Oracle Business Intelligence Enterprise Edition 11.1.1.5

ORACLE VM VIRTUALBOX IMAGE SAMPLEAPP V107 DEPLOYMENT GUIDE

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1 Introduction

This guide walks you through the deployment steps of Oracle VM VirtualBox Image for OBIEE SampleApp v107.

The Sample Application (SampleApp) for Oracle Business Intelligence Suite Enterprise Edition Plus (EE) is a comprehensive set of illustrative examples and best practices for OBIEE 11g. It demonstrates a broad range of OBIEE 11g capabilities including Enhanced visualizations such as interactive dashboards, modeling best practices, Action Framework, BI Publisher, Scorecard and Strategy Management, Mobile style sheets, Semantic layer modeling, Multi-source federation and Integration with products such as Essbase, Oracle OLAP, ODM, TimesTen, ODI and more.

OBIEE SampleApp contents and its code are distributed free. It is not maintained or supported by Oracle as a licensed product.

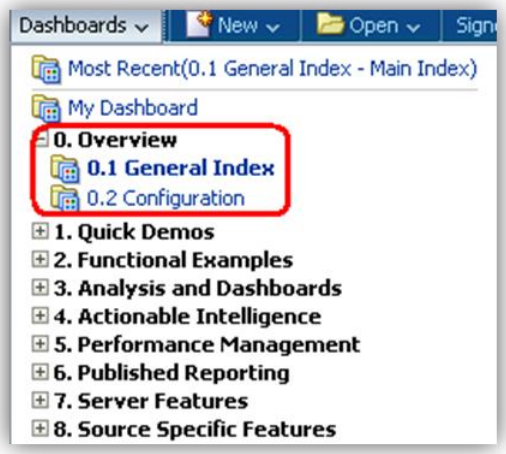
1.1 Image Contents

The image includes following preconfigured and integrated software:

- ORCL 11g R2 (with Apex, OLAP & ODM content),
- Oracle TimesTen
- Essbase Server, Access Provisioning Services
- OBIEE 11.1.1.5 with BI Composer configured
- SampleApp 10722
- JDev, SQLDev
- Oracle Internet Directory

1.2 Content Organization

The dashboards and analyses within SampleApp are grouped together by related functional/ product areas. It is sequenced and organised under dashboards as shown in the screenshot here. Once SampleApp is deployed, navigate to “General Index” dashboad to see the full list of its contents. “Configuration” dashboard contains the setup details such as user credentials, database diagram, dimentional hierarchy diagrams, rpd physcial, logical and logical hierarchy diagram and so on.Many of the other dashboard pages have inline help documentation on the contents exibited on those respective pages/ analyses



1.3 Prerequisites

1.3.1 Hardware requirements

1.3.1.1 Disk Space:

The process of deploying the image will have a peak disk space requirement of approximately 75 GB. Once deployment is completed and after image download files removed, the running image will only require about 45 GB of free space. If you download zipped version of the image, then unzipping process will require its own specific disk space in addition.

1.3.1.2 Physical Memory:

A machine with 4 GB or of physical memory is required, higher than 4GB is recommended

1.3.1.3 File system support for large files (>10GB):

The FAT32 file size limit is only 4 GB. That means, any kind of file cannot attain a maximum size of 4GB. VM image files are larger than 4 GB and therefore, FAT32 is unsuitable as a file system for running this VM.

1.3.2 Oracle VM VirtualBox:

If you do not have Oracle VM VirtualBox installed on your machine, download and install it from : http://www.oracle.com/technetwork/server-storage/virtualbox/downloads/index.html. This download is approximately 75 MB.

1.4 Known issue in V107

A dashboard in SampleApp build 10722 (Dashboard **3.10 Query Building > Selection Steps on hierarchies)** is mistakenly pointing to wrong catalog reports. Appendix 1 at the end of this document indicates the simple fix to point it back to appropriate content.

2 Download and Installation

2.1 Image Download

VM image set of export files are made up of two parts :

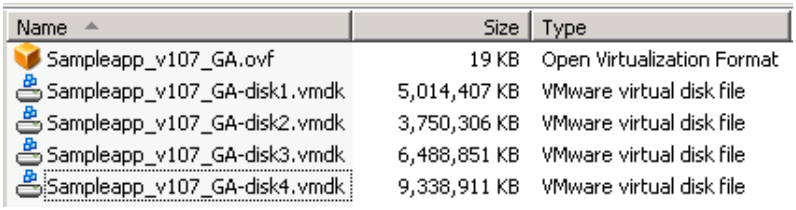
- A single SampleApp_v107_GA.ovf file (small file, 19kb)
- 4 Image disk files, zipped into a 25 Gigs set of zip files.

The SampleApp image files are available on OTN at : http://www.oracle.com/technetwork/middleware/bi-foundation/obiee-samples-167534.html , look for the section SampleApp Virtual box image download.

- SampleApp_v107_GA.ovf (image setup file, small size) is directly downloaded from the location
- SampleApp_v107_GA.vmdk image disk files represent ~25 Gigabytes and are accessible from ftp location, follow the direction from the OTN page to access the ftp location.

Once you have downloaded image zip files, unzip them locally : using 7Zip navigate to the directory where you downloaded the zip files and select the file SampleApp_v107.7z.001 and click extract, the unzip process will automatically read the other 12 files Extraction will take between 20 to 30 minutes
Delete the original zip files as they are not needed anymore and consume a large amount of disk space.

Once the extraction completes, copy the SampleApp_v107_GA.ovf file in the same directory where you extracted. You should then be left with a directory identical to the one on the right :.

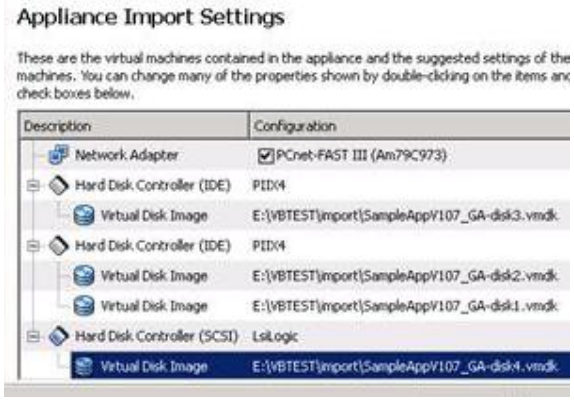


2.2 Deploying Appliance on VirtualBox

Once you have unzipped image files on your hard drive, deploying the import image in VM client will yet require more additional space : 45GB of free space on your HD. After deployment completes, initial import files (the result of the unzip) can be deleted from the disk.

