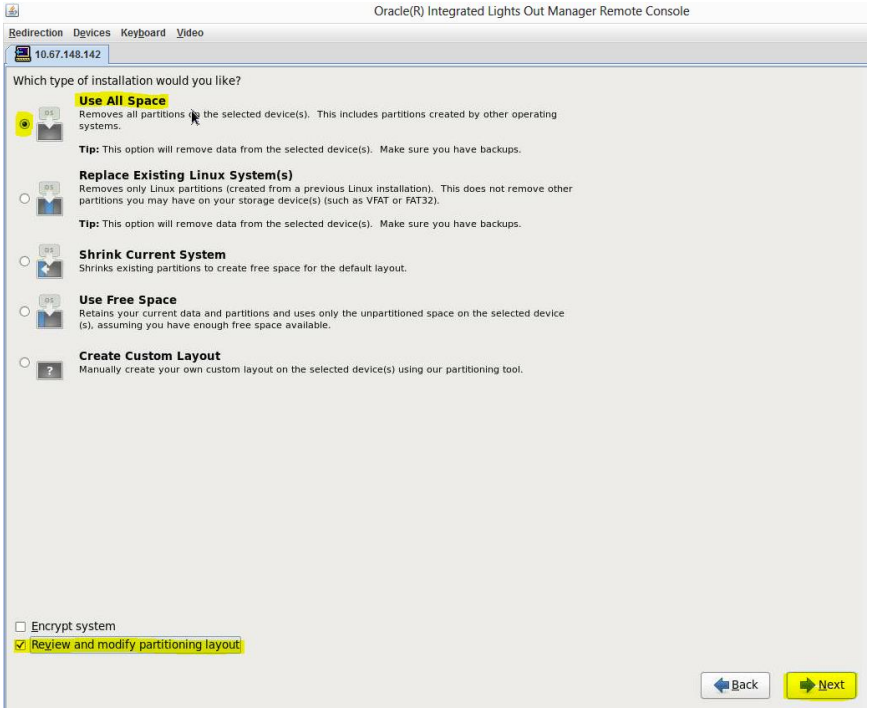
54. In the Root Password window enter the current infrastructure password twice and click **Next**.

Figure 52 Root Password Window



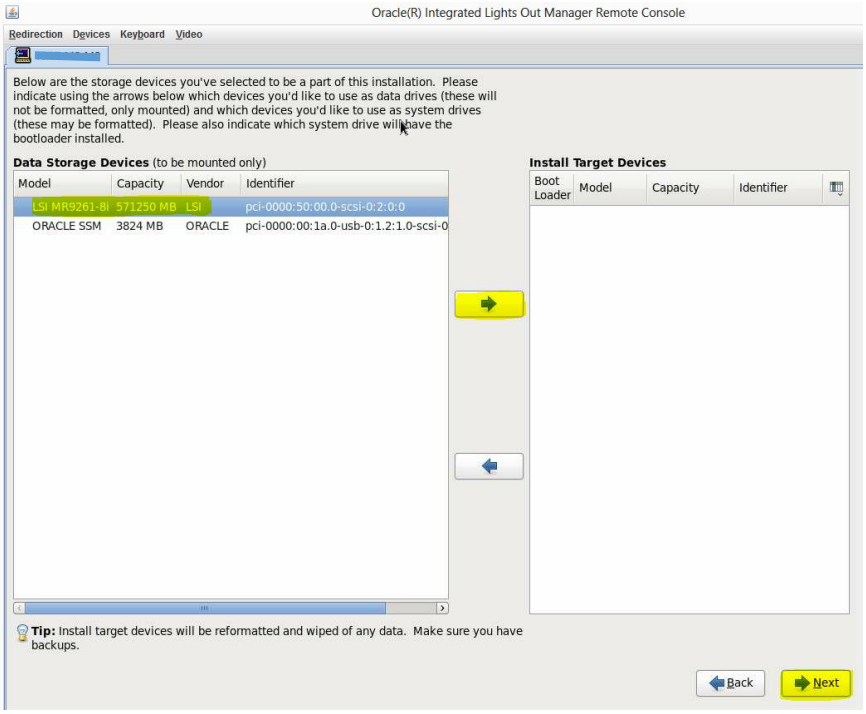
55. When the installation type window appears, click the **Use All Space** radio button. Make sure the **Review and modify partitioning layout** check box is checked and click **Next.**

Figure 53 Installation Type Window



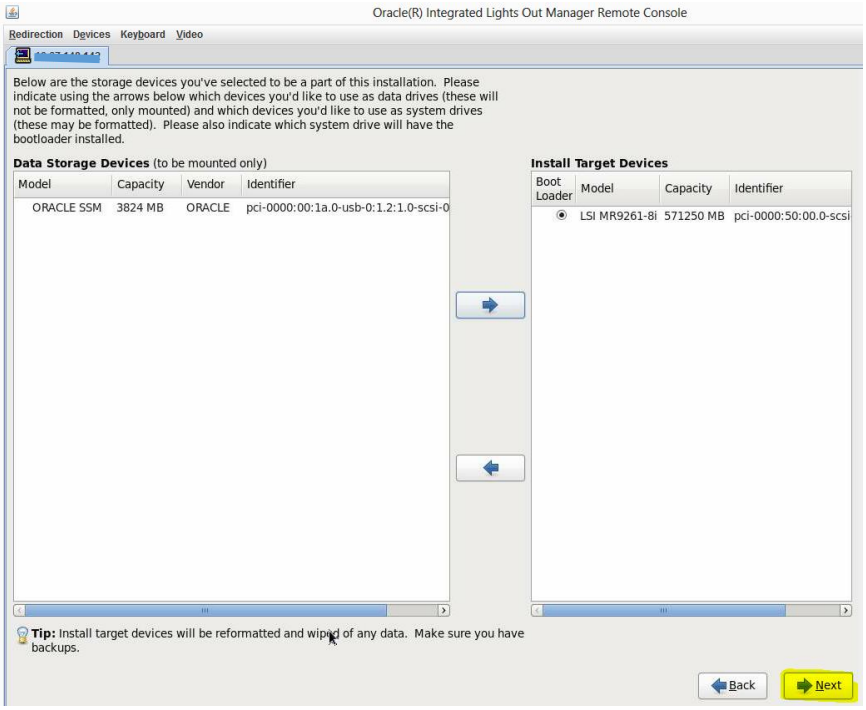
56. When the data storage devices window appears, highlight the volume you just created (not the 4 GB internal memory) and click the → so that the device appears in the Install Target Device column. Then click **Next**.

Figure 54 Data Storage Devices Window



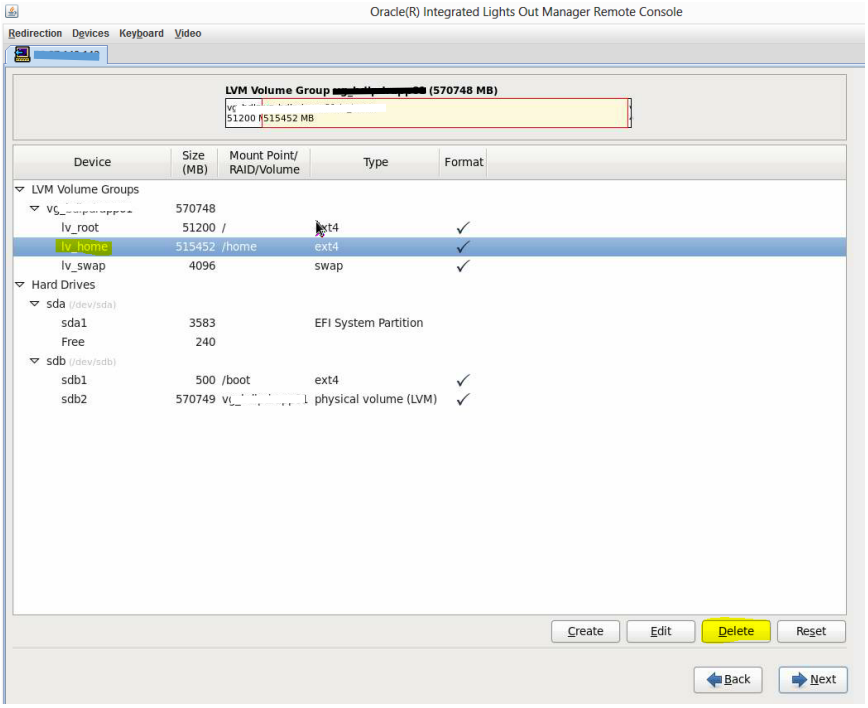
57. When the new device appears in the Install Target Devices column click **Next**.

Figure 55 Install Target Devices Window



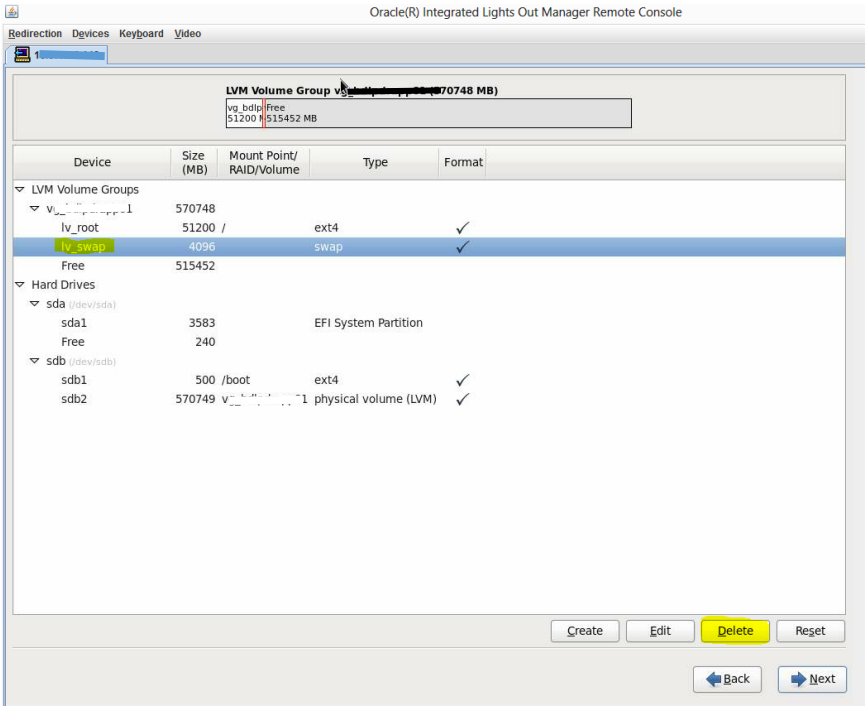
58. In the LVM Volume Groups window, highlight ***lv_home*** and click **Delete**.

Figure 56 LVM Volume Groups Window – lv_home



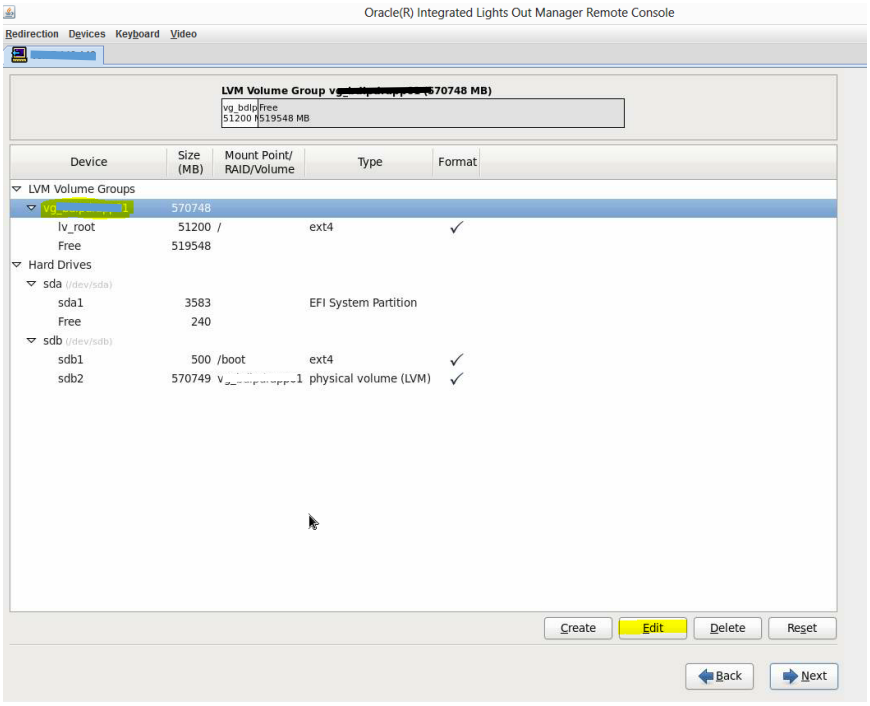
59. In the same window, highlight ***lv_swap*** and click **Delete**.

Figure 57 LVM Volume Groups Window – lv_swap



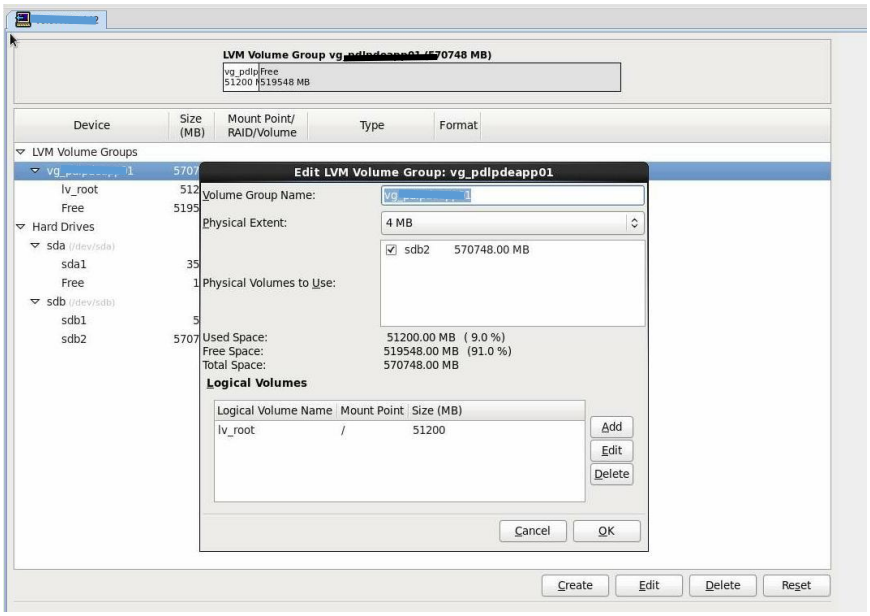
60. In the same window, highlight the host you created in Step 44 under the LVM Volume Groups and click **Edit**.

