Task:

Need to deploy 3 nodes R12: two nodes are RAC-database, one is apps, then database make non-RAC.

Performed by: Boris Golovko

Following MOS note was used as major action plan for performing this task but with differences for my environment.

Using Oracle 11g Release 2 Real Application Clusters with Oracle E-Business Suite Release 12 [ID 823587.1]

Action Plan:

1. Creating and preparing virtual machines for installing OEBS R12 and Grid.

1.1 — Created 3 virtual machines:

racdb01:

1 - CPU

3200 MB - RAM // 2.5 GB minimal requirment for grid per documentation

20 GB - hdd1 // system + grid home

20 GB - hdd2 // for RDBMS home

8 GB - hdd3 // for Vouting (least then 250mb) and OCR (least then 500mb) connected to racdb02

100 GB - hdd4 // for data top (connected to racdb02 too)

Network1: Inner Network // public network

Network2: Inner Network // private network

Network3: NAT // temporary for installing packages

racdb02:

1 - CPU

3000 MB - RAM // 2.5 GB minimal requirment for grid per documentation

20 GB - hdd1 // system + grid home

20 GB - hdd2 // for RDBMS home

8 GB - hdd3 // vouting disks / OCR mounted from racdb01

100 GB - hdd4 // for data top, mounted from racdb01

Network1: Inner Network // public network

Network2: Inner Network // private network

Network3: NAT // temporary for installing packages

racmt01:

1 - CPU

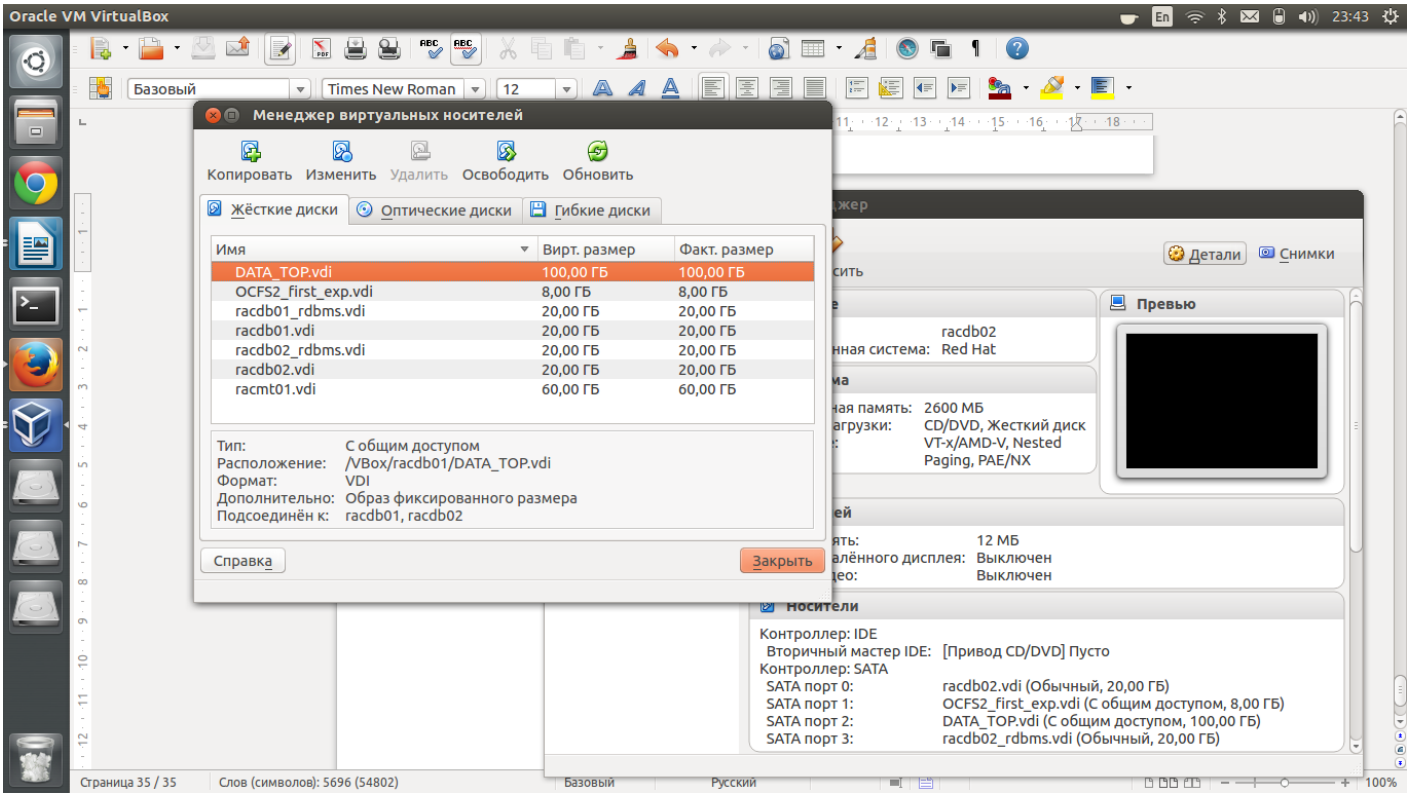
1024 MB - RAM

60 GB - hdd1 // system + apps

Network1: Inner Network // dns server

Network2: Inner Network // private network

Network3: Bridge // for installing packages and access to application from main OS



1.2 Installing packages:

First of all I need to install kernel-headers and kernel-devel for my kernel's version - kernel-2.6.18-53.el5

mount redhat iso image to virtual CD-ROM.