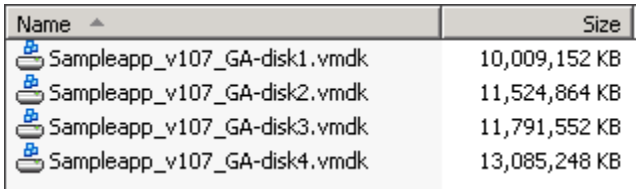
2.2.1 Import Appliance Image in VirtualBox

Open Oracle VM VirtualBox.
Click on File->Import Appliance and choose SampleApp_V107.ovf. Click on Next.
In Appliance Import Settings screen, go to the Virtual Disk Image property.
Change the path to a desirable location where you'd like to create the deployed disk image files (~45GB once completed) and click on Finish.
The deployment process can take some time depending on your host machine (max 40 min ~ 1hr). The process will



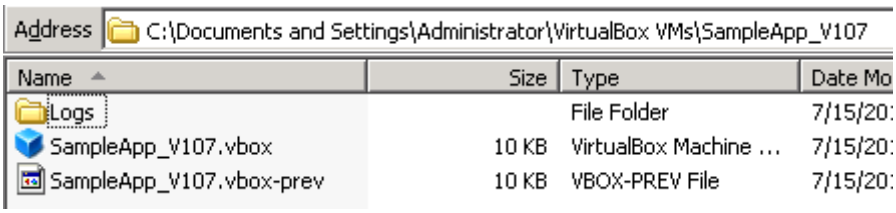
create the import the image and create the required disk image files.

Once the Import completes, you will be left with a directory identical to the one on the right :.

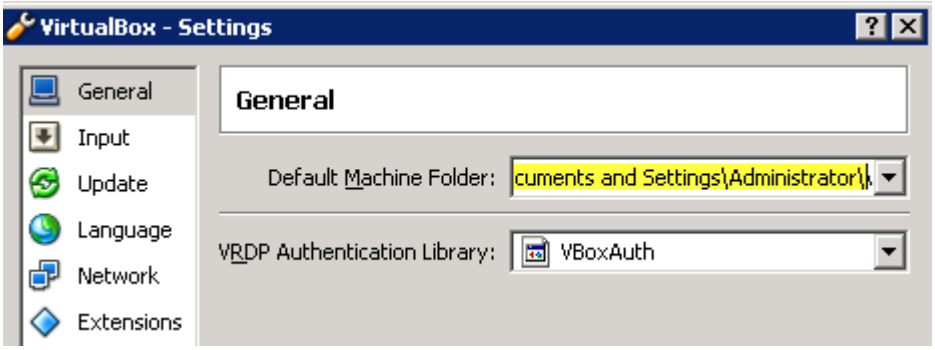


✓ For information : location of Vbox Config file

Your **sampleappV107.vbox** config file will be located in a different location, which is set in your default setting for your virtual box deployment. For example the above import virtual appliance resulted in the following VMDK location:



This location can be edited by editing the Virtual Box settings before starting it.

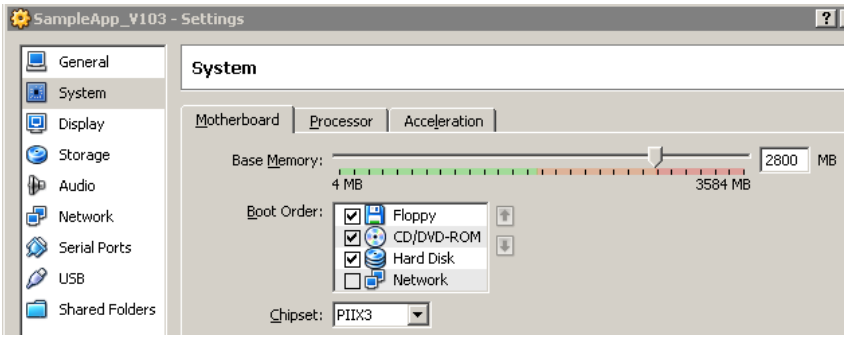


3 Configuration and Starting

3.1 Configure Settings and Start Image

3.1.1 Configure Settings

Before starting the image, in the Virtual Box client home page, choose the image entry SampleApp_V107 and select Settings, then System option.



- Configure the Base Memory that you want to allocate to the image when running. Performance of the image will be very slow with less than 2.4GB of memory, you should consider allocating at least this much. The image will not properly run Essbase Examples with less than 3.5GB of allocated RAM memory.
- Visit the Processor tab and allocate proper number of processors to the image depending on your host hardware.
- Click the network option in settings, select the proper network configuration. Host only, for example, will allow the host (only the host) to network directly with the image.
- Exit the Settings dialog box when done.

3.1.2 Starting the image

First proceed to below important checks before you start the image :

3.1.2.1 Turn VPN clients off

Running the image while the host machine is on a VPN connection may result in some WLS/OBIEE services not starting properly. **Disconnect from VPN before starting your image**.
However, being physically connected to an intranet (like ORCL network), not via VPN, will not create a problem.

3.1.2.2 Possible error starting the image : verr_vmx_msr_locked_or_disabled

During the process of importing, you may receive an error with verr_vmx_msr_locked_or_disabled. This error may be related to your bios and requires 'System' settings of the image to be adapted. Try some of the suggestions below one by one, if this does not fix it, internet forums on this error message will provide with several alternate solutions :

- Review the number of CPUs you have activated in the settings of the image and reduce it to the minimum.
- Disable the VT-X/AMD-V & APIC flag in the accelerator tab of the system settings.

3.1.2.3 Starting the image

In the Virtual Box client home choose the image entry SampleApp_V107 and click start. This will start the image. When prompted for login details, provide oracle/oracle as the username/password. This will you log you in to the Linux operating system.

3.1.3 User Credentials to access image components

- LINUX OS Login:

oracle / oracle , The OBIEE shortcuts are all configured with this user.
root / oracle is the root user, not to be used in normal usage of the image.