Figure 58 LVM Volume Groups Window - Edit



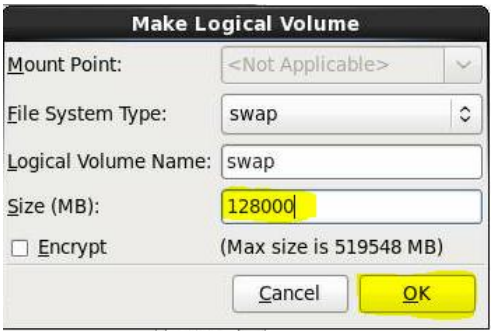
61. When the Edit LVM Volume Groups window appears click **Add**.

Figure 59 Edit LVM Volume Groups Window



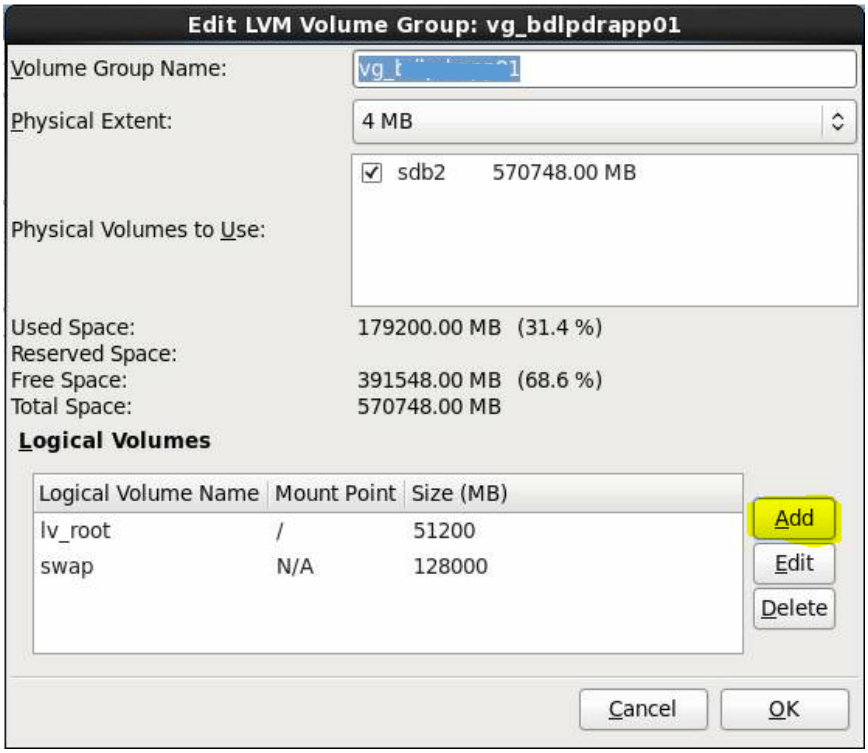
62. When the Make Logical Volume window appears, you will need to enter a value in the Size (MB) text box for the swap file. If the server has 256GB of RAM, enter ***128000*** in the textbox and click **OK**.

Figure 60 Make Logical Volume Window



63. Now you will place the remainder under /u01. In the Edit LVM Volume Groups window click **Add** again.

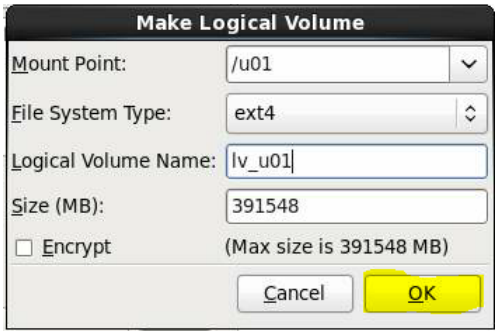
Figure 61Edit LVM Volume Groups Window



64. When the Make Logical Volume window appears, enter the following information and then click **OK**:

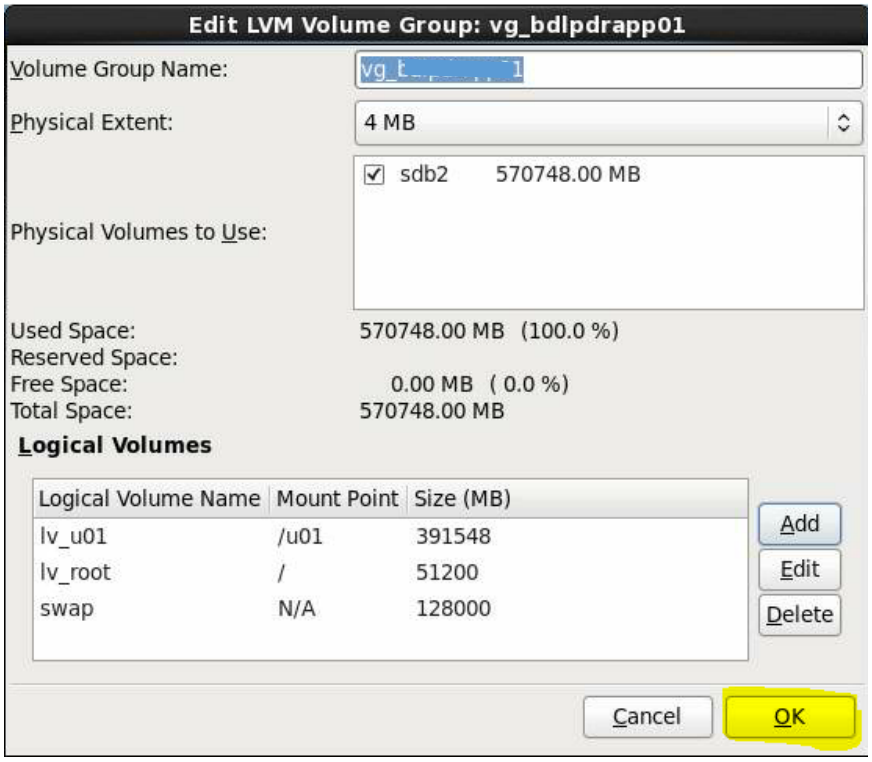
- Mount Point: **/u01**
- File System Type: **ext4**
- Logical Volume Name: ***lv_u01***
- Size: **391548**

Figure 62 Make Logical Volume Window

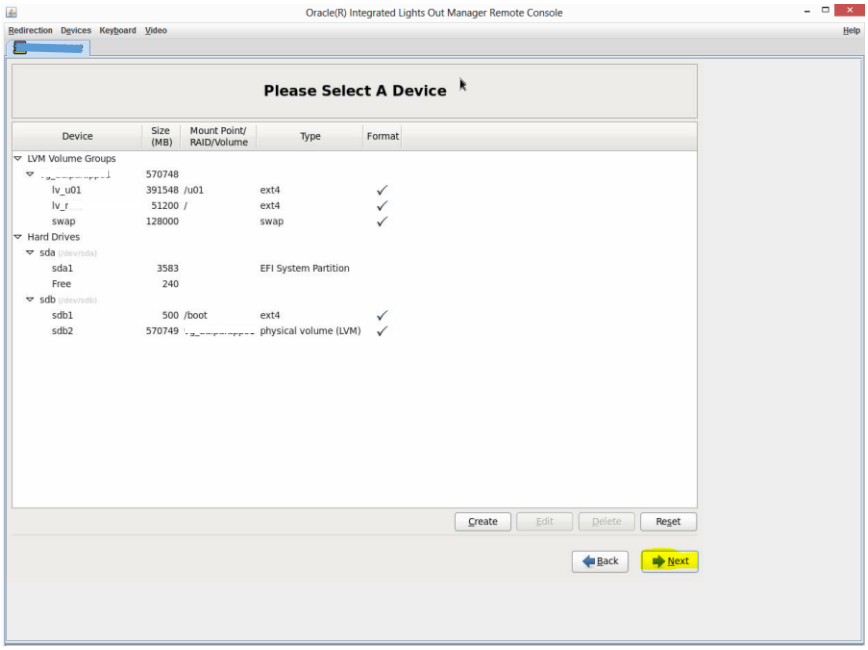


65. When the Edit LVM Volume Group window reappears click **OK**.

Figure 63 Edit LVM Volume Group Window



66. In the LVM Volume Groups window click **Next**.

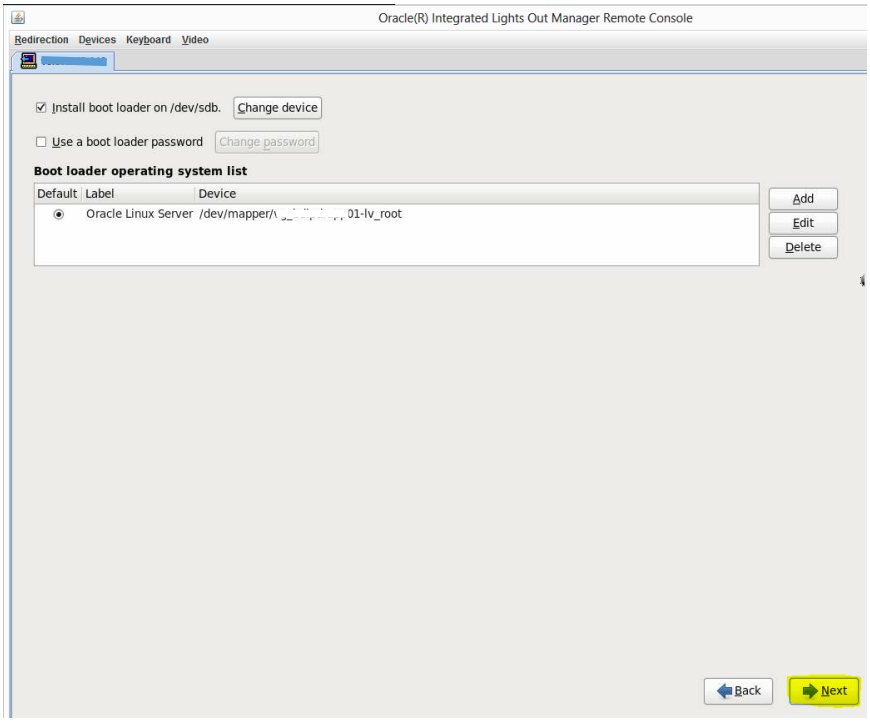


67. When the warning window appears click **Write changes to disk**.

Figure 64 Writing to Disk Warning

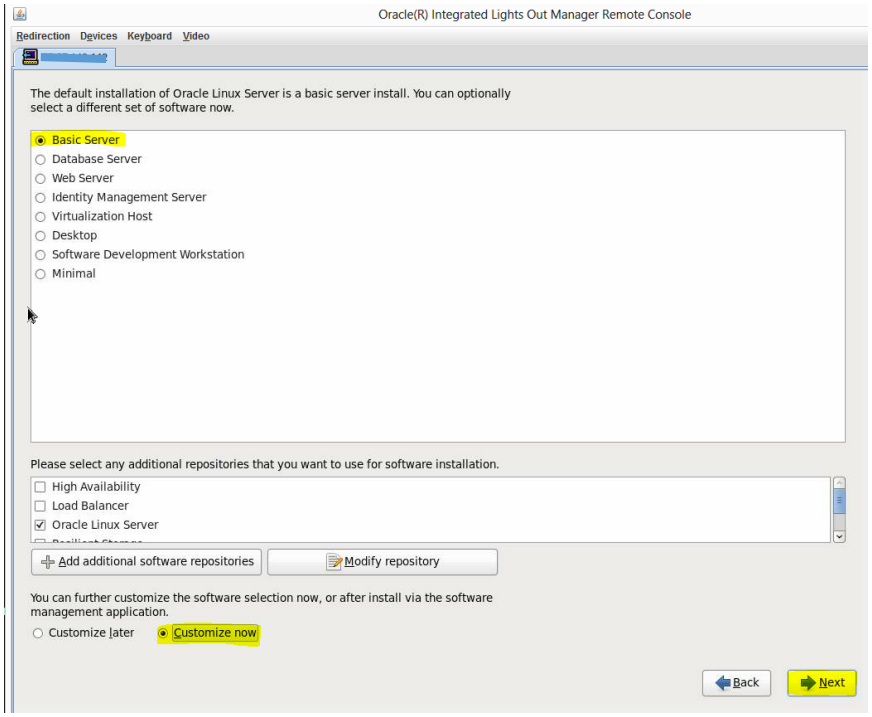
68. When the book loader window appears click **Next**.

Figure 65 Boot Loader Window



69. When the server install window appears, click the **Basic Server** radio button, click the **Customize now** radio button and then click **Next**.