Then change directory under 'root' user:

cd /media/RHEL_5.1\ i386\ DVD/Server

rpm -ivh kernel-devel-2.6.18-53.el5.i686.rpm

rpm -ivh kernel-headers-2.6.18-53.el5.i386.rpm

Adding Oracle public yum repository and GPG key.

~~~~~

cd /etc/yum.repos.d

wget http://public-yum.oracle.com/public-yum-el5.repo

wget http://public-yum.oracle.com/RPM-GPG-KEY-oracle-el5 -O /etc/pki/rpm-gpg/RPM-GPG-KEY-oracle

Installing oracle-validated package set.

~~~~~

yum install -y oracle-validated

Also important thing install openmotif21 package which does not contain oracle-validated package set, in the past I had a problem with it but fixed:

EBS Fresh Install accessing any Forms Responsibility fails with error "FRM-92101: Forms Server" (Doc ID 1192205.1)

In formout I found following:

$LOG_HOME/ora/10.1.3/opmn/forms_default_group_1/formsstd.out

Forms session <2> aborted: runtime process failed during startup with errors /rgolovko/apps/tech_st/10.1.2/bin/frmweb: error while loading shared libraries: libXm.so.2: cannot open shared object file: No such file or directory

That's why I installed following package manually:
openmotif-2.3.1-7.3.el5_10

Downloaded from:
https://oss.oracle.com/projects/compat-oracle/files/Enterprise_Linux/

[root@racdb01~]# wget https://oss.oracle.com/projects/compat-oracle/dist/files/Enterprise_Linux/openmotif21-2.1.30-11.EL5.i386.rpm

[root@racdb01~]# rpm -ivh openmotif21-2.1.30-11.EL5.i386.rpm

[root@racdb01~]# scp openmotif21-2.1.30-11.EL5.i386.rpm root@racmt01:~/

[root@racdb01~]# ssh root@racmt01

[root@racmt01~]# rpm -ivh openmotif21-2.1.30-11.EL5.i386.rpm

During installation oracle-validated package set, were created user "oracle" and groups "oinstall" and "dba".

Assign these groups to user "oraprd":

!!!NOTE: user "oraprd" has been created as main user, during OS installation on racdb01,racdb02, and applprd on <racmt01>!!!

[root@racdb01 ~]# useradd -g dba -G oinstall -c "Grid Owner" grid

[root@racdb02 ~]# useradd -g dba -G oinstall -c "Grid Owner" grid

[root@racdb01 ~]# usermod -g dba -G oinstall,oraprd oraprd

[root@racdb02 ~]# usermod -g dba -G oinstall,oraprd oraprd

[root@racdb01 ~]# usermod -g dba -G oinstall oracle

[root@racdb02 ~]# usermod -g dba -G oinstall oracle

[root@racmt01 ~]# usermod -g dba -G oinstall,applprd applprd -c "OEBS Admin"

id oraprd

uid=500(oraprd) gid=54322(dba) groups=54322(dba),500(oraprd),54321(oinstall)

id oracle

uid=54321(oracle) gid=54322(dba) groups=54322(dba),54321(oinstall)

id grid

uid=54322(grid) gid=54322(dba) groups=54322(dba),54321(oinstall)

1.3 Network configuration:

racdb01:

==========

/etc/sysconfig/network

~~~~~~~~~~~~~~~~~~~~~~

NETWORKING=yes

NETWORKING_IPV6=yes

HOSTNAME=racdb01.rgolovko.com

~~~~~~~~~~~~~~~~~~~~~~

/etc/sysconfig/network-scripts/ifcfg-eth0

~~~~~~~~~~~~~~~~~~~~~~

Intel Corporation 82540EM Gigabit Ethernet Controller

DEVICE=eth0

BOOTPROTO=static

BROADCAST=192.168.30.255

HWADDR=08:00:27:FB:ED:7C

IPADDR=192.168.30.151

IPV6ADDR=

IPV6PREFIX=

IPV6_AUTOCONF=yes

NETMASK=255.255.255.0

NETWORK=192.168.30.0

ONBOOT=yes