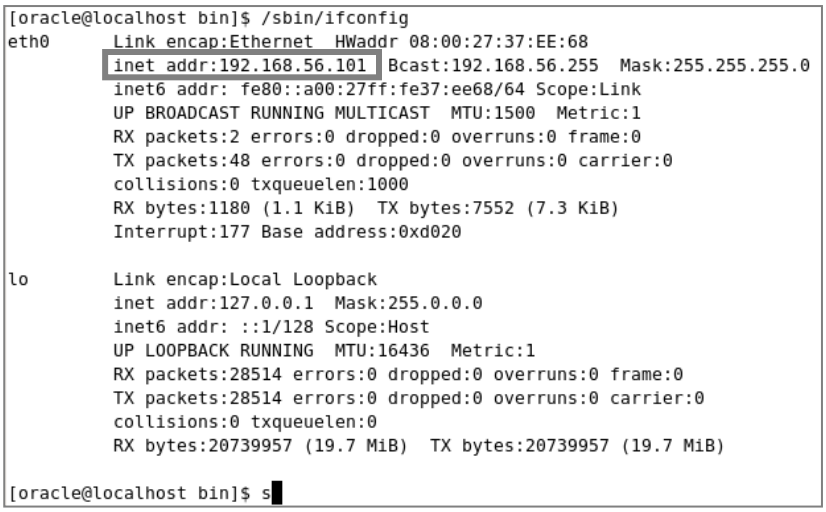
- Oracle Database:

Admin: system/oracle

- Other SampleApp users: BISAMPLE/BISAMPLE, etc
- RCU users: password = Admin123
- **OBIEE : Admin Credentials:** Prodney/Admin123, weblogic/Admin123 (There are other SampleApp users as well)
- RPD password : Admin123
- **Essbase Server:** admin/Admin123
- **OID :** cn=orcladmin / Admin123

3.2 Configuring Hosts File

- Depending on your network configuration and the option selected in the virtual box settings, you may need to configure the hosts file to point it to the correct IP address. Services will not start properly if the IP address is not correct. Please follow the steps below to configure the hosts file:
- Get the IP address of the image – For this, open a terminal window on the running image, and type the command ***/sbin/ifconfig.*** Note down the IP address under the heading “inet addr” (e.g.: inet addr:192.168.56.101)
- Navigate to folder /etc/hosts and edit the file so that the entry **demo.us.oracle.com** points to the correct IP address of your machine
- Save the file and proceed to starting services



3.3 Starting Services on the Image

Important Preliminary checks : if any of these items is not true, the BIEE services will most likely not start up :

- logged in as ‘oracle’ user : you must NOT be logged in as ‘root’ user to bring up the services
- VPN service is off on the host machine
- Host file was correctly edited : (refer to step 3.2 above)

3.3.1 Sequence for service starting scripts

It is critical that the environment is brought up by starting scripts in the proper sequence as described below :.
For information, the 11gR2 database is automatically started when the VM image boots up. There is no need to manually start a service to bring it up.

3.3.1.1 Start OID Services

On the desktop, double click on StartupScripts folder and select “1-startOID.sh” and choose ‘Run in Terminal’ option. (/home/oracle/Desktop/StartupScripts). Wait until the terminal screens disappears, allow 5 seconds after that before you move on to starting the next services.
Note : if you start OID by using aliases, make sure you run both startOIDopmn and startOID aliases sequentially

3.3.1.2 Start WebLogic Server

On the desktop, double click on StartupScripts folder and select “2-startWLS.sh” and choose ‘Run in Terminal’ option. (/home/oracle/Desktop/StartupScripts)
Wait for the message that shows "Server started in RUNNING mode". This indicates that WLS is up

```
<Mar 17, 2011 2:34:46 AM PDT> <Notice> <WebLogicServer> <BEA-000365> <Server sta
te changed to RUNNING>
<Mar 17, 2011 2:34:46 AM PDT> <Notice> <WebLogicServer> <BEA-000360> <Server sta
rted in RUNNING mode>
```

Leave this terminal window open

3.3.1.3 Start OBIEE Services

- On the desktop, double click on StartupScripts folder and select “3-startBI.sh” and choose ‘Run in Terminal’ option. (/home/oracle/Desktop/StartupScripts)
- Wait for the command to complete successfully. The terminal screen will disappear automatically. To check on status of services, you can open a terminal screen and simply type : ‘statusOPMN’. This will call an alias and will report the information as per the image on the right.

```
[oracle@localhost ~]$ cd /bishiphome/obi11g/instances/instance1/bin
[oracle@localhost bin]$ ./opmnctl startall
opmnctl startall: starting opmn and all managed processes...
[oracle@localhost bin]$ ./opmnctl status

Processes in Instance: instance1
---------------------------------+--------------------+---------+---------
ias-component                    | process-type       |     pid | status
---------------------------------+--------------------+---------+---------
coreapplication_obiccs1          | OracleBIClusterCo~ |    3999 | Alive
coreapplication_obisch1          | OracleBIScheduler~ |    3982 | Alive
coreapplication_obijh1           | OracleBIJavaHostC~ |    3981 | Alive
coreapplication_obips1           | OracleBIPresentat~ |    3980 | Alive
coreapplication_obis1            | OracleBIServerCom~ |    4011 | Alive
```

3.3.1.4 Start Essbase Services

NOTE : if you are running the virtual box with less than 3GB of allocated RAM, you should NOT start the essbase services as the performance of the image will suffer dramatically. Most of Samples will work outside of essbase examples, even without Essbase service up.

On the desktop, double click on StartupScripts folder and select “4-startESSB.sh” and choose ‘Run in Terminal’ option. (/home/oracle/Desktop/StartupScripts)
Once finished, you can run /epm/Middleware/user_projects/epmsystem1/bin/opmnctl status to see the status.

```
[oracle@localhost bin]$ ./startEssbase.sh
Starting Essbase.properties
Apache Ant version 1.7.0 compiled on December 13 2006
Buildfile: /epm/Oracle/Middleware/EPMSystem11R1/common/config/11.1.2.0/resources
/instance/start.xml
Finish Essbase.properties
[oracle@localhost bin]$ ./opmnctl status

Processes in Instance: EPM_epmsystem1
---------------------------------+--------------------+---------+---------
ias-component                    | process-type       |     pid | status
---------------------------------+--------------------+---------+---------
Essbase1                         | EssbaseAgent       |    4323 | Alive
```

Note : if you Start Essbase by using aliases, make sure you run both startESSB and startAPS aliases sequentially

3.3.2 For information : Shortcuts, Scripts and Aliases included in image

3.3.2.1 Scripts:

There are shortcuts Scripts for starting up and stopping all services. They are saved on the desktop, in the StartupScripts folder at: **/home/oracle/Desktop/StartupScripts.** This scripts folder is accessible on the desktop upon login.