Figure 66 Server Install Window



70. In the window that follows make sure **Base System** is highlighted in the left column. In the right column, in addition to accepting the defaults, check the boxes next to the following software packages:
    - Backup Client
    - Compatibility libraries
    - Legacy UNIX compatibility
    - Networking tools
    - Printing Client
    - Security Tools
    - Storage Availability Tools

Figure 67 Additional Software Packages

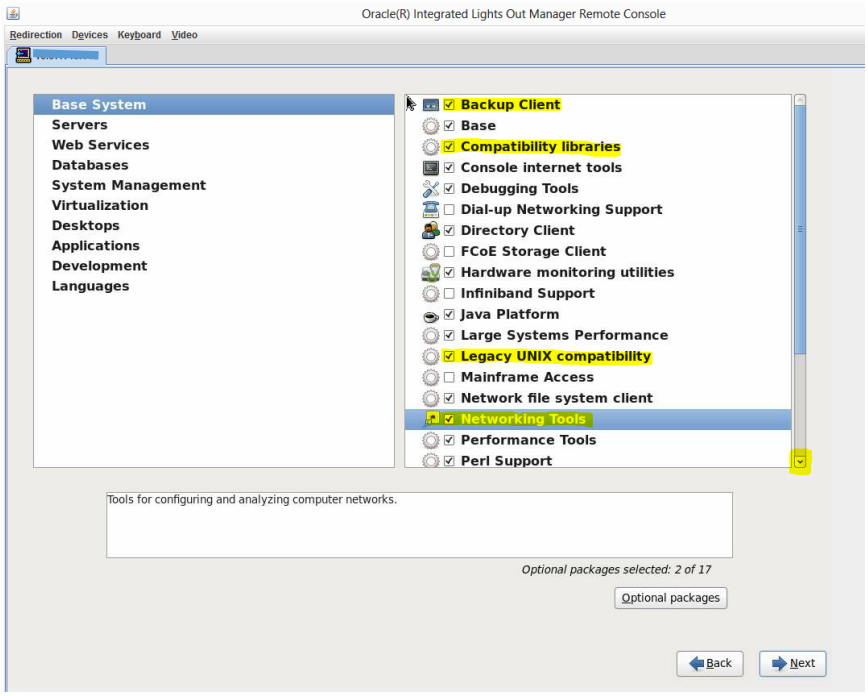
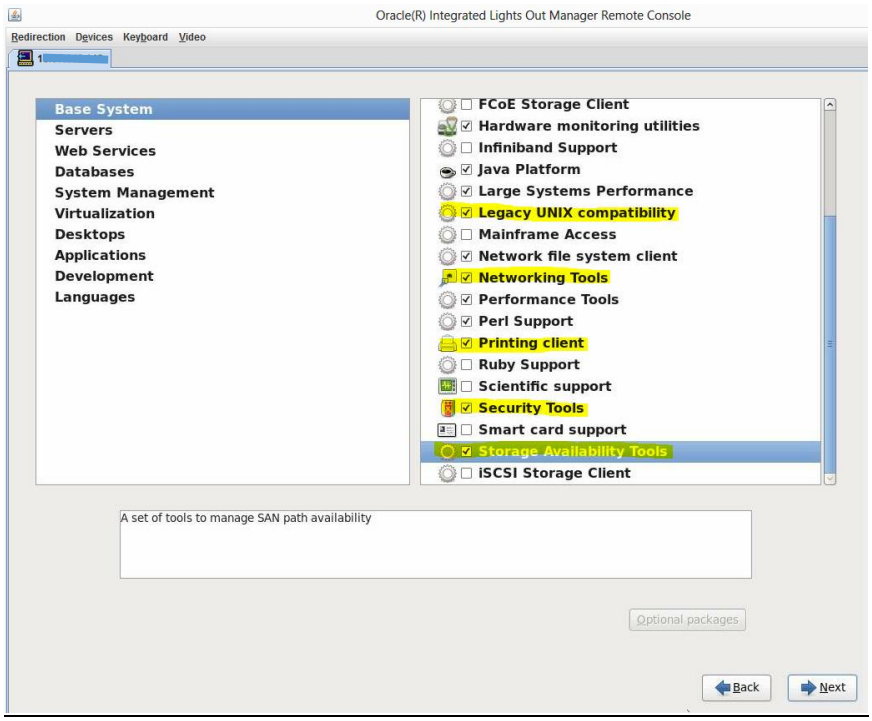
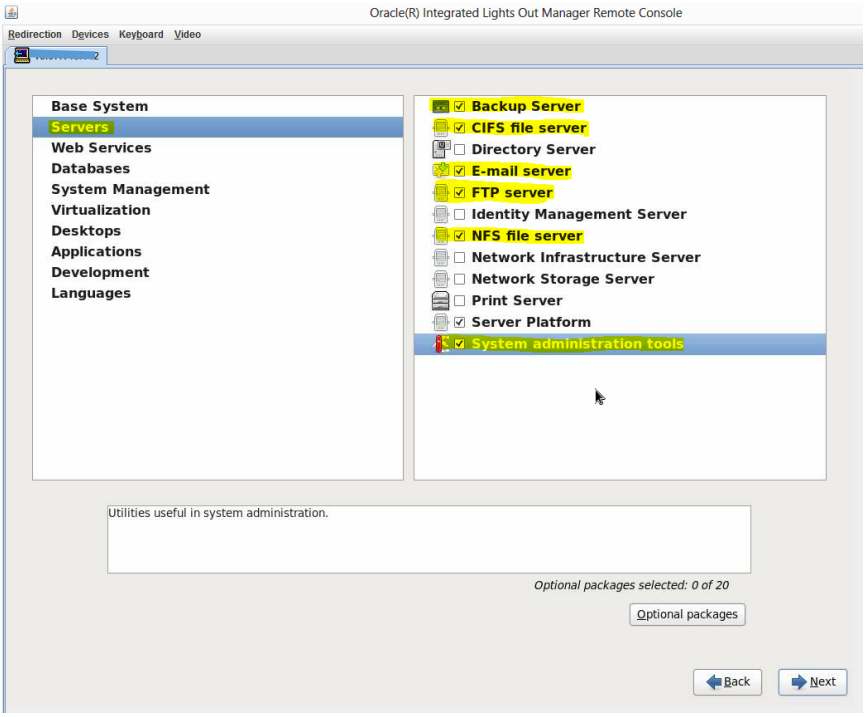


Figure 68 Additional Software Packages



71. Now highlight **Servers** in the left column. In the right column check boxes next to the following servers:
    - Backup Server
    - CIFS file server
    - E-mail server
    - FTP server
    - NFS file server

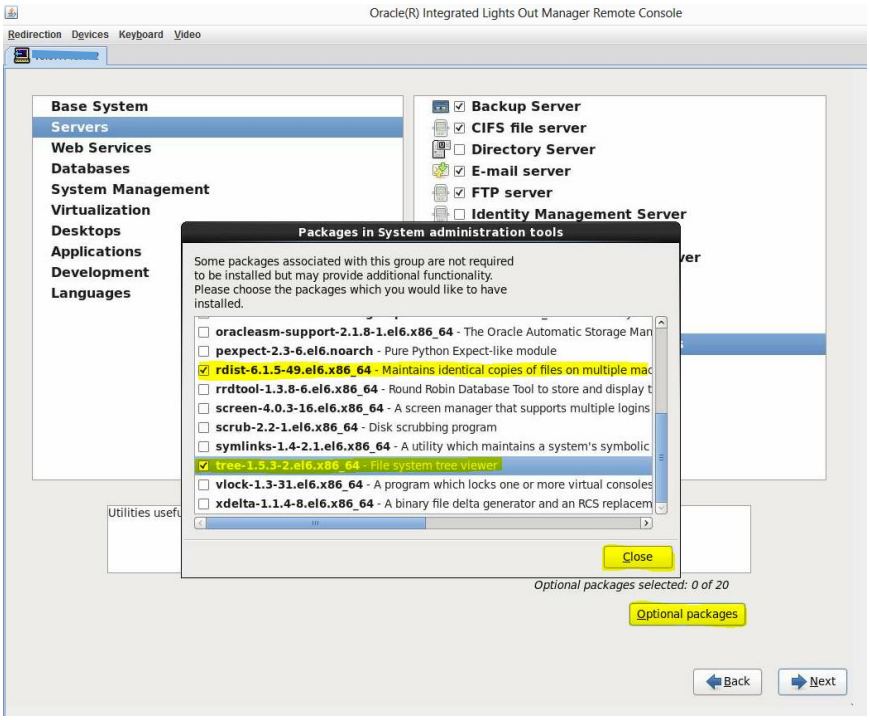
Figure 69 Specify Servers



72. Check the box next to **System administration tools** and keep the row highlighted.

73. At the bottom of the window, click on the **Optional packages** button.

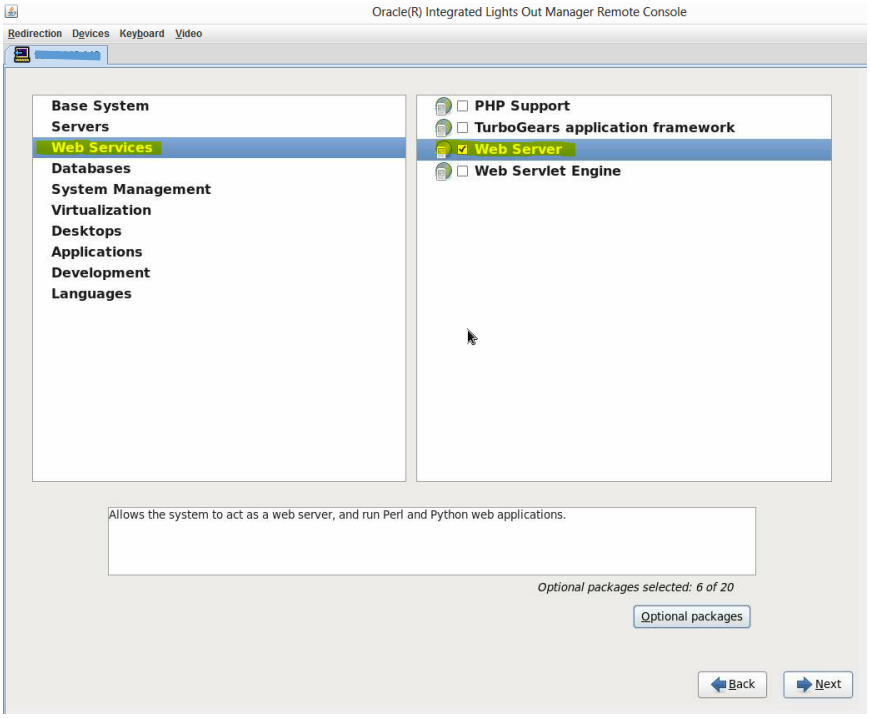
Figure 70 Optional Tools Packages Popup



74. In the Packages in System administration tools popup, check the box next to the following packages and then click **Close**.
    - rdist-6.1.5-49.el6.x86_64
    - tree-1.5.3-2.el6.x86_64

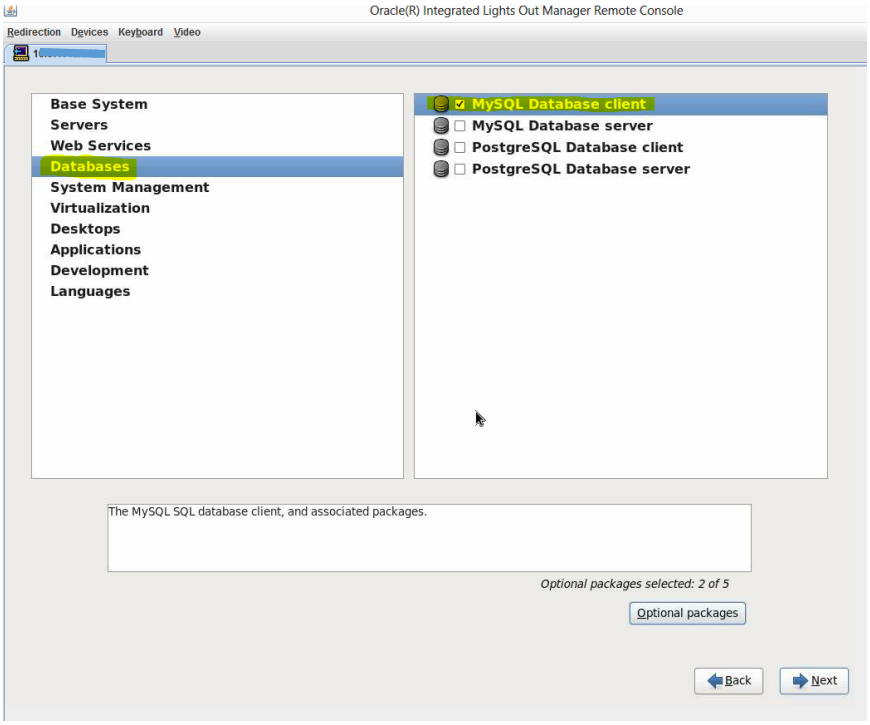
75. In the window that appears, in the left column highlight **Web Services** and in the right column check the box next to **Web Server**.

Figure 71 Web Services Options



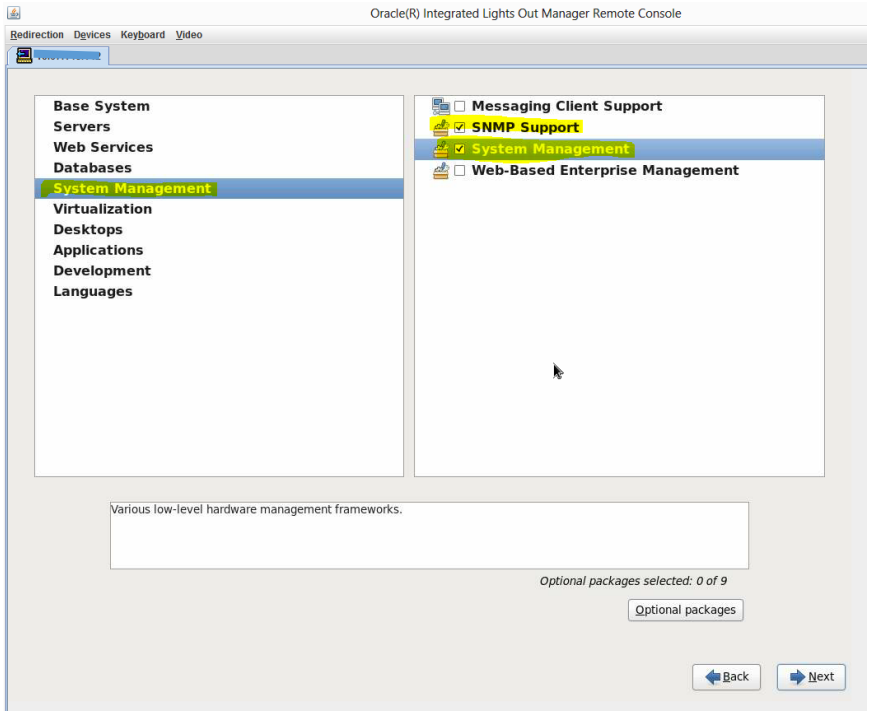
76. In the left column highlight **Databases** and in the right column check the box next to **MySQL Database client**.