~~~~~~~~~~~~~~~~~~~~~~

/etc/sysconfig/network-scripts/ifcfg-eth1

~~~~~~~~~~~~~~~~~~~~~~

Intel Corporation 82540EM Gigabit Ethernet Controller

DEVICE=eth1

BOOTPROTO=static

HWADDR=08:00:27:B5:40:F9

BROADCAST=10.1.4.255

IPADDR=10.1.4.171

IPV6ADDR=

IPV6PREFIX=

IPV6_AUTOCONF=yes

NETMASK=255.255.255.0

NETWORK=10.1.4.0

ONBOOT=yes

==========

racdb02:

==========

/etc/sysconfig/network

~~~~~~~~~~~~~~~~~~~~~~

NETWORKING=yes

NETWORKING_IPV6=yes

HOSTNAME=racdb02.rgolovko.com

~~~~~~~~~~~~~~~~~~~~~~

/etc/sysconfig/network-scripts/ifcfg-eth0

~~~~~~~~~~~~~~~~~~~~~~

Intel Corporation 82540EM Gigabit Ethernet Controller

DEVICE=eth0

BOOTPROTO=static

BROADCAST=192.168.30.255

HWADDR=08:00:27:3C:6F:91

IPADDR=192.168.30.152

IPV6ADDR=

IPV6PREFIX=

IPV6_AUTOCONF=yes

NETMASK=255.255.255.0

NETWORK=192.168.30.0

ONBOOT=yes

~~~~~~~~~~~~~~~~~~~~~~

/etc/sysconfig/network-scripts/ifcfg-eth1

~~~~~~~~~~~~~~~~~~~~~~

Intel Corporation 82540EM Gigabit Ethernet Controller

DEVICE=eth1

BOOTPROTO=static

HWADDR=08:00:27:1F:E8:9E

BROADCAST=10.1.4.255

IPADDR=10.1.4.172

IPV6ADDR=

IPV6PREFIX=

IPV6_AUTOCONF=yes

NETMASK=255.255.255.0

NETWORK=10.1.4.0

ONBOOT=yes

==========

racmt01:

==========

/etc/sysconfig/network

~~~~~~~~~~~~~~~~~~~~~~

NETWORKING=yes

NETWORKING_IPV6=yes

HOSTNAME=racmt01.rgolovko.com

~~~~~~~~~~~~~~~~~~~~~~

/etc/sysconfig/network-scripts/ifcfg-eth0

~~~~~~~~~~~~~~~~~~~~~~

Intel Corporation 82540EM Gigabit Ethernet Controller

DEVICE=eth0
~~~~~~~~~~~~~~~~~~~~~~

BOOTPROTO=static

BROADCAST=08:00:27:BD:6D:7A

HWADDR=08:00:27:FB:ED:7C

IPADDR=192.168.30.40

IPV6ADDR=

IPV6PREFIX=

IPV6_AUTOCONF=yes

NETMASK=255.255.255.0

NETWORK=192.168.30.0

ONBOOT=yes

==========

1.4 DNS Configuration:

[root@racmt01 ~]# yum install -y bind ypbind bind-utils bind-libs

[root@racmt01 ~]# rpm -qa *bind*

ypbind-1.19-12.el5_6.1

bind-libs-9.3.6-20.P1.el5_8.6

bind-9.3.6-20.P1.el5_8.6

bind-utils-9.3.6-20.P1.el5_8.6

[root@racmt01 named]# chkconfig --level 5 named on

[root@racmt01 named]# chkconfig --level 3 named on

Configuring /etc/named.conf

vi /etc/named.conf

~~~~~~

minimal DNS conf file for RAC 11g

options {

// I forward any name which this DNS can't resolve to my wifi router.
~~~~~~

```
    forwarders { 192.168.10.1; };

    // Directory where named will look for zone files.
    directory "/var/named/";
};

# Forward Zone
zone "rgolovko.com" IN {
    type master;
    file "rgolovko.com.zone";
    allow-update { none; };
};

# Reverse Zone
zone "30.168.192.in-addr.arpa" IN {
    type master;
    file "30.168.192.zone";
    allow-update { none; };
};
```

~~~~~~

Creating zone for my domain:

vi /var/named/rgolovko.com.zone

~~~~~~

```
$ORIGIN rgolovko.com.
$TTL 1D         ; time-to-live   - (1 day)

@  IN SOA  racmt01.rgolovko. master.rgolovko.com. (
        201011021   ; serial number  - (yyyymmdd+s)
        1d          ; refresh        - (1 day)
        1h          ; retry          - (1 hour)
        1w          ; expire         - (1 week)
```

```
        60         ; minimum        - (1 minute)
)
;
@       NS racmt01        ; racmt01.rgolovko.com is the name server

localhost   A       127.0.0.1

; RAC nodes
racdb01        A       192.168.30.151
racdb02        A       192.168.30.152
racdb01-priv    A        10.1.4.171
racdb02-priv    A        10.1.4.172
racdb01-vip   A       192.168.30.101
racdb02-vip   A       192.168.30.102

; Applications/DNS
racmt01        A       192.168.30.40

; SCAN - Single Client Access Name
rac-scan    A       192.168.30.201
rac-scan    A       192.168.30.202
rac-scan    A       192.168.30.203

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
```