3.3.2.2 Aliases:

Following aliases are also auto-created as you login in as 'oracle'. You may execute these commands directly from a command terminal, from any directory, just by typing the alias names as listed below (in red).

startWLS
='/bishiphome/Middleware/user_projects/domains/bifoundation_domain/bin/startWebLogic.sh'
stopWLS
='/bishiphome/Middleware/user_projects/domains/bifoundation_domain/bin/stopWebLogic.sh'

startOPMN
='/bishiphome/Middleware/instances/instance1/bin/opmnctl startall'
stopOPMN
='/bishiphome/Middleware/instances/instance1/bin/opmnctl stopall'
statusOPMN
='/bishiphome/Middleware/instances/instance1/bin/opmnctl status -l'

startESSB
='/epm/Middleware/user_projects/epmsystem1/bin/startEssbase.sh'
stopESSB
='/epm/Middleware/user_projects/epmsystem1/bin/stopEssbase.sh'
startAPS
='/epm/Middleware/user_projects/epmsystem1/bin/startAnalyticProviderServices.sh'
stopAPS
='/epm/Middleware/user_projects/epmsystem1/bin/stopAnalyticProviderServices.sh'

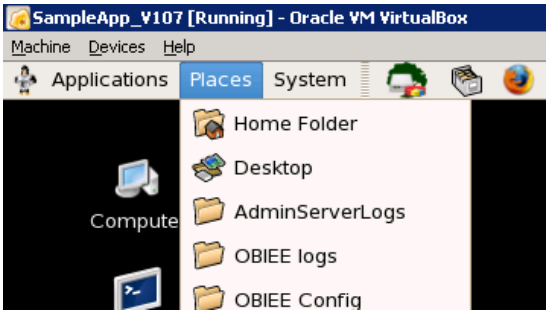
startOIDopmn
='/idm/Middleware/asinst_1/bin/opmnctl start'
startOID
='/idm/Middleware/asinst_1/bin/opmnctl startproc ias-component=oid1'
stopOID
='/idm/Middleware/asinst_1/bin/opmnctl stopall'
statusOID
='/idm/Middleware/asinst_1/bin/opmnctl status -l'

3.3.2.3 Folder Shortcuts:

Folder shortcuts to frequently used folder locations are saved at: **/home/oracle/Desktop/FolderShortcuts.** This shortcuts folder is accessible on the desktop upon login.

3.3.2.4 'Places' shortcut entry

To speed up your access to Oracle Home, the image includes an entry in the 'places' menu that will take you directly in the OBIEE Oracle Home directory (bishiphome/Middleware)



3.3.2.5 Disk purging process

For information : to prevent image disk to fill up rapidly, the following crontab scheduler entry is active on the (in green box) Image under 'oracle' user. The process will clean up all DB diagnostic data (type = alert|incident|trace|cdump|hm) at zeroth minute of every hour.

```
0 * * * * /home/oracle/app/oracle/product/11.2.0/dbhome_2/bin/adrci exec="purge -age 1"
```

4 Accessing SampleApp Contents

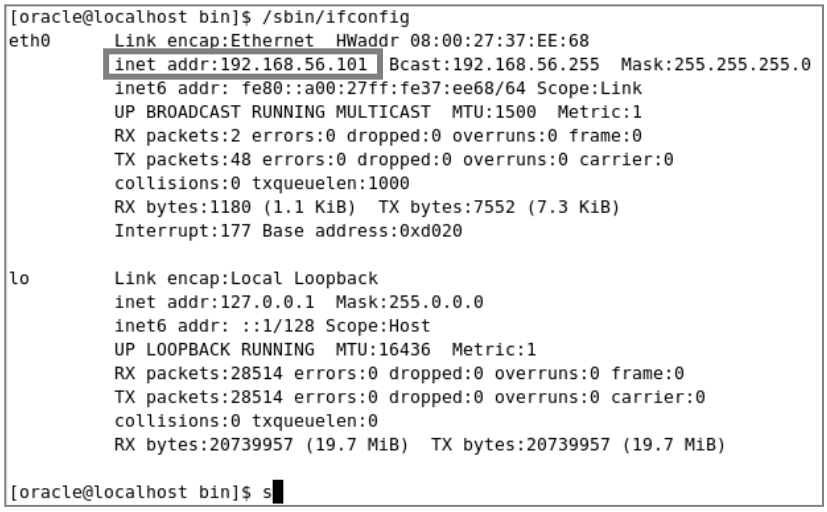
4.1 Connecting to Analytics from within the image

Open the Firefox browser on the image desktop, Analytics URLs are bookmarked in the menu bar at the top of the browser.

4.2 Connecting to Analytics from a browser in the host client

To get the IP address of the VM machine, open a terminal window and type the command /sbin/ifconfig. This command will display the ip address of the VM. Note down the ip address under the heading inet addr.
Eg:- inet addr:192.168.56.101

Once you have the ip address, from your host machine browser, type in the analytics URLs you need to access web based UIs from the image. NOTE: this requires VPN services to be turned off.



4.3 Admintool access to SampleApp RPD

For admintool access, you must install the OBIEE Admintool client on your host windows box. OBIEE Client (11.1.1.5.0) can be downloaded from:
http://www.oracle.com/technetwork/middleware/bi-enterprise-edition/downloads/bus-intelligence-11g-165436.html

Install OBIEE Admintool client locally. On your host machine where OBIEE client is installed, create an ODBC connection to connect to the BI Server. To do this, you need to access the IP address of the VM image. To get the IP address of the image, from the running image, open a terminal window and type the command **/sbin/ifconfig** Note down the ip address under the heading inet addr. Eg:- inet addr:192.168.56.101. Confirm that you can ping this IP address from your host machine, and complete ODBC Connection. You can now connect with admintool to your VM RPD.

4.4 Importing Oracle OLAP metadata using local BI Admintool

If you have a local install of BI Admin Tool on your host and want to import OLAP metadata from the database inside the VM, you need to update the JAVAHOST parameter to the right value in NQSConfig.ini file on your local Admin Tool install.

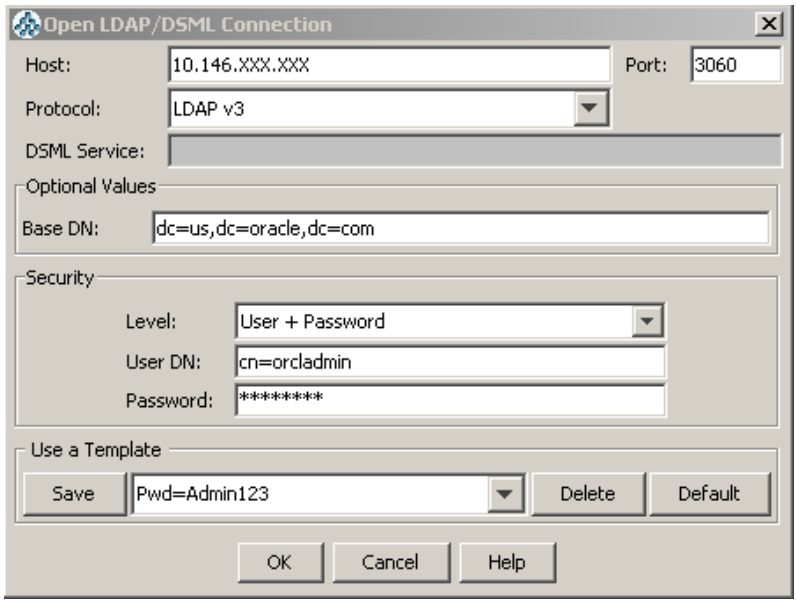
JAVAHOST_HOSTNAME_OR_IP_ADDRESSES = "192.168.56.101:9810";

NOTE: Replace the server IP 192.168.56.101 with the right IP of you VM.