Figure 72 Database Options



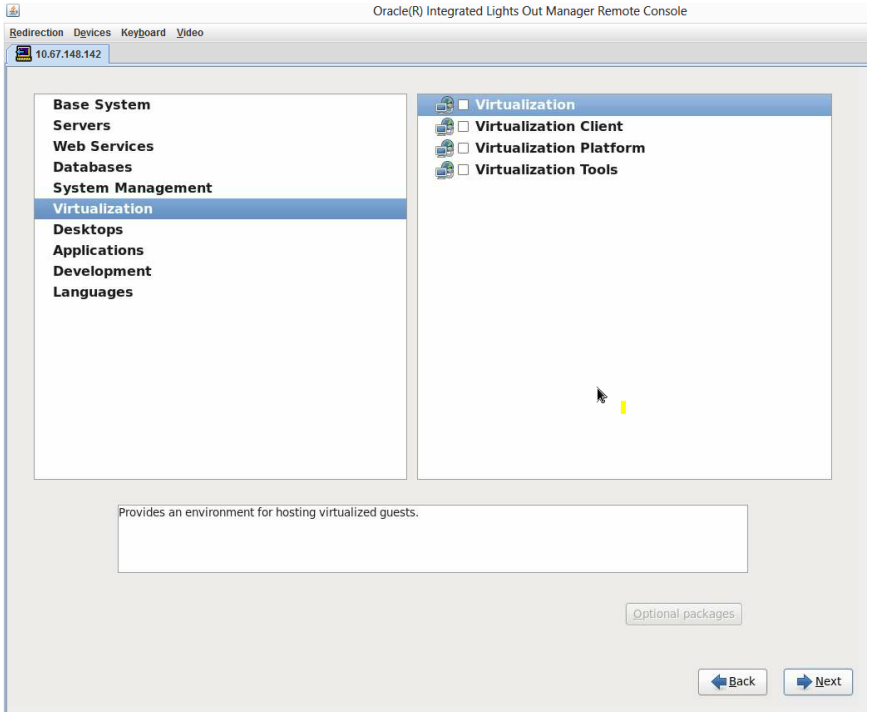
77. In the left column highlight **System Management** and in the right column check the box next to the following items:
    - SNMP Support
    - System Management

Figure 73 System Management Options



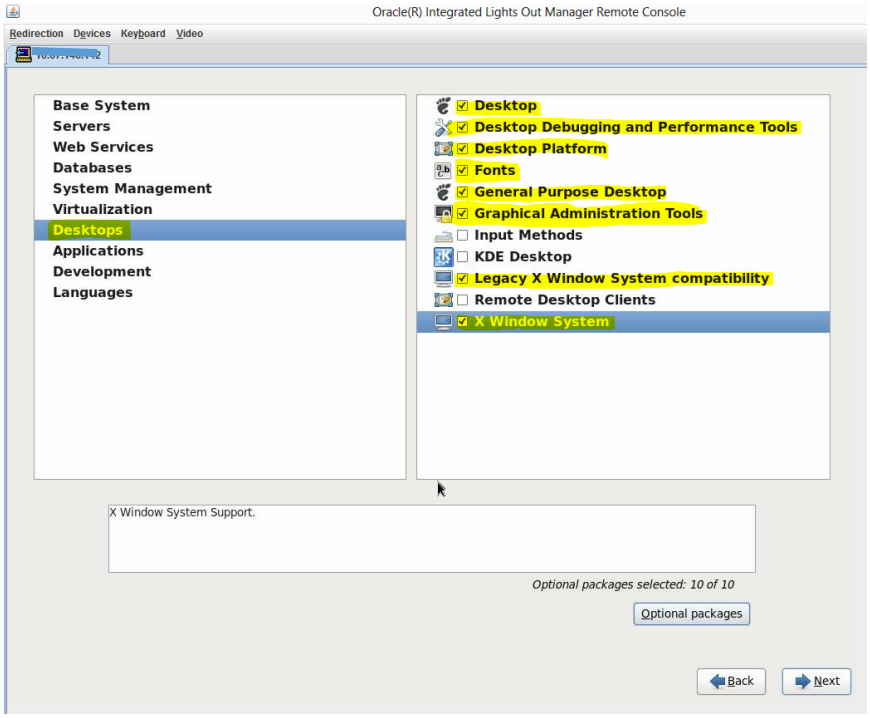
78. If you are creating a virtualized host, highlight **Virtualization** in the left column and check the box next to the appropriate item(s) in the right column.

Figure 74 Virtualization Options



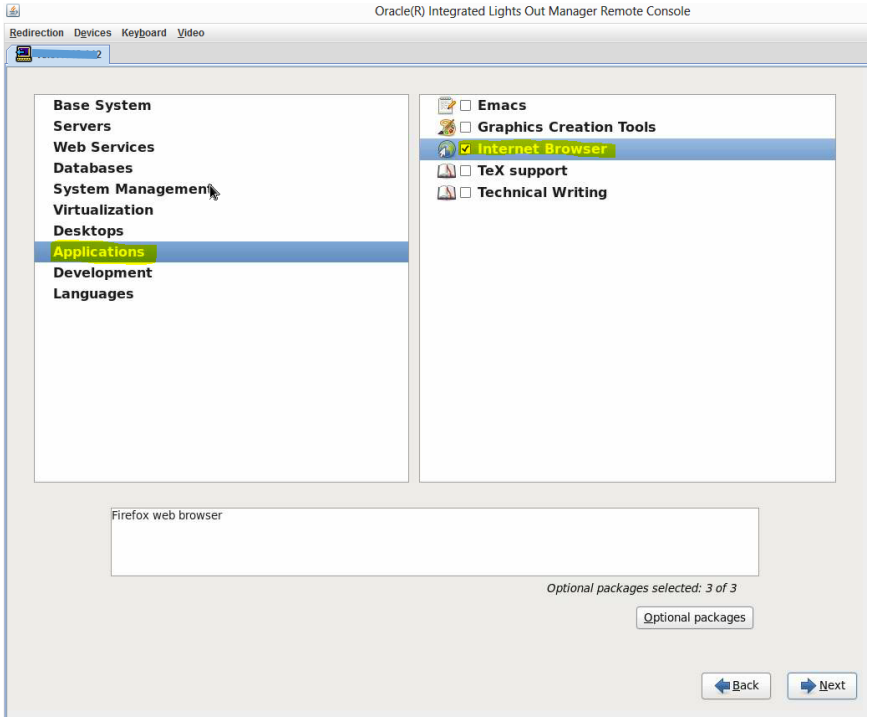
79. In the left column highlight **Desktops** and in the right column check the box next to the following items:
    - Desktop
    - Desktop Debugging and Performance Tools
    - Desktop Platform
    - Fonts
    - General Purpose Desktop
    - Graphical Administration Tools
    - Legacy X Window System compatibility
    - X Window System

Figure 75 Desktop Options



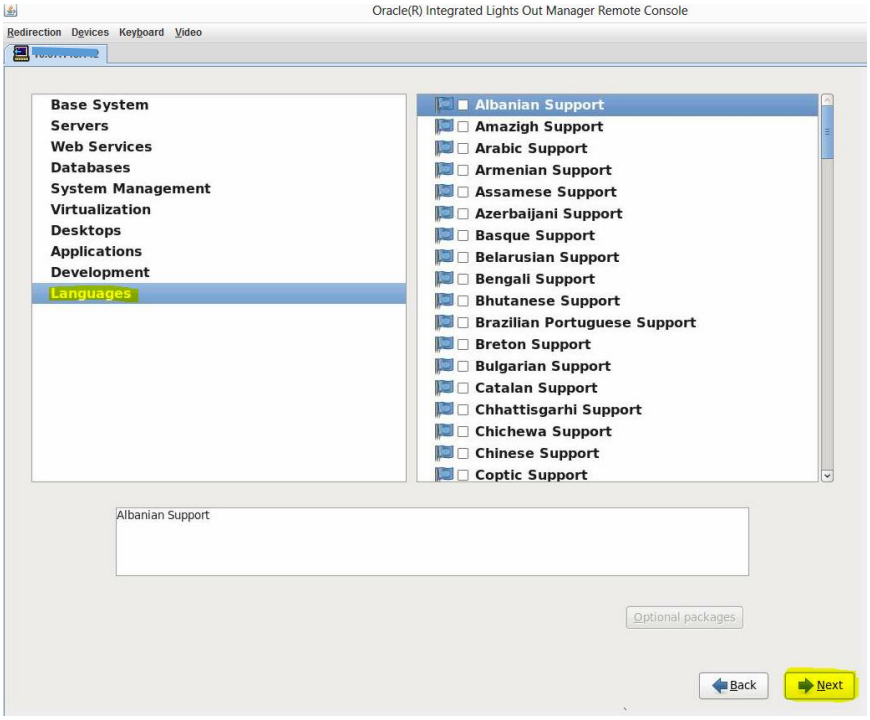
80. In the left column highlight **Applications** and in the right column check the box next to **Internet Explorer**.

Figure 76 Application Options



81. Click **Next**.

Figure 77 Language Options

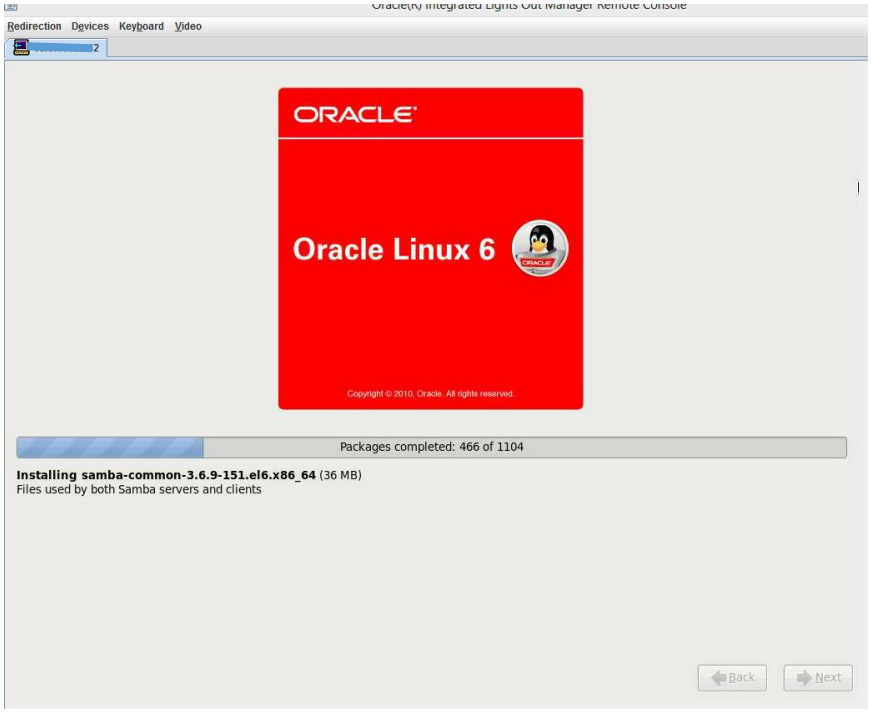


82. The Oracle Linux installation process will begin.

Figure 78 Oracle Linux Installation Progress

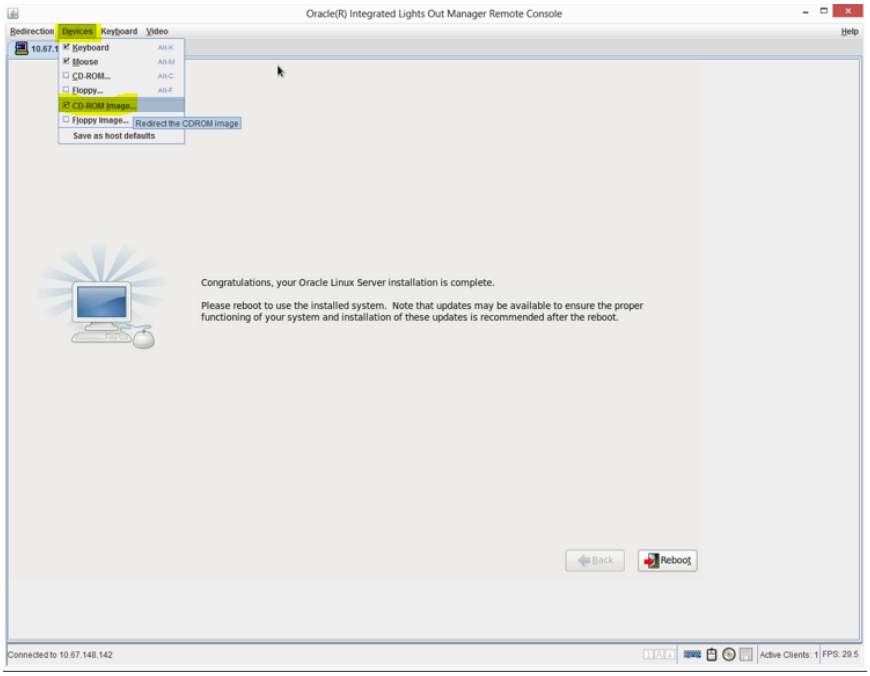
83. During installation a notification will appear showing that samba-common-3.6.9-151.el6,x86_64 is being installed.

Figure 79 Installing Samba Notice



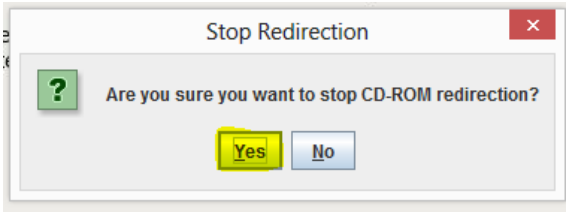
84. When the installation is finished, a window will appear with the message "Congratulations, your Oracle Linux Server installation is complete."