Creating zone for network:

vi /var/named/30.168.192.zone

```
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
$ORIGIN 30.168.192.in-addr.arpa.
$TTL 1D         ; time-to-live   - (1 day)

@  IN SOA  racmt01.rgolovko. master.rgolovko.com. (
        201011021   ; serial number  - (yyyymmdd+s)
```

```
        1d      ; refresh       - (1 day)
        1h      ; retry         - (1 hour)
        1w      ; expire        - (1 week)
        60      ; minimum       - (1 minute)
)
;
@  NS racmt01     ; racmt01.rgolovko.com is the name for my dns and application server

; RAC nodes
151             PTR     racdb01.rgolovko.com.
152             PTR     racdb02.rgolovko.com.

; RAC-PRIV nodes
171             PTR     racdb01-priv.rgolovko.com.
172             PTR     racdb02-priv.rgolovko.com.

; RAC-VIP
101             PTR     racdb01-vip.rgolovko.com.
102             PTR     racdb02-vip.rgolovko.com.

; Applications/DNS server
40              PTR     racmt01.rgolovko.com.

; SCAN - Single Client Access Name
201             PTR     rac-scan.rgolovko.com.
202             PTR     rac-scan.rgolovko.com.
203             PTR     rac-scan.rgolovko.com.



~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
[root@racmt01 ~]# chmod -R 774 /var/named
[root@racmt01 ~]# chown named:named /var/named/*.zone
```

Change /etc/resolv.conf on each node:

~~~~~~

search rgolovko.com

nameserver 192.168.30.40

~~~~~~

Check zones configuration:

named-checkzone rgolovko.com /var/named/rgolovko.com.zone

~~~~~~

zone rgolovko.com/IN: loaded serial 201011021

OK

named-checkzone 30.168.192.in-addr.arpa /var/named/30.168.192.zone

~~~~~~

zone 30.168.192.in-addr.arpa/IN: loaded serial 201011021

OK

Check resolving hosts...

nslookup rac-scan.rgolovko.com

~~~~~~

Server: 192.168.30.40

Address: 192.168.30.40#53

Name: rac-scan.rgolovko.com

Address: 192.168.30.203

Name: rac-scan.rgolovko.com

Address: 192.168.30.201

Name: rac-scan.rgolovko.com

Address: 192.168.30.202
~~~~~~

dig rac-scan.rgolovko.com

~~~~~~

; <<>> DiG 9.3.6-P1-RedHat-9.3.6-20.P1.el5_8.6 <<>> rac-scan.rgolovko.com

;; global options: printcmd

;; Got answer:

;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 6056

;; flags: qr aa rd ra; QUERY: 1, ANSWER: 3, AUTHORITY: 1, ADDITIONAL: 1

;; QUESTION SECTION:

;rac-scan.rgolovko.com. IN A

;; ANSWER SECTION:

rac-scan.rgolovko.com. 86400 IN A 192.168.30.203

rac-scan.rgolovko.com. 86400 IN A 192.168.30.201

rac-scan.rgolovko.com. 86400 IN A 192.168.30.202

;; AUTHORITY SECTION:

rgolovko.com. 86400 IN NS racmt01.rgolovko.com.

;; ADDITIONAL SECTION:

racmt01.rgolovko.com. 86400 IN A 192.168.30.40

;; Query time: 0 msec

;; SERVER: 192.168.30.40#53(192.168.30.40)

;; WHEN: Tue Jan 28 17:36:29 2014

;; MSG SIZE rcvd: 125

dig -x 192.168.30.201

~~~~~~

; <<>> DiG 9.3.6-P1-RedHat-9.3.6-20.P1.el5_8.6 <<>> -x 192.168.30.201

;; global options: printcmd

;; Got answer:

;; ->>HEADER<<- opcode: QUERY, status: NOERROR, id: 21064

;; flags: qr aa rd ra; QUERY: 1, ANSWER: 1, AUTHORITY: 1, ADDITIONAL: 0

;; QUESTION SECTION:

;201.30.168.192.in-addr.arpa. IN PTR

;; ANSWER SECTION:

201.30.168.192.in-addr.arpa. 86400 IN PTR rac-scan.rgolovko.com.

;; AUTHORITY SECTION:

30.168.192.in-addr.arpa. 86400 IN NS racmt01.30.168.192.in-addr.arpa.

;; Query time: 0 msec

;; SERVER: 192.168.30.40#53(192.168.30.40)

;; WHEN: Tue Jan 28 17:37:26 2014

;; MSG SIZE rcvd: 102

1.5 Creating OCFS cluster for Vouting disks, Oracle Cluster Register and DATA TOP.

I decided to choice CFS instead of usual ASM. I think it was new interesting experience for me.