For more details on this, refer to http://www.vlamis.com/blog/2011/5/26/bi-admin-tool-local-install-rpd-development-with-oracle-olap.html

4.5 Accessing OID

You may use free ware clients to connect to the OID directory on the image (such as JXplorer for example). You can connect to the OID directory using the configuration in the image attached. From there, you can create or edit more OID specific users or attributes.



4.6 Start Db Console on the image

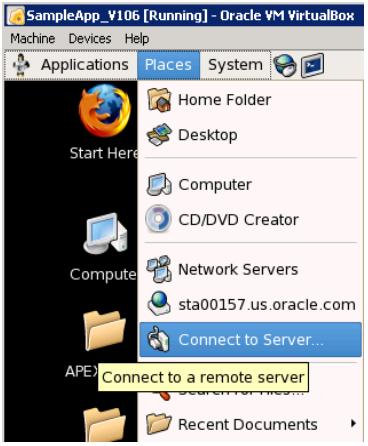
Below is what you need to do for db console to start on the image :

- Open a terminal window, change user to root/oracle
- open /etc/hosts file in text editor (keep a backup of your original hosts file for reference or rollback). Verify entries in hosts file in following **order**, add/correct any line that is missing from below:

Do not remove the following line, or various programs
that require network functionality will fail.
127.0.0.1 localhost.localdomain localhost
192.168.56.101 *(or your image IP adress)* demo.us.oracle.com demo
192.168.56.101 *(or your image IP adress)* localhost.localdomain demo localhost

- Save and exit out of root login.
- Login as oracle user, go to dir: /home/oracle/app/oracle/product/11.2.0/dbhome_2/oc4j/j2ee
- Copy the entire OC4J_DBConsole_localhost.localdomain_orcl folder as OC4J_DBConsole_demo.us.oracle.com_orcl
- Go to dir: /home/oracle/app/oracle/product/11.2.0/dbhome_2 and copy localhost.localdomain_orcl as demo.us.oracle.com_orcl
- Go to dir $ORACLE_HOME/bin
- Run command: > emctl start dbconsole # >emctl stop dbconsole # stop it when not needed to free up memory
- You should be able to access dbconsole at: https://localhost.localdomain:1158/em/console/logon/logon

4.7 Accessing a Host Shared Folder



In order to access a shared folder on the host environment, perform the following.

- Login to the VM image.
- On the tool bar, click on Places->Connect to Server
- In the service type, choose Windows Share. Enter the username and domain name of your host machine and click on Connect. After connecting, the shared folders of the host machine will be displayed.

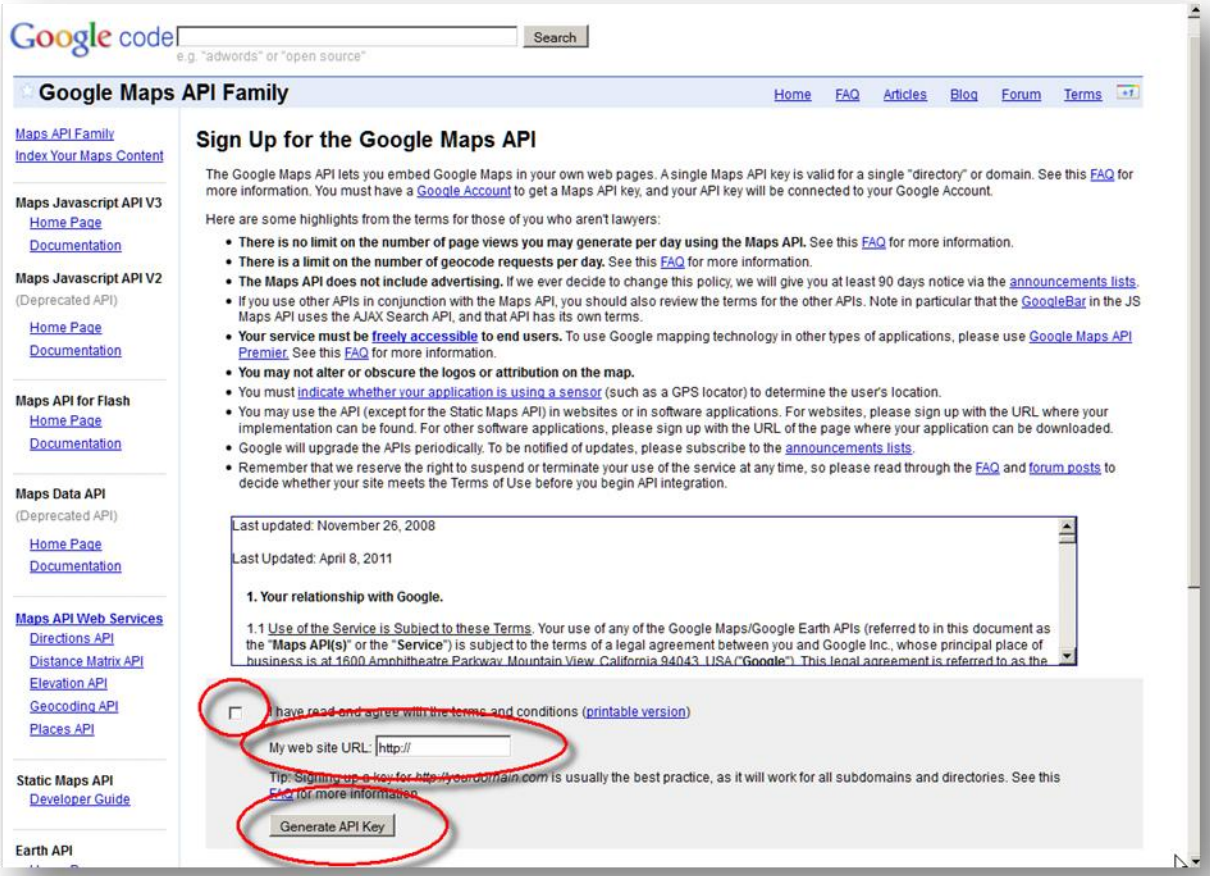
5 APPENDIXES

5.1 How to obtain Google Maps API key and configure mapviewer

5.1.1 Obtaining a Google Maps API Key

Open URL http://code.google.com/apis/maps/signup.html in your browser.
Log in to Google with a google.com user id.
Read the Terms & Conditions.
Enter the URL of your web site.
Click “Generate API Key”
Copy and store this key value in a safe place.