Figure 80 Installation Complete Screen



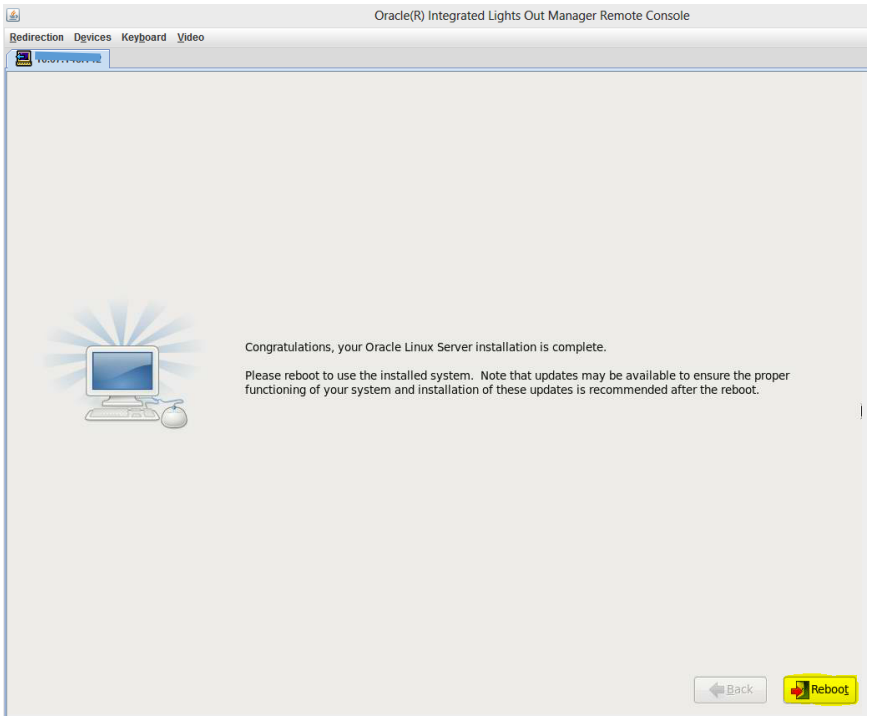
85. On the menu of that window, do **Devices→DC-ROM image…**
86. On the warning message that appears click **Yes**.

Figure 81 Stop Redirection Warning Popup



87. The window will reappear. Click **Reboot**.

Figure 82 Reboot Screen



NOTE: If you have not done so already, this is a good time to add the new server to NIS and DNS. To add to the NIS (for SSH access to work), you will login to the main NIS server and add the hostname and IP of this new server to the */etc/hosts* file and update the NIS table.

88. PuTTY into xx.xx.xx.xx and enter the following commands in the shell:

#vi /etc/hosts

xx.xx.xx.xx (subnet 121 is added here only)

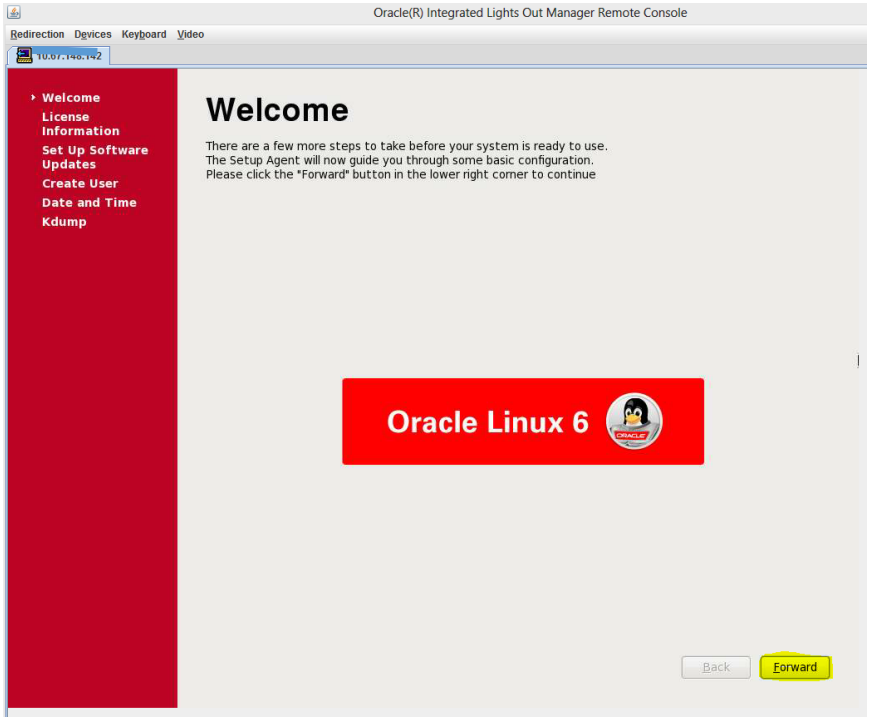
#cat /etc/motd (this tell us to rebuild the NIS tables for SSH access)

#make –C /var/yp

NOTE: You may have to adjust the BIOS to ensure it boots the RAID.

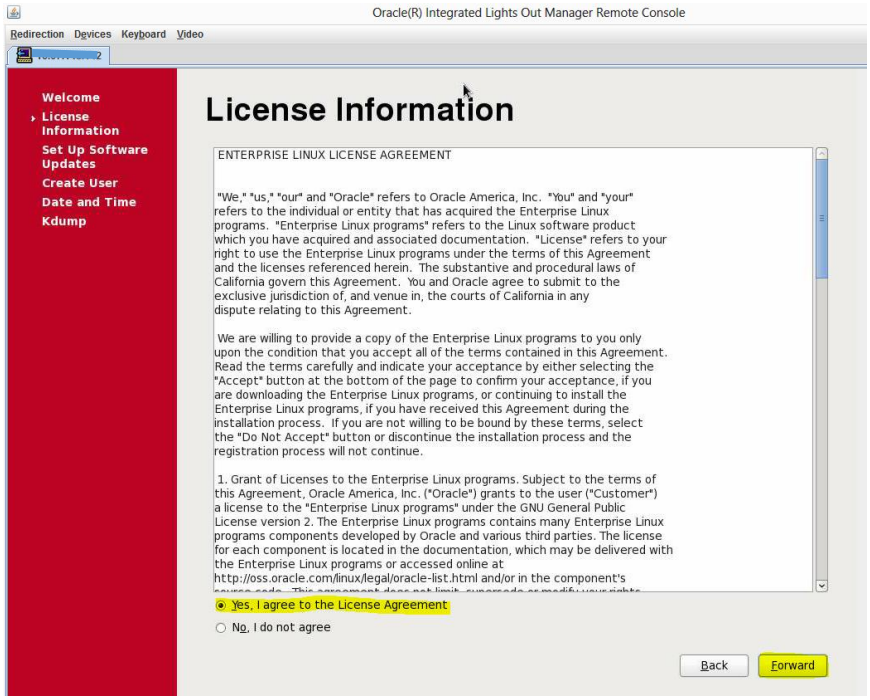
89. After successful reboot, you should see the Oracle Linux Welcome screen. Click **Forward**.

Figure 83 Oracle Linux Welcome Screen



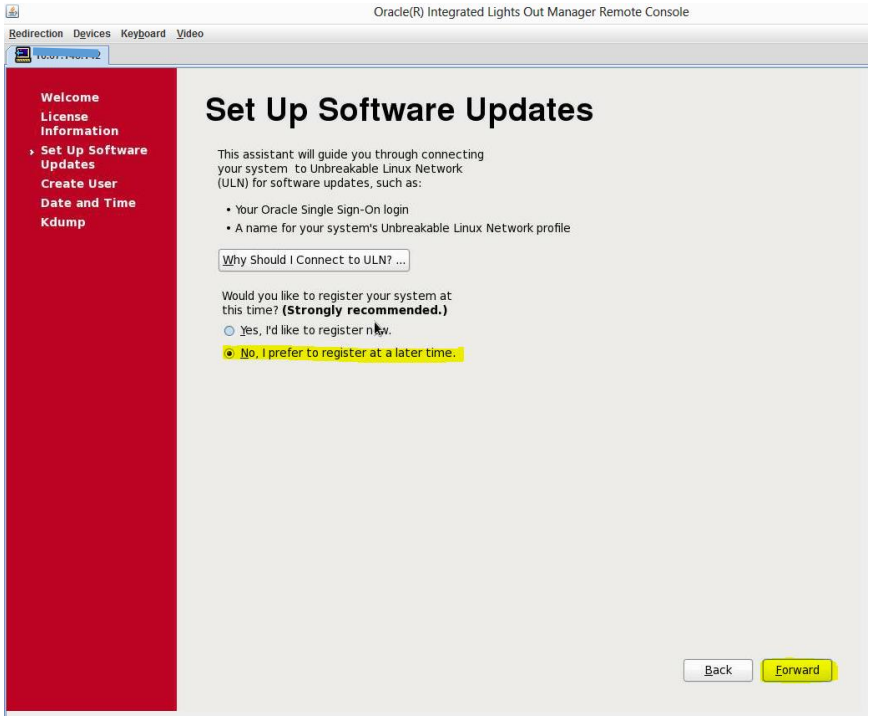
90. When the user license page appears, click the Y**es, I agree to the License Agreement** radio button and click **Forward**.

Figure 84 User License Agreement



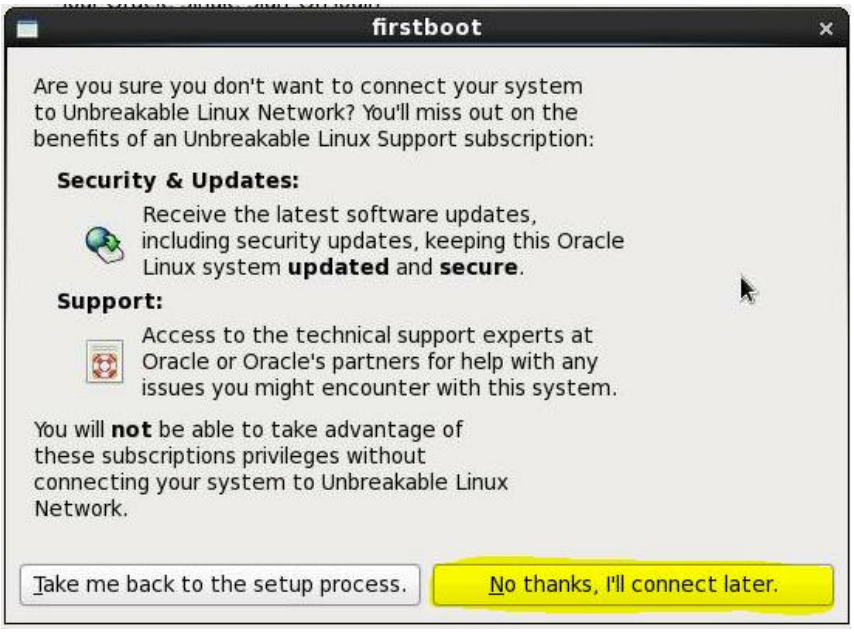
91. When the Software Updates screen appears, click the **No, I prefer to register at a later time** radio button and click **Forward**.

Figure 85 Software Updates Screen



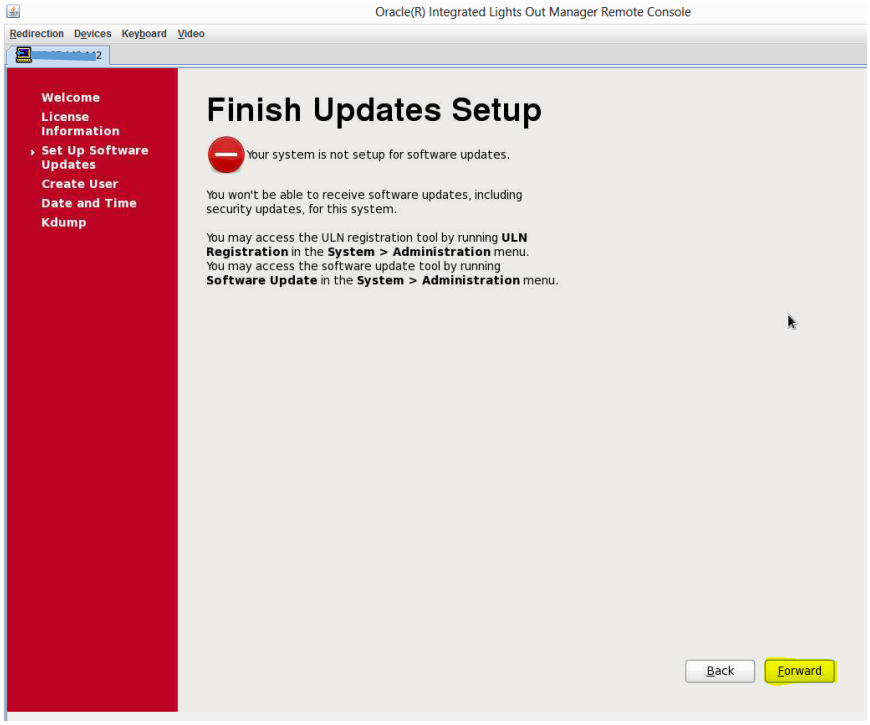
92. When the firstboot window appears, click the **No thanks, I'll connect later** button.

Figure 86 Firstboot Window



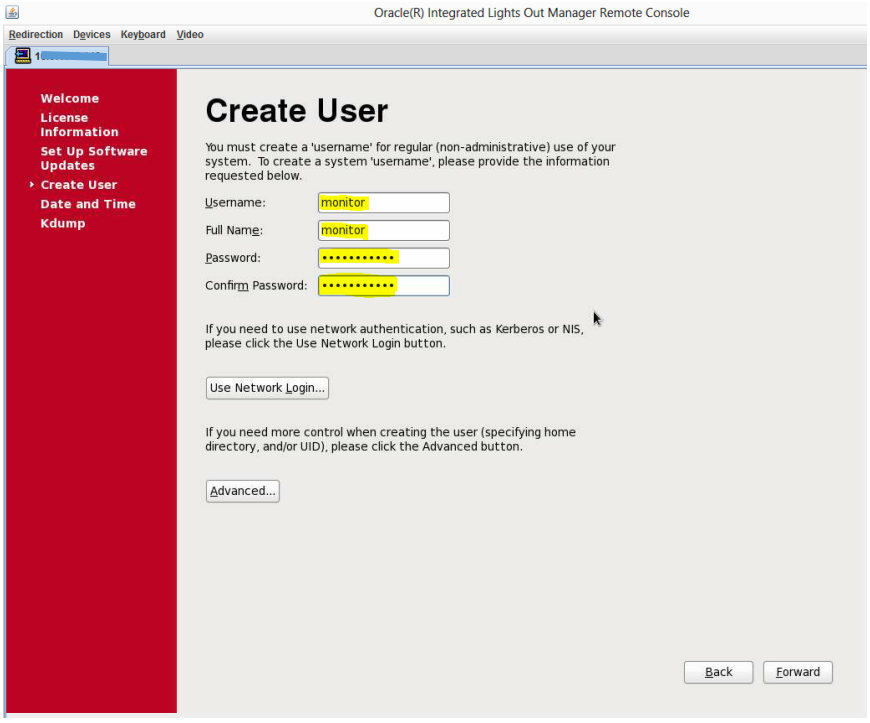
93. When the Finish Updates Setup screen appears click **Forward**.