The latest version of ocfs for my kernel is 1.2.9, but I had to install 1.2.7 because ocfsconsole exist only 1.2.7 version for my kernel.

Donwloaded following packages on both nodes:

ocfs2-2.6.18-53.el5-1.2.7-1.el5.i686.rpm

ocfs2console-1.2.7-1.el5.i386.rpm

ocfs2-tools-1.2.7-1.el5.i386.rpm

From:

https://oss.oracle.com/projects/ocfs2-tools/files/RedHat/RHEL5/i386/1.2.7-1/

and

https://oss.oracle.com/projects/ocfs2/files/RedHat/RHEL5/i386/old/1.2.7-1/2.6.18-53.1.4.el5/

Installing packages:

[root@racdb01 Desktop]# rpm -ivh ocfs2-2.6.18-53.el5-1.2.7-1.el5.i686.rpm ocfs2console-1.2.7-1.el5.i386.rpm ocfs2-tools-1.2.7-1.el5.i386.rpm ocfs2-tools-devel-1.2.7-1.el5.i386.rpm

My cluster configuration on both nodes racdb01 and racdb02 is same:

vi /etc/ocfs2/cluster.conf

~~~~~~~~~~~~~~~~~~~~~~~~

cluster:

node_count = 2

name = rac-ebs

node:

ip_port = 7777

ip_address = 10.1.4.171

number = 1

name = racdb01

cluster = rac-ebs

node:

ip_port = 7777

ip_address = 10.1.4.172

number = 2

name = racdb02

cluster = rac-ebs

~~~~~~~~~~~~~~~~~~~~~~~~

change cluster name from o2cb (default name) to rac-ebs in file /etc/sysconfig/o2cb

>>>>

O2CB_BOOTCLUSTER=rac-ebs

<<<<

On both nodes:

```
[root@racdb02 ~]# service o2cb configure
~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Configuring the O2CB driver.

This will configure the on-boot properties of the O2CB driver.
The following questions will determine whether the driver is loaded on
boot.  The current values will be shown in brackets ('[]').  Hitting
<ENTER> without typing an answer will keep that current value.  Ctrl-C
will abort.

Load O2CB driver on boot (y/n) [y]: y
Cluster to start on boot (Enter "none" to clear) [rac-ebs]:
Specify heartbeat dead threshold (>=7) [31]:
Specify network idle timeout in ms (>=5000) [30000]:
Specify network keepalive delay in ms (>=1000) [2000]:
Specify network reconnect delay in ms (>=2000) [2000]:
Writing O2CB configuration: OK
Starting O2CB cluster rac-ebs: OK
```

1.6 Creating mountpoints:

```
[root@racdb01 ~]# fdisk -l
~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Disk /dev/sda: 21.4 GB, 21474836480 bytes
255 heads, 63 sectors/track, 2610 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes

   Device Boot      Start         End      Blocks   Id  System
/dev/sda1   *           1          13      104391   83  Linux
/dev/sda2              14        2610    20860402+  8e  Linux LVM

Disk /dev/sdb: 107.3 GB, 107374182400 bytes
255 heads, 63 sectors/track, 13054 cylinders
Units = cylinders of 16065 * 512 = 8225280 bytes
```

/dev/sdb doesn't contain a valid partition table

Disk /dev/sdc: 8589 MB, 8589934592 bytes

255 heads, 63 sectors/track, 1044 cylinders

Units = cylinders of 16065 * 512 = 8225280 bytes

/dev/sdc doesn't contain a valid partition table

Disk /dev/sdd: 21.4 GB, 21474836480 bytes

255 heads, 63 sectors/track, 2610 cylinders

Units = cylinders of 16065 * 512 = 8225280 bytes

/dev/sdd doesn't contain a valid partition table

Disk /dev/dm-0: 19.2 GB, 19260243968 bytes

255 heads, 63 sectors/track, 2341 cylinders

Units = cylinders of 16065 * 512 = 8225280 bytes

Disk /dev/dm-0 doesn't contain a valid partition table

Disk /dev/dm-1: 2080 MB, 2080374784 bytes

255 heads, 63 sectors/track, 252 cylinders

Units = cylinders of 16065 * 512 = 8225280 bytes

Disk /dev/dm-1 doesn't contain a valid partition table

[root@racdb01 ~]# fdisk /dev/sdb

~~~~~~~~~~~~~~~~~~~~~~~~~~~~

for creating new partition used following

answer: n,p,1,accept default(enter),accept default(enter),w

[root@racdb01 ~]# fdisk /dev/sdc