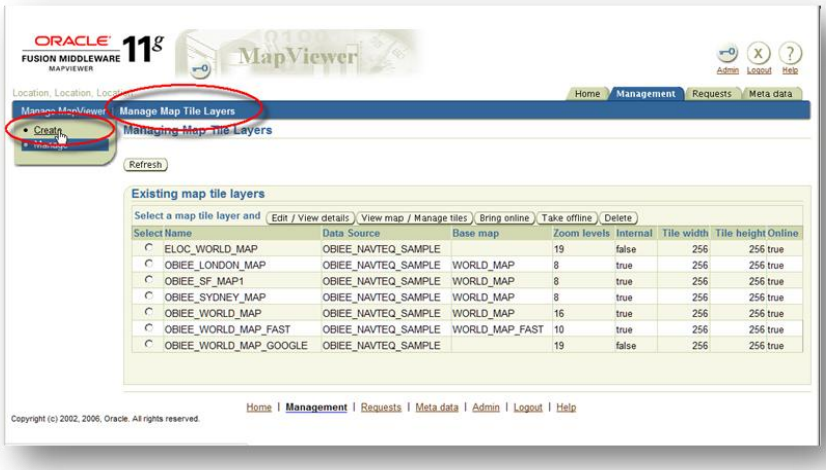
Use this key value when creating tile layers in MapViewer.



5.1.2 Setting API key in mapviewer

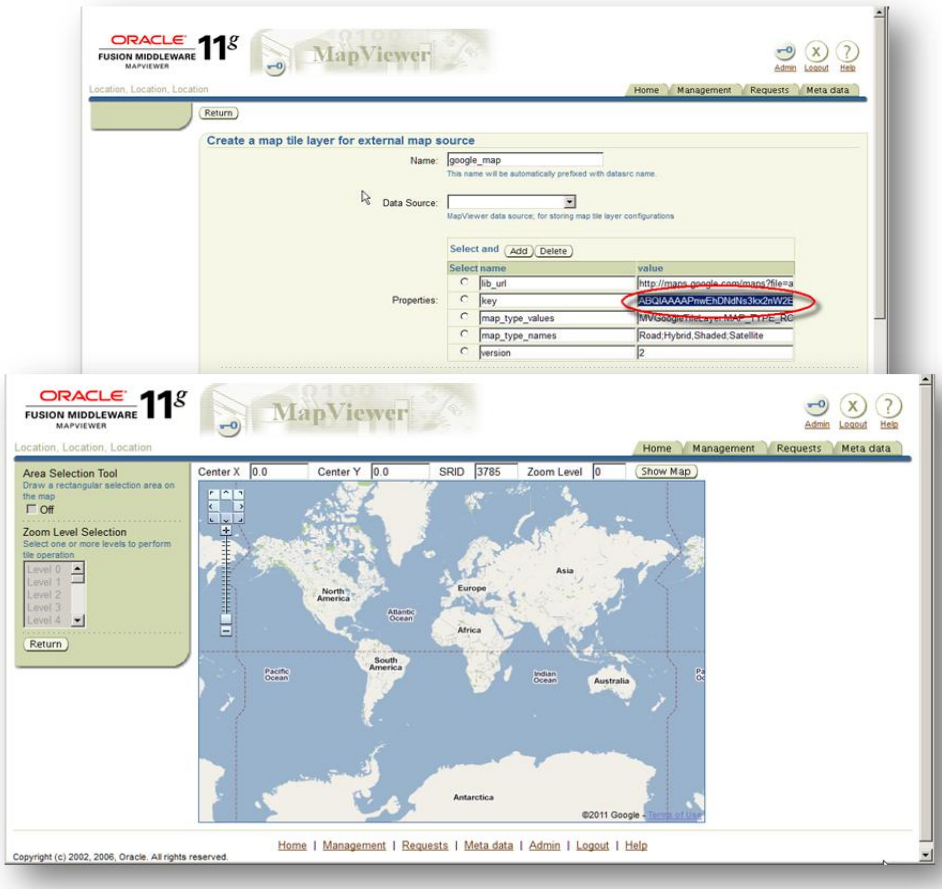
Connect to mapviewer admin and logon at http://localhost:7001/mapviewer/faces/admin/admin.jspx

Create a Tile layer. To do this, click on “Manage Tile Layers” and click “Create”



Select “Google Maps” as the map source.

On the tile layer properties page, enter a valid value for the key. Select a data source from the Data Source dropdown. Click “Submit”

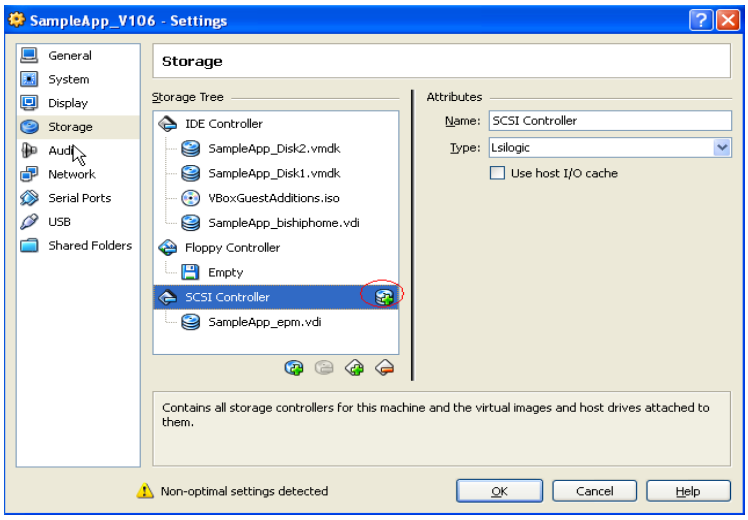


Test the tile layer by selecting the tile layer from the list of layers and click “View Map / Manage Tiles”