Figure 87 Finish Updates Setup Screen



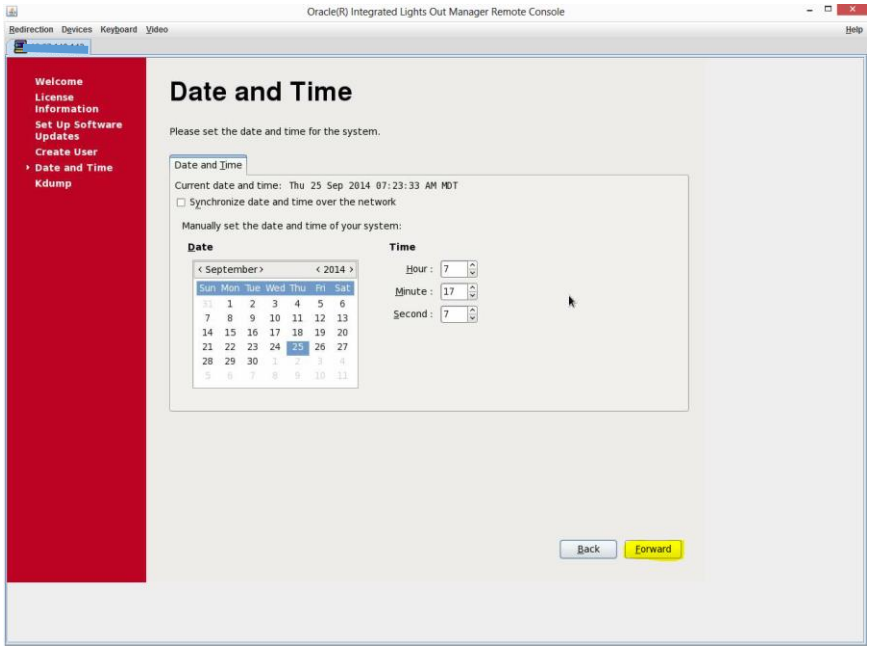
94. Create the "monitor" account using the infrastructure password.

Figure 88 Create User Screen



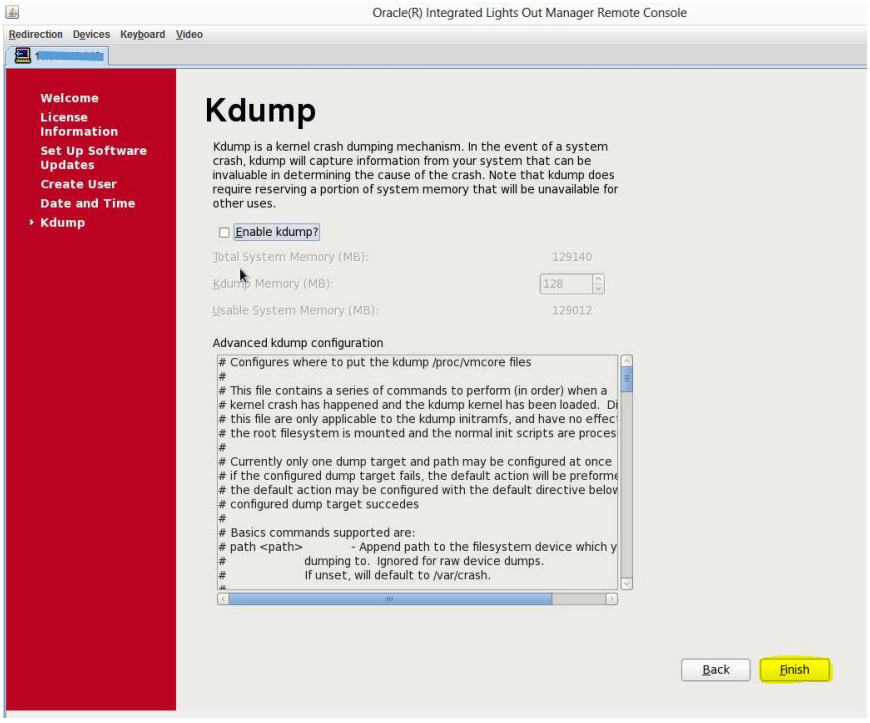
95. It is not necessary to set the date and time yet. It will be set using a finish script. For now, just click **Forward**.

Figure 89 Date and Time Screen



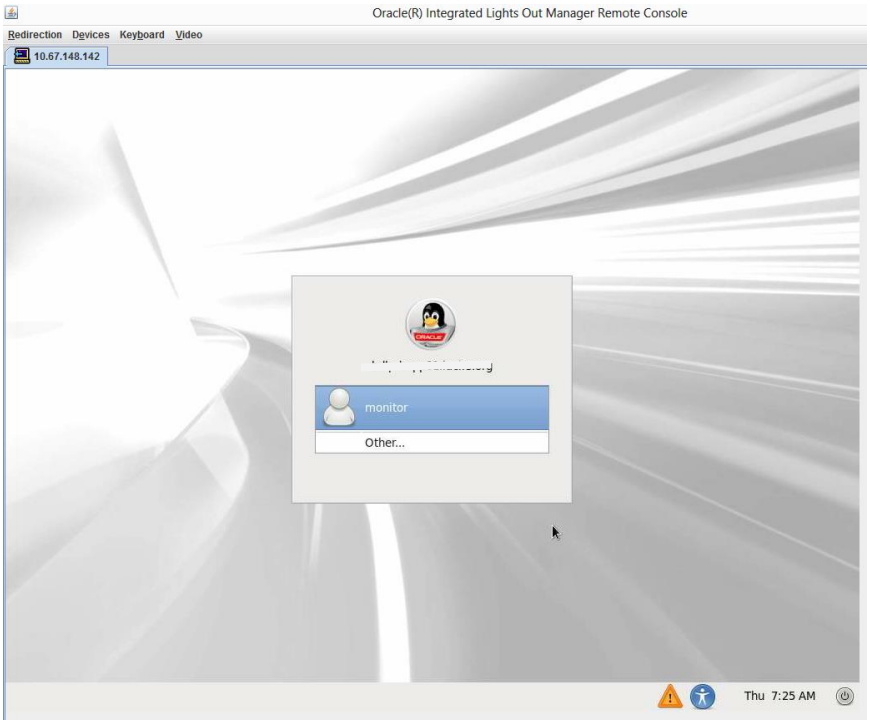
96. When the Kdump screen appears, just click **Forward**.

Figure 90 Kdump Screen



97. You should see the following screen. The setup is complete.

Figure 91Setup Successful Screen



98. Now it is time to run the finish script. Log into your new install via ssh and copy the finish script:

    [root@xxx tmp]# *scp xx.xx.xx.xx:/opt/scripts/physical-finish.sh /tmp*

    The authenticity of host 'xx.xx.xx.xx (xx.xx.xx.xx)' can't be established.

    RSA key fingerprint is.

    Are you sure you want to continue connecting (yes/no)? *yes*

    Warning: Permanently added 'xx.xx.xx.xx' (RSA) to the list of known hosts.

    root@xx.xx.xx.xx's password:

    physical-finish.sh 100% 22KB 21.6KB/s 00:00

    [root@xxx tmp]#

99. Now run the finish script. Your interaction with the script will vary depending on what you are doing.

    # */tmp/physical-finish.sh*

    Checking OS Version

    Oracle Linux Server release 6.4

```
Good, we're on Linux 6.4!
Determining our physical location
 |
xxx.xxx.org
This machine is in the BDC
Most WLS Online, Batch Servers, OSB, BPM, & OBIEE/BIP need
the public SSH key installed for xxx's admin account
Would you like me to install this key? (y/n) [n] --> y
Answering "y" to the next question changes the default ulimits to 8192
Is this an Adobe LiveCycle vServer? (y/n) [n] -->
Setting up TimeZone
mv: `/etc/localtime' and `/etc/localtime-orig' are the same file
Setting up automount
No failover IP ready for the BDC; connecting to internal ZFS - Head #1
Make sure there is an NFS Exception for my IP Address for the 'dr' project
!!!Ensure NFS Exceptions are setup in storage!!!, then push any key to proceed
!!! Are you sure !!!, then push any key to proceed
Setting up resolv.conf
Configuring NTP
Starting ntpd:                                [  OK  ]
Updating /etc/hosts
Updating yp.conf
Configuring domain
Re-writing nsswitch.conf
Starting NIS
Starting NIS service:                         [  OK  ]
Binding NIS service: .                        [  OK  ]
Updating idmapd.conf and starting rpcidmapd.conf
portmap: unrecognized service
error reading information on service portmap: No such file or directory
```

Starting 'at' services

atd (pid 3419) is running...

Starting Automounter

Starting automount: automount: program is already running.

[OK]

Installing SSH Keys

Temporarily mounting /mnt to xx.xx.xx.xx:/export

mnt is mounted as:

Does the above mount look correct? (y/n) [y] --> n

Trying again....

xx.xx.xx.xx:/export on /mnt type nfs
(rw,vers=4,addr=xx.xx.xx.xx,clientaddr=xx.xx.xx.xx)

Does it look correct now? (y/n) [y] --> y

Setting up sudoers

Setting up sudo

Setting up OPAM

Creating oPAM accounts

Setting up NFS Mounts:

WARNING!!!

WARNING!!!

WARNING!!!

WARNING!!!

WARNING!!! - No server name matches for NFS Mount!!!

Please review the /etc/fstab file of this

Server or this system will not have its

own NFS filesystem for software installs

If needed, create a ZFS share/mount for this server

WARNING!!!

WARNING!!!

WARNING!!!

WARNING!!!

WARNING!!!

Restarting some services

Stopping RPC idmapd: [OK]

Starting RPC idmapd: [OK]

Shutting down NIS service: [OK]

Starting NIS service: [OK]

Binding NIS service: . [OK]

Mounting filesystems

NIS is bound to:

bdlvtoinf04

Would you like to run 'yum update' now? (y/n) [y] --> y

[yum update output is truncated]

Please make sure to update /etc/motd-base !!!

Consider doing this now so you don't forget :)

100. If the yum update fails this is due to the public-yum-ol6.repo file missing in the /etc/yum.repos.d. Update the /etc/yum.repos.d with file using scp from a known good server. In this example, scp the file from 10.67.148.178 as follows:

#scp dfatt@xx.xx.xx.xx:/etc/yum.repos.d/public-yum-ol6.repo /tmp

#cd /tmp

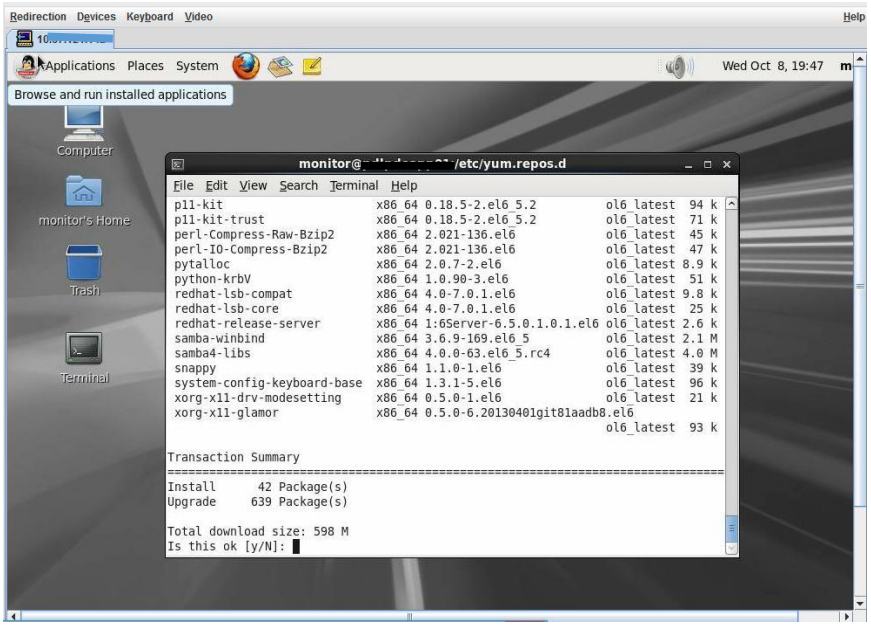
#cp public-yum-ol6.repo /etc/yum.repos.d/

101. Rerun the yum command to update the server again:

#yum update

102. Results will appear as shown below. Select "y" for the system to update.

Figure 92 System Update Results



103. The next step is to set up bonding. The example below will set up bond0 to include eth1 and eth7 (Ethernet) and bond1 to include eth3 and eth5 (Ethernet over fiber). Your server configuration may vary. Begin by turning off the Network Manager:

[root@xxx network-scripts]# */sbin/chkconfig NetworkManager off*

[root@xxx network-scripts]# */sbin/service NetworkManager stop*

Stopping NetworkManager daemon: [OK]