~~~~~~~~~~~~~~~~~~~~~~~~~~~~

for creating new partition used foolowing

answer: n,p,1,accept default(enter),accept default(enter),w

[root@racdb01 ~]# fdisk /dev/sdd

~~~~~~~~~~~~~~~~~~~~~~~~~~~

for creating new partition used following

answer: n,p,1,accept default(enter),accept default(enter),w

Perform on any of database node:

mkfs.ocfs2 -L "DATA_TOP" /dev/sdb1

mkfs.ocfs2 -L "ora-VD-OCR" /dev/sdc1

mkfs.ext3 -L "RDBMS" /dev/sdd1

Add entries to /etc/fstab on both nodes

/dev/sdc1 /rgolovko/crs ocfs2 _netdev,datavolume,nointr 0 0

/dev/sdb1 /rgolovko/app/db/apps_st/data ocfs2 _netdev,datavolume,nointr 0 0

/dev/sdd1 /rgolovko/app/db/tech_st ext3 rw 0 0

[root@racdb01 ~]# mkdir -p /rgolovko/{app,grid,crs} -m 775

[root@racdb01 ~]# chown -R oraprd:dba /rgolovko

[root@racdb01 ~]# mount /dev/sdc1 /rgolovko/crs/

[root@racdb01 ~]# mkdir /rgolovko/crs/storage

[root@racdb01 ~]# chown -R grid:dba /rgolovko/{grid,crs}

[root@racdb02 ~]# mkdir -p /rgolovko/{app,grid,crs} -m 775

[root@racdb02 ~]# chown -R oraprd:dba /rgolovko

[root@racdb02 ~]# chown -R grid:dba /rgolovko/{grid,crs}

re-read fstab: mount -a (under root user on both nodes)
~~~~~~~~~~~~~~~~~~~~~~~~~~~

1.7 Check RPM packages:

==========

rpm -q --qf '%{NAME}-%{VERSION}-%{RELEASE} (%{ARCH})\n' binutils compat-libstdc++-33 elfutils-libelf elfutils-libelf-devel gcc gcc-c++ glibc glibc-common glibc-devel glibc-headers ksh libaio libaio-devel libgcc libstdc++ libstdc++-devel make sysstat unixODBC unixODBC-devel

~~~~~~

binutils-2.17.50.0.6-5.el5 (i386)

compat-libstdc++-33-3.2.3-61 (i386)

elfutils-libelf-0.137-3.el5 (i386)

elfutils-libelf-devel-0.137-3.el5 (i386)

gcc-4.1.2-54.el5 (i386)

gcc-c++-4.1.2-54.el5 (i386)

glibc-2.5-118.el5_10.2 (i686)

glibc-common-2.5-118.el5_10.2 (i386)

glibc-devel-2.5-118.el5_10.2 (i386)

glibc-headers-2.5-118.el5_10.2 (i386)

ksh-20100621-18.el5 (i386)

libaio-0.3.106-5 (i386)

libaio-devel-0.3.106-5 (i386)

libgcc-4.1.2-54.el5 (i386)

libstdc++-4.1.2-54.el5 (i386)

libstdc++-devel-4.1.2-54.el5 (i386)

make-3.81-3.el5 (i386)

openmotif-2.3.1-7.3.el5_10 (i386) // this package is installed only in racdb01 and racmt01

sysstat-7.0.2-12.0.1.el5 (i386)

unixODBC-2.2.11-10.el5 (i386)

unixODBC-devel-2.2.11-10.el5 (i386)

1.8 Check kernel parameters:

egrep -i 'kernel.shmmni|kernel.sem|net.ipv4.ip_local_port_range|net.core.rmem_default|net.core.rmem_max|net.core.wmem_default|net.core.wmem_max' /etc/sysctl.conf

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 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

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

!!! All parameters is set as required oracle documentation, it was done by oracle-validated package.

Checked shell limits, it also was configured by oracle-validated but I'll change limits for new users.

1.9 NTP , limits, cvuqdis package and SSH passwordless:

1.9.1 NTP configuration:

==========

add key '-x'

/etc/sysconfig/ntpd

~~~~~~~~~~~~~~~~~~~~

Drop root to id 'ntp:ntp' by default.

OPTIONS="-x -u ntp:ntp -p /var/run/ntpd.pid"
~~~~~~~~~~~~~~~~~~~~

Set to 'yes' to sync hw clock after successful ntpdate

SYNC_HWCLOCK=no

Additional options for ntpdate

NTPDATE_OPTIONS=""

[root@racdb01 ~]# service ntpd restart

Shutting down ntpd: [OK]

ntpd: Synchronizing with time server: [OK]

Starting ntpd: [OK]

1.9.2 Limits for users oracle, grid,oraprd:

==========

For user «oracle» limits were configured automatically by installing oracle-validated package set:

/etc/security/limits.conf