5.2 How to increase space on the VM

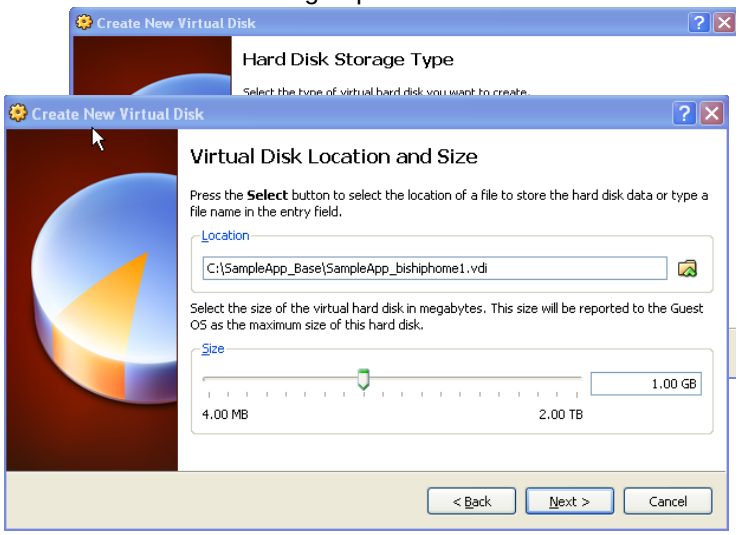
If you are running out to disk space on the /bishiphome drive, follow the steps given below. This will add a new disk to the existing /bishiphome drive

Shutdown the image. Go to the Settings->Storage of the image. Choose SCSI Controller and click on the Hard Disk option



Create New Disk

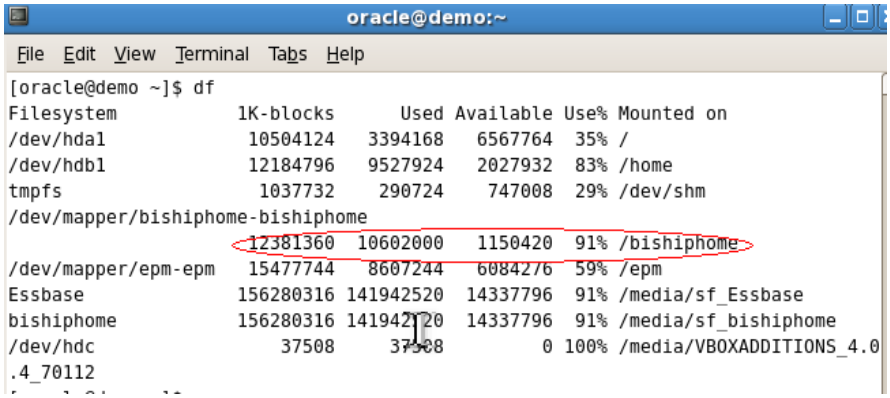
Choose Fixed –size storage option



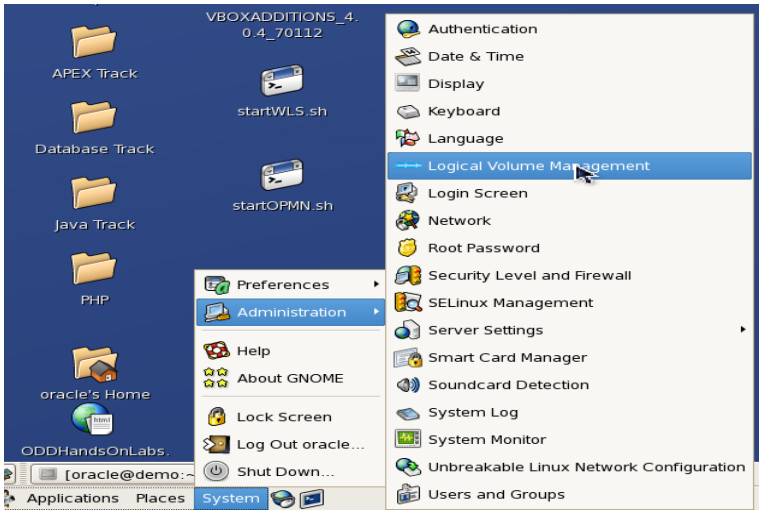
Set the size as 1.00 GB and provide the appropriate file path and file name on your setup. (Place the file in the same directory as the other vmdk files of the image for ease of use)

Click on Finish. Next start the image and follow the steps given below to make this 1Gb visible to the linux file system and to add it to the /bishiphome drive

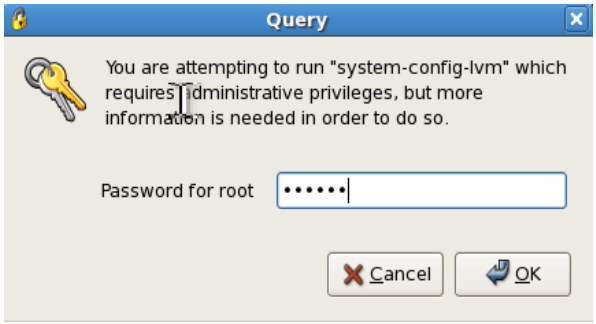
Once the image comes up, first check the existing size of /bishiphome by executing the command df on a terminal window



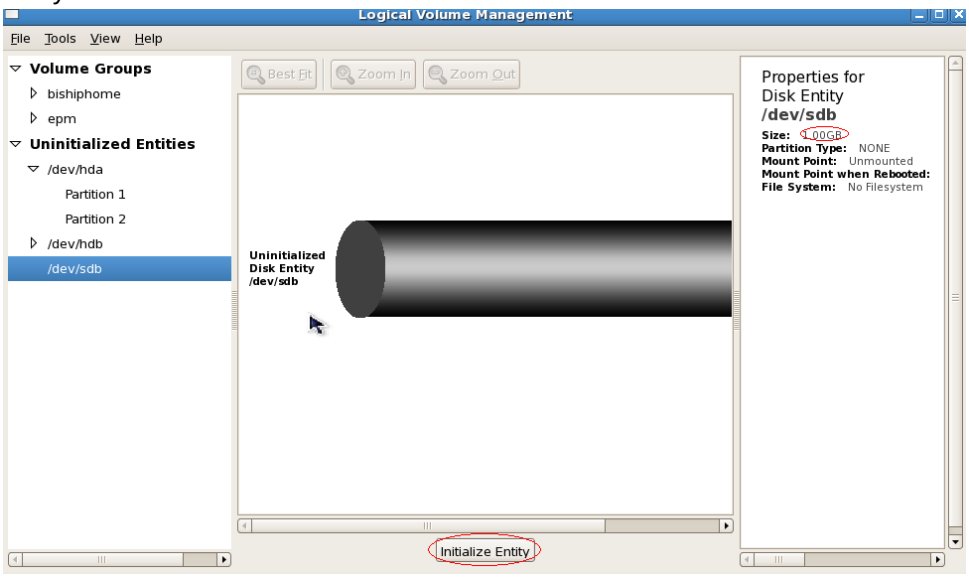
Click on System->Administration->Logical Volume Management