[root@xxx network-scripts]#

104. Make a backup of the network scripts directory in /etc/sysconfig/:

#cp -rp ./network-scripts ./network-scripts-orig

105. Define the bond name under /etc/modprobe.d:

[root@xxx sysconfig]# *echo "alias bond0 bonding" > /etc/modprobe.d/bond0.conf*

[root@xxx sysconfig]# *echo "alias bond1 bonding" > /etc/modprobe.d/bond1.conf*

106. Create the ifcfg-bond0 file using your system IP and netmask:

```
[root@xxx network-scripts]# vi  ifcfg-bond0
DEVICE="bond0"
BONDING_OPTS="mode=1 miimon=250 use_carrier=1 updelay=500
primary=eth1"
TYPE=BOND
BOOTPROTO=none
ONBOOT=yes
IPADDR=xx.xx.xx.xx
NETMASK=255.255.255.0
GATEWAY=xx.xx.xx.xx
USERCTL=no
```

107. Now repeat for bond1:

```
[root@xxx network-scripts]# vi  ifcfg-bond1
DEVICE="bond1"
BONDING_OPTS="mode=1 miimon=250 use_carrier=1 updelay=500
primary=eth3"
TYPE=BOND
BOOTPROTO=none
ONBOOT=yes
IPADDR=xx.xx.xx.xx
NETMASK=255.255.255.128
GATEWAY= xx.xx.xx.xx
USERCTL=no
```

108. Edit the ifcfg-eth files for the respective bonds as shown below:

```
[root@xxx network-scripts]# vi  /etc/sysconfig/network-scripts/ ifcfg-eth1
DEVICE="eth1"
HWADDR="00:10:E0:23:C6:1F"
TYPE=Ethernet
ONBOOT="yes"
MASTER=bond0
SLAVE=yes
NM_CONTROLLED="no"
BOOTPROTO=static

[root@xxx network-scripts]# vi /etc/sysconfig/network-scripts/ ifcfg-eth7
DEVICE="eth7"
HWADDR="00:10:E0:23:C6:21"
TYPE=Ethernet
ONBOOT=yes
```

MASTER=bond0
SLAVE=yes
NM_CONTROLLED="no"
BOOTPROTO=static

[root@xxx 1 network-scripts]# *vi ifcfg-eth3*
DEVICE="eth3"
HWADDR=
TYPE=Ethernet
UUID=
ONBOOT=yes
MASTER=bond1
SLAVE=yes
NM_CONTROLLED="no"
BOOTPROTO=static
NAME="System eth3"

[root@xxx network-scripts]# *vi ifcfg-eth5*
DEVICE="eth5"
HWADDR=" "
ONBOOT="yes"
MASTER=bond1
SLAVE=yes
NM_CONTROLLED="no"
BOOTPROTO=static

[root@xxx network-scripts]# *vi /etc/sysconfig/network-scripts ifcfg-eth7*
DEVICE=eth5
HWADDR=*<Interface's unique hardware address>*
TYPE=Ethernet
UUID=*<Interface's unique UUID>*
ONBOOT=yes
MASTER=bond0
SLAVE=yes
NM_CONTROLLED=no
BOOTPROTO=static

109. Edit all other ifcfg-eth* and turn off the "ONBOOT". When finished, do the following to ensure only eth3 & eth5 (or your desired interfaces) are turned on:

[root@xxx network-scripts]# *grep -i onboot ./ifcfg-eth**

./ifcfg-eth0:ONBOOT="no"
./ifcfg-eth1:ONBOOT="yes"
./ifcfg-eth2:ONBOOT="no"
./ifcfg-eth3:ONBOOT=yes
./ifcfg-eth4:ONBOOT="no"
./ifcfg-eth5:ONBOOT="yes"
./ifcfg-eth6:ONBOOT="no"
./ifcfg-eth7:ONBOOT=yes
[root@xxx network-scripts]#

110. Now restart the network service:

 # /sbin/service network stop
 # /sbin/service network start

111. Reboot the server once to make sure it comes up ok.

112. Review the server's backup policy to ensure that necessary data and configurations area backed up.

10.4 Post-Installation Configuration Procedures

10.4.1 General Server Maintenance Post-Install

NOTE: Please consult the ***Middleware Standards and PreRequisities.docx*** (Section 6.16.10- Batch level 0 & 1 requirements…) on the installation of the Batch Directories, SQL Client and Java Installs that are required before handing it over to the Development team.

NOTE: This section contains additional fixes that need to be done on physical servers xxx and yyy.

NOTE: The /etc/security/limits.conf, /etc/sysctl.conf, and /etc/security/limits.d/90-nproc.conf must be updated to avoid Control-M memory and resource issues.

Updating etc/security/limits.conf

1. Open a terminal and in the command line enter the following:

[root@xxx security]# *cat limits.conf*

/etc/security/limits.conf

#

#Each line describes a limit for a user in the form:

#

#<domain> <type> <item> <value>

#

```
#Where:
#<domain> can be:
#       - an user name
#       - a group name, with @group syntax
#       - the wildcard *, for default entry
#       - the wildcard %, can be also used with %group syntax,
#         for maxlogin limit
#
#<type> can have the two values:
#       - "soft" for enforcing the soft limits
#       - "hard" for enforcing hard limits
#
#<item> can be one of the following:
#       - core - limits the core file size (KB)
#       - data - max data size (KB)
#       - fsize - maximum filesize (KB)
#       - memlock - max locked-in-memory address space (KB)
#       - nofile - max number of open files
#       - rss - max resident set size (KB)
#       - stack - max stack size (KB)
#       - cpu - max CPU time (MIN)
#       - nproc - max number of processes
#       - as - address space limit (KB)
#       - maxlogins - max number of logins for this user
#       - maxsyslogins - max number of logins on the system
#       - priority - the priority to run user process with
#       - locks - max number of file locks the user can hold
#       - sigpending - max number of pending signals
#       - msgqueue - max memory used by POSIX message queues (bytes)
#       - nice - max nice priority allowed to raise to values: [-20, 19]
```

```
#       - rtprio - max realtime priority
#
#<domain>     <type>  <item>         <value>
#
#*              soft    core            0
#*              hard    rss             10000
#@student       hard    nproc           20
#@faculty       soft    nproc           20
#@faculty       hard    nproc           50
#ftp            hard    nproc           0
#@student       -       maxlogins       4
[root@xxx security]#
```

Updating /etc/security/limits.d/90-nproc.conf

1. Open a terminal and in the command line enter the following:

[root@xxx limits.d]# *cat 90-nproc.conf*

Default limit for number of user's processes to prevent

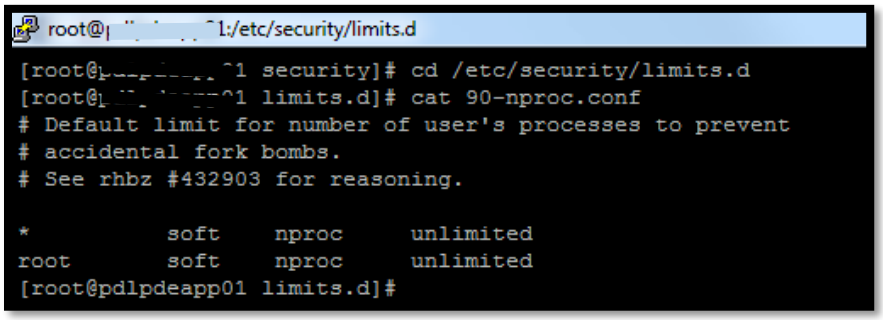
accidental fork bombs.

See rhbz #432903 for reasoning.

* soft nproc unlimited

root soft nproc unlimited

Figure 93 Unlimited



Updating /etc/sysctl.conf

1. Open a terminal and in the command line enter the following:

[root@xxx etc]# *ls -altr sysctl**

-rw-r--r--. 1 root root 1150 Mar 10 16:22 sysctl.conf.03_10_2015

-rw-r--r--. 1 root root 3223 Mar 10 16:33 sysctl.conf

[root@xxx etc]# *cat sysctl.conf*

Kernel sysctl configuration file for Oracle Enterprise Linux

#

For binary values, 0 is disabled, 1 is enabled. See sysctl(8) and

sysctl.conf(5) for more details.

Controls IP packet forwarding

net.ipv4.ip_forward = 0

Controls source route verification

See /usr/share/doc/kernel-doc-*/Documentation/networking/ip-sysctl.txt

net.ipv4.conf.default.rp_filter = 2

Do not accept source routing

net.ipv4.conf.default.accept_source_route = 0

Controls the System Request debugging functionality of the kernel

Controls whether core dumps will append the PID to the core filename

Useful for debugging multi-threaded applications

kernel.core_uses_pid = 1

Controls the use of TCP syncookies

net.ipv4.tcp_syncookies = 1

Controls the maximum size of a message, in bytes

Controls the default maximum size of a message queue

Controls the maximum shared segment size, in bytes

Controls the maximum number of shared memory segments, in pages

For 11g, Oracle-Validated setting for fs.file-max is 6815744

For 10g, uncomment 'fs.file-max = 327679', and comment 'fs.file-max = 6553600' entry and re-run sysctl -p

 # fs.file-max = 327679

fs.file-max = 6815744

Oracle-Validated setting for kernel.msgmni is 2878

kernel.msgmni = 2878

Oracle-Validated setting for kernel.msgmax is 8192

kernel.msgmax = 65536

Oracle-Validated setting for kernel.msgmnb is 65536

kernel.msgmnb = 65536

Oracle-Validated setting for kernel.sem is '250 32000 100 142'

kernel.sem = 250 32000 100 142

Oracle-Validated setting for kernel.shmmni is 4096

kernel.shmmni = 4096

Oracle-Validated setting for kernel.shmall is 1073741824

kernel.shmall = 1073741824

Oracle-Validated setting for kernel.shmmax is 4398046511104 on x86_64 and 4294967295 on i386 architecture. Refer Note id 567506.1

kernel.shmmax = 4398046511104

Oracle-Validated setting for kernel.sysrq is 1

kernel.sysrq = 1

Oracle-Validated setting for net.core.rmem_default is 262144

net.core.rmem_default = 262144

For 11g, Oracle-Validated setting for net.core.rmem_max is 4194304

For 10g, uncomment 'net.core.rmem_max = 2097152', comment 'net.core.rmem_max = 4194304' entry and re-run sysctl -p

net.core.rmem_max = 2097152

net.core.rmem_max = 4194304

Oracle-Validated setting for net.core.wmem_default is 262144

net.core.wmem_default = 262144

For 11g, Oracle-Validated setting for net.core.wmem_max is 1048576

For 10g, uncomment 'net.core.wmem_max = 262144', comment 'net.core.wmem_max = 1048576' entry for this parameter and re-run sysctl -p

net.core.wmem_max = 262144

net.core.wmem_max = 1048576

Oracle-Validated setting for fs.aio-max-nr is 3145728

fs.aio-max-nr = 3145728

For 11g, Oracle-Validated setting for net.ipv4.ip_local_port_range is 9000 65500

For 10g, uncomment 'net.ipv4.ip_local_port_range = 1024 65000', comment 'net.ipv4.ip_local_port_range = 9000 65500' entry and re-run sysctl -p

net.ipv4.ip_local_port_range = 1024 65000

net.ipv4.ip_local_port_range = 9000 65500

Oracle-Validated setting for vm.min_free_kbytes is 51200 to avoid OOM killer

vm.min_free_kbytes = 51200

net.core.rmem_max = 16777216

net.core.wmem_max = 16777216

net.core.netdev_max_backlog = 250000

vm.min_free_kbytes = 524288

[root@xxx etc]#

2. Reboot the server to test persistence or to loan manually the sysclt file: */sbin/sysctl --p*

Update the /etc/sudoers files

Sudoers allows particular users to run various commands as

the root user, without needing the root password.

##

Examples are provided at the bottom of the file for collections

of related commands, which can then be delegated out to particular

users or groups.

##

This file must be edited with the 'visudo' command.

Host Aliases

Groups of machines. You may prefer to use hostnames (perhaps using

wildcards for entire domains) or IP addresses instead.

Host_Alias *FILESERVERS = fs1, fs2*

Host_Alias *MAILSERVERS = smtp, smtp2*

User Aliases

These aren't often necessary, as you can use regular groups

(i.e., from files, LDAP, NIS, etc) in this file - just use %groupname

rather than USERALIAS

 # User_Alias ADMINS = jsmith, mikem

Command Aliases

These are groups of related commands...

Networking

#Cmnd_Alias NETWORKING = /sbin/route, /sbin/ifconfig, /bin/ping, /sbin/dhclient, /usr/bin/net, /sbin/iptables, /usr/bin/rfcomm, /usr/bin/wvdial, /sbin/iwconfig, /sbin/mii-tool

Installation and management of software

#Cmnd_Alias SOFTWARE = /bin/rpm, /usr/bin/up2date, /usr/bin/yum

Services

#Cmnd_Alias SERVICES = /sbin/service, /sbin/chkconfig

Updating the locate database

#Cmnd_Alias LOCATE = /usr/bin/updatedb

Storage

#Cmnd_Alias STORAGE = /sbin/fdisk, /sbin/sfdisk, /sbin/parted, /sbin/partprobe, /bin/mount, /bin/umount

Delegating permissions

#Cmnd_Alias DELEGATING = /usr/sbin/visudo, /bin/chown, /bin/chmod, /bin/chgrp

Processes

#Cmnd_Alias PROCESSES = /bin/nice, /bin/kill, /usr/bin/kill, /usr/bin/killall

Drivers

#Cmnd_Alias DRIVERS = /sbin/modprobe

Defaults specification

Defaults log_year, logfile=/var/log/sudo.log

#

Disable "ssh hostname sudo <cmd>", because it will show the password in clear.

You have to run "ssh -t hostname sudo <cmd>".

#

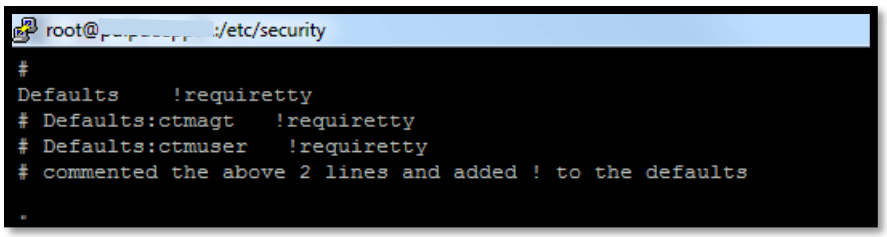
Defaults !requiretty

Defaults:ctmagt !requiretty

Defaults:ctmuser !requiretty

commented the above 2 lines and added ! to the defaults

Figure 94 !requiretty



```
#
# Refuse to run if unable to disable echo on the tty. This setting should also be
# changed in order to be able to use sudo without a tty. See requiretty above.
#
Defaults   !visiblepw
Defaults    env_reset
Defaults    env_keep = "COLORS DISPLAY HOSTNAME HISTSIZE INPUTRC KDEDIR \
                    LS_COLORS MAIL PS1 PS2 QTDIR USERNAME \
                    LANG LC_ADDRESS LC_CTYPE LC_COLLATE LC_IDENTIFICATION \
                    LC_MEASUREMENT LC_MESSAGES LC_MONETARY LC_NAME
LC_NUMERIC \
                    LC_PAPER LC_TELEPHONE LC_TIME LC_ALL LANGUAGE LINGUAS \
                    _XKB_CHARSET XAUTHORITY"
## Next comes the main part: which users can run what software on
## which machines (the sudoers file can be shared between multiple
## systems).
## Syntax:
##
##      user    MACHINE=COMMANDS
##
## The COMMANDS section may have other options added to it.
##
## Allow root to run any commands anywhere
root    ALL=(ALL)       ALL
## Allows members of the 'sys' group to run networking, software,
## service management apps and more.
# %sys ALL = NETWORKING, SOFTWARE, SERVICES, STORAGE, DELEGATING,
PROCESSES, LOCATE, DRIVERS
## Allows people in group wheel to run all commands
# %wheel        ALL=(ALL)       ALL
```

Same thing without a password

%wheel ALL=(ALL) NOPASSWD: ALL

 # %wheel ALL=NOPASSWD: /usr/bin/,/bin/*,/usr/sbin/*,/sbin/*,!/bin/su*

#

*%batchapp ALL=NOPASSWD: /bin/su batchadm -c *, /bin/su - batchadm -c *, /bin/su batchadmat1 -c *, /bin/su - batchadmat1 -c *, /bin/su batchadmat2 -c *, /bin/su - batchadmat2 -c *, /bin/su batchadmdev1 -c *, /bin/su - batchadmdev1 -c *, /bin/su batchadmdev2 -c *, /bin/su - batchadmdev2 -c *, /bin/su batchadmtr1 -c *, /bin/su - batchadmtr1 -c *, /bin/su batchadmtr2 -c *, /bin/su - batchadmtr2 -c *, /bin/su batchftpadm -c *, /bin/su - batchftpadm -c *, /bin/su batchadmsc -c **

*%batchadmst1 ALL=NOPASSWD: /bin/su batchadmst1 -c *, /bin/su - batchadmst1 -c **

*%batchadmst2 ALL=NOPASSWD: /bin/su batchadmst2 -c *, /bin/su - batchadmst2 -c **

*%batchadmst3 ALL=NOPASSWD: /bin/su batchadmst3 -c *, /bin/su - batchadmst3 -c **

*%batchadmst4 ALL=NOPASSWD: /bin/su batchadmst4 -c *, /bin/su - batchadmst4 -c **

*%batchadme2e ALL=NOPASSWD: /bin/su batchadme2e -c *, /bin/su - batchadme2e -c **

*%batchadmsc ALL=NOPASSWD: /bin/su batchadmsc -c *, /bin/su - batchadmsc -c **

Allows members of the users group to mount and unmount the

cdrom as root

 # %users ALL=/sbin/mount /mnt/cdrom, /sbin/umount /mnt/cdrom

Allows members of the users group to shut down this system

 # %users localhost=/sbin/shutdown -h now

Allows people in group sudo group to run select commands

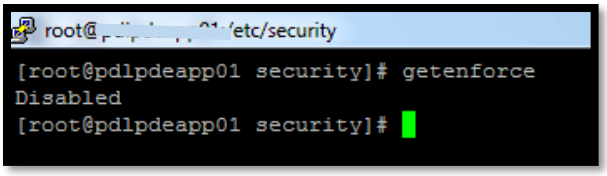
%sudo ALL=NOPASSWD: /bin/su admin, /bin/su - admin

*%sudo ALL=NOPASSWD: /bin/su admin -c *, /bin/su - admin -c **

Ensure SELinux is not running

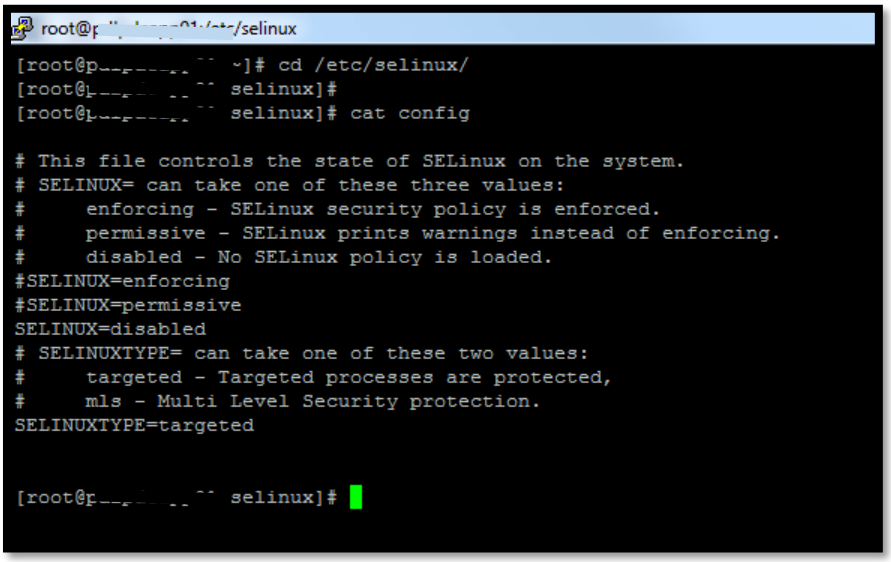
1. Run the command *getenforce* to check if SELinux is running.

Figure 95 getenforce



2. If SELinux is enabled, modify the file etc/selinux/config. Set SELINUX=disabled and restart the batch server.

Figure 96 SELinux Disabled



Ensure iptables is off an no rules are defined

1. Check iptables using the following commands:

   Iptables –L

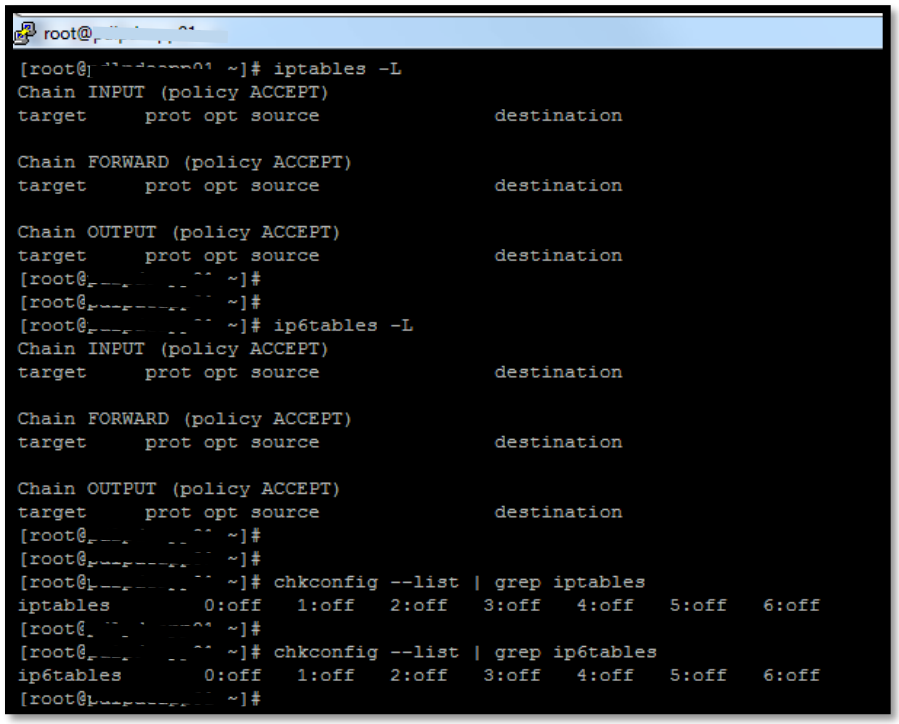
   Ip6tables -L

2. If iptables and ip6tables are set to on, set them to off using the following commands:

   chkconfig iptables off

   chkconfig ip6tables off

Figure 97 iptables Off



Service user settings:

1. Ensure the NIS service is running.
2. Ensure *ctmuser* is listed in the file */etc/passwd*, home directory */u01/sc/ControlM*.
3. Create two folders under */u01/sc/ControlM*, one called "Daily" and one called "Monthly". These folders will be used to ftp reports.
4. Configure ftp on the batch server (see VSFTPD Runbook).
5. Ensure *batchadmsc* user is defined in the file */etc/passwd*, home directory */nfshome/batchadmsc*.
6. *batchadmsc* needs to be a member of the "sudo" group.
7. Ensure *ctmagt* user home directory is */opt/bmc/ctmagt*.
8. *ctmagt* user needs to be a member of the "wheel" and "sudo" groups.

9. Ensure */etc/sudoers* is synced up with the new batch server.

Additional OS fixes to be applied to Control-M batch servers

A job that is killed in the Enterprise Manager GUI, or from the Control-M Server with the *ctmkilljob* command does not terminate on the Control-M Agent running RedHat 5. On Red Hat 5 the operating system only kills the parent process and it's child. The process which actually runs the CONTROL-M job is not killed (it's a child of the child). The job will appear as killed in Control-M, but the script will continue to run. The issue is caused by a change in behavior in the 'su' utility in Red Hat 5 Solution:

1. Add the following line to the OS.dat file: *CTM_SU_PATH /opt/bmc/ctmagt/ctm/exe/su.bmc* (this is the correct path for NGC/LAC)
2. Cycle the CONTROL-M/Agent.

Current contents of /opt/bmc/ctmagt/ctm/data/OS.dat:

CM_DIR /opt/bmc/ctmagt/ctm/exe/

CM_LIB_NAME BEUNIX

OUTPUT_NAME MEMNAME

VERSION 8.0.00

APPLICATION_VERSION 8.0.00

SMTP_PORT_NUMBER 25

SMTP_SENDER_EMAIL control@m

RJX_CONN_MODE 2

RJX_DETAILS_TO_OUTPUT Y

RJX_CONN_TRY 15

RJX_CONN_TOUT 120

RJX_CLEAN_ENV Y

RJX_OUTPUT_DIR .

RJX_SYNC_TOUT 10000

RJX_OVMS_DEFAULT_QUEUE sys$batch

RJX_OVMS_SETVERIFY Y

CTM_PRM_SH_FLAGS -x

CTM_PRM_KSH_FLAGS -x

CTM_PRM_DONT_DELETE NO

TRANSLATE_$0 Y

PAM_ENABLED_FOR_ROOT N

Update /etc/hosts to support application connections

1. Add the following to /etc/hosts, if not done already done, andupdate the physical batch server to Edit the host file entries whenever a new physical batch server is created.

SOA/BPM 11.1.1.6/WLS 10.3.6	**11.1.1.7.0**	bpm-cluster
SOA/BPM 11.1.1.6/WLS 10.3.6	**11.1.1.7.0**	bpm-cluster
OBIEE + BIP (Datawarehouse)	**11.1.1.7.0**	dw-cluster
OBIEE + BIP (Datawarehouse)	**11.1.1.7.0**	dw-cluster
OBIEE + BIP (Reporting)	**11.1.1.7.0**	bi-cluster
OBIEE + BIP (Reporting)	**11.1.1.7.0**	bi-cluster
WC Content 11.1.1.7	**11.1.1.7.0**	wcc-cluster
WC Content 11.1.1.7	**11.1.1.7.0**	wcc-cluster

Oracle Business Activity Monitoring (BAM)	11.1.1.7.0	bam-cluster
Oracle Business Activity Monitoring (BAM)	11.1.1.7.0	bam-cluster
Oracle Data Integrator + SqlPlus	11.1.1.7.0	odi11-cluster
Oracle Data Integrator + SqlPlus	11.1.1.7.0	odi11-cluster
Oracle Data Integrator + SqlPlus	12.1.2.0.0	odi12-cluster
Oracle Data Integrator + SqlPlus	12.1.2.0.0	odi12-cluster
Oracle Service Bus 11.1.1.6 + WLS 10.3.6	11.1.1.7.0	osb-cluster
Oracle Service Bus 11.1.1.6 + WLS 10.3.6	11.1.1.7.0	osb-cluster
Informatica Identity Resolution	9.5.3	N/A
Informatica Identity Resolution	9.5.3	N/A
Adobe Livecycle	10.3.6 WLS, LiveCycle 4	alc-cluster

Adobe Livecycle	**10.3.6 WLS, LiveCycle 4**	alc-cluster
MapMaker + WLS	**N/A, 10.3.6**	mm-cluster
MapMaker + WLS	**N/A, 10.3.6**	mm-cluster

Update /etc/hosts to support Web Content and Adove Livecycle

1. Add the following four entries to /etc/hosts to include Web Content and Adobe Livecycle:

WC Content 11.1.1.7 11.1.1.7.0 wcc-cluster 4 16 Refer to Run Book 16

WC Content 11.1.1.7 11.1.1.7.0 wcc-cluster 4 16 Refer to Run Book 16

Adobe Livecycle 10.3.6 WLS, LiveCycle 4 alc-cluster 4 16 Refer to Run Book 16

Adobe Livecycle 10.3.6 WLS, LiveCycle 4 alc-cluster 4 16 Refer to Run Book 16

10.5 Product Validation

10.6 Post-Installation Clean-up

10.6.1 Vendor docs

10.6.2 Tailored Work Instructions

10.7 Troubleshooting

10.7.1 Common Errors and Responses

The table below lists the most common errors and the resolution steps.

ERROR	ACTION

10.7.2 Known Errors and Solutions

Errors and bugs for which a work around exists are saved to the Known Error Database. The Known Error Database can be accessed on the SharePoint at …

10.8 Uninstall

10.8.1 Uninstall Guide