~~~~~~

oracle soft nofile 131072

oracle hard nofile 131072

oracle soft nproc 131072

oracle hard nproc 131072

oracle soft core unlimited

oracle hard core unlimited

oracle soft memlock 3500000

oracle hard memlock 3500000

Recommended stack hard limit 32MB for oracle installations

oracle hard stack 32768

grid soft nofile 131072

grid hard nofile 131072

grid soft nproc 131072

grid hard nproc 131072

grid soft core unlimited
~~~~~~

grid hard core unlimited

grid soft memlock 3500000

grid hard memlock 3500000

oraprd soft nofile 131072

oraprd hard nofile 131072

oraprd soft nproc 131072

oraprd hard nproc 131072

oraprd soft core unlimited

oraprd hard core unlimited

oraprd soft memlock 3500000

oraprd hard memlock 3500000

1.9.3 CVUQDIS Package:

==========

Installing the cvuqdisk Package for Linux

##########

rpm -qi cvuqdisk

package cvuqdisk is not installed

cd /home/grid/grid/rpm

ls

cvuqdisk-1.0.7-1.rpm

export CVUQDISK_GRP=dba

rpm -ivh cvuqdisk-1.0.7-1.rpm # on both nodes

1.9.4 SSH passwordless:

==========

[grid@racdb01 ~]$ ssh-keygen -t dsa -b 1024

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

```
Generating public/private dsa key pair.
Enter file in which to save the key (/home/grid/.ssh/id_dsa):
Created directory '/home/grid/.ssh'.
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/grid/.ssh/id_dsa.
Your public key has been saved in /home/grid/.ssh/id_dsa.pub.
The key fingerprint is:
11:fa:5e:29:c7:3d:33:be:71:45:a0:94:ce:61:99:9b grid@racdb01.rgolovko.com

[grid@racdb01 ~]$ ssh-copy-id -i ~/.ssh/id_dsa grid@racdb02.rgolovko.com
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
0
The authenticity of host 'racdb02.rgolovko.com (192.168.30.152)' can't be established.
RSA key fingerprint is 9a:45:be:83:15:6a:fe:49:44:0e:62:0a:ef:6a:18:8a.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added 'racdb02.rgolovko.com,192.168.30.152' (RSA) to the list of known hosts.
grid@racdb02.rgolovko.com's password:
Now try logging into the machine, with "ssh 'grid@racdb02.rgolovko.com'", and check in:

  .ssh/authorized_keys

to make sure we haven't added extra keys that you weren't expecting.

[grid@racdb01 ~]$ ssh-copy-id -i ~/.ssh/id_dsa grid@racdb02
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
0
The authenticity of host 'racdb02 (192.168.30.152)' can't be established.
RSA key fingerprint is 9a:45:be:83:15:6a:fe:49:44:0e:62:0a:ef:6a:18:8a.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added 'racdb02' (RSA) to the list of known hosts.
Now try logging into the machine, with "ssh 'grid@racdb02'", and check in:

  .ssh/authorized_keys
```

to make sure we haven't added extra keys that you weren't expecting.

[grid@racdb01 ~]$ ssh racdb02

[grid@racdb02 ~]$

Also same actions were performed from racdb02.

Done.

Libraries fix:

Add line to /etc/pam.d/login

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

session required /lib/security/pam_limits.so

download patch:

6078836 (4.7 KB) RH5.0 / OEL5.0 CERT : SPECIAL LIBRARY NEEDED TO RUN OHS ON REDHAT5 MACHINE

[root@racdb01 ~]# unzip p6078836_101330_LINUX.zip

[root@racdb01 ~]# cd 6078836

[root@racdb01 ~]# cp libdb.so.2 /usr/lib

[root@racdb01 ~]# chmod 755 /usr/lib/ libdb.so.2

[root@racdb01 ~]# rsync /usr/lib/libdb.so.2 root@racmt01:/usr/lib/

2. Install Oracle Grid Infrastructure

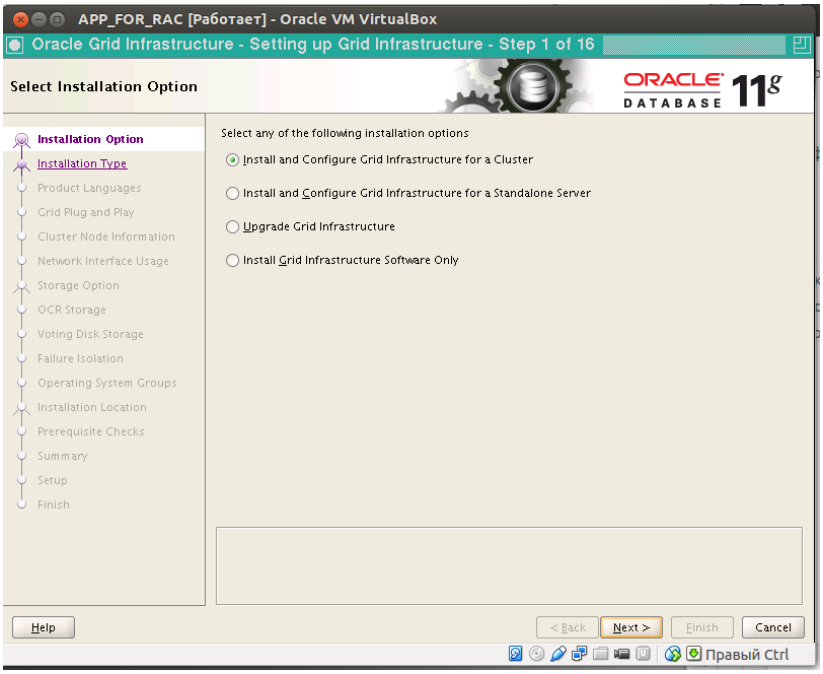
Uncompressed archive oracle-grid-11.2.0.zip which was downloaded from: storage in Rostov a long time ago :)

smb://***.***.***.11/share/stage

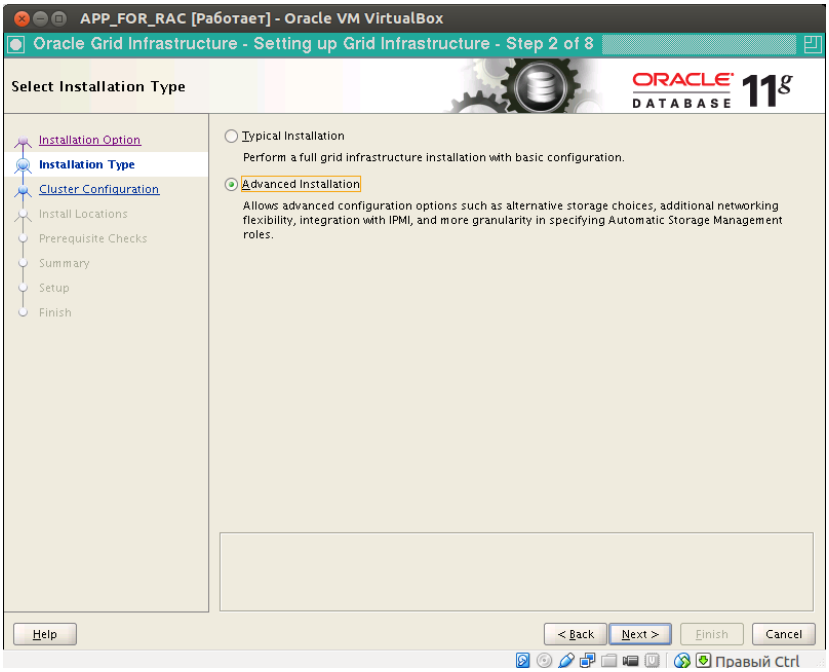
unzipped to home directory ‘grid’ user on racdb01 (path: /home/grid/grid/)

For all graphical interfaces I used VNC:

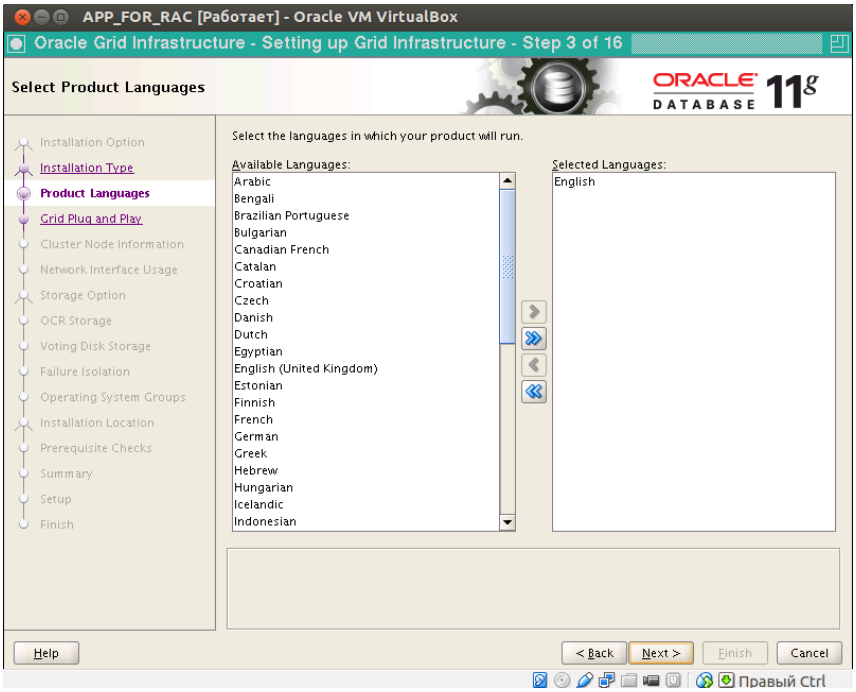
Selected: Install and Configure Grid Infrastructure for Cluster
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~



Selected: Advanced Installation