In the dialog box that comes up, enter the password for the root as oracle

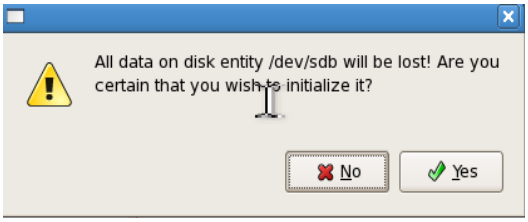


In the Logical Volume Management screen, go to the uninitialized disk entry and click on the Initialize Entry button

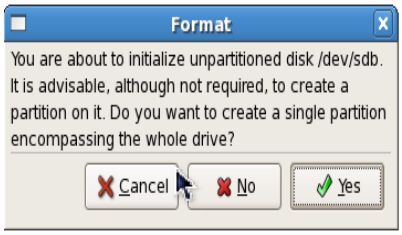


Click Yes on the dialog box

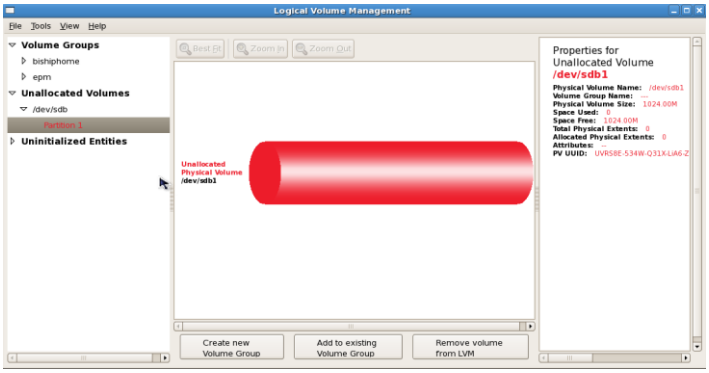
NOTE :- MAKE SURE YOU ARE CHOOSING THE UNINITIALIZED DISK AND NOT ANY OTHER DISK BECAUSE THE NEXT STEP WILL DELETE ALL THE DATA ON THE DISK .



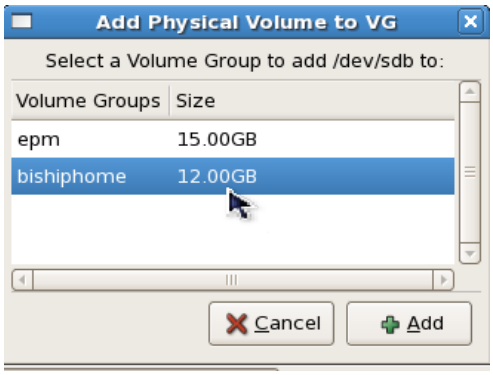
Click YES in the next dialog box



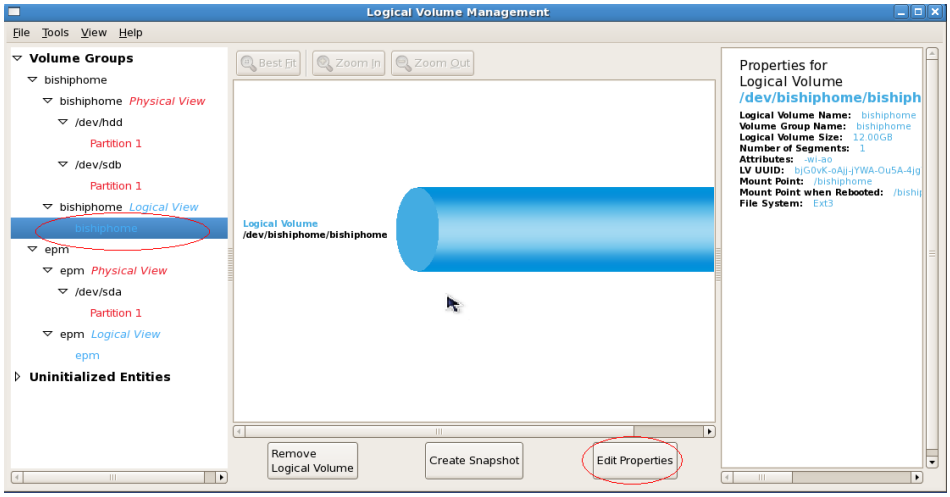
Next, add the new volume to an existing Volume group



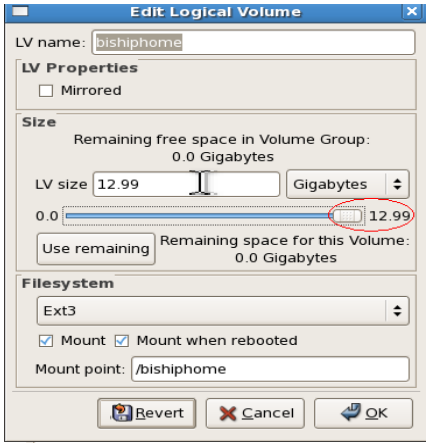
Choose bishiphome



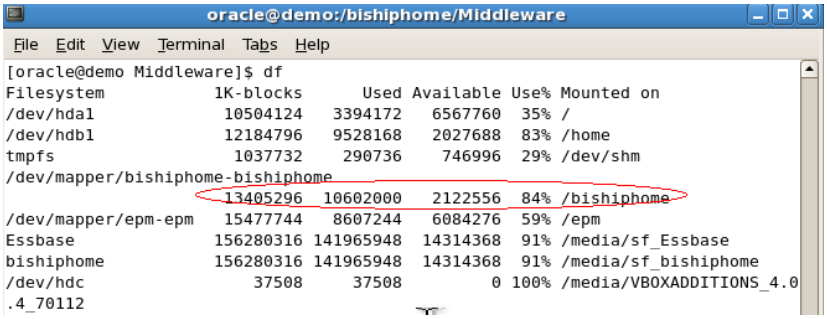
Next, go to the bishiphome logical volume and click on Edit properties.



Notice that the available space now is 12.99 GB (this is the original 12GB + the newly added 1GB).
Increase the LV size to the maximum value



Close the Logical Volume Management screen.
Open a terminal window and type the command df now. Notice that the size of /bishiphome drive has now increased



5.3 Fixing V107 Dashboard known issue

Dashboard **3.10 Query Building > Selection Steps on hierarchies** is pointing to wrong set of reports from the catalog. It needs to be manually edited to point to the right objects, as per the image below. The 3 correct reports for this dashboard are located in the catalog under :

3. Analysis and Dashboards > Query Elements > Selection Steps > Hier Sel Steps

Save the dashboard after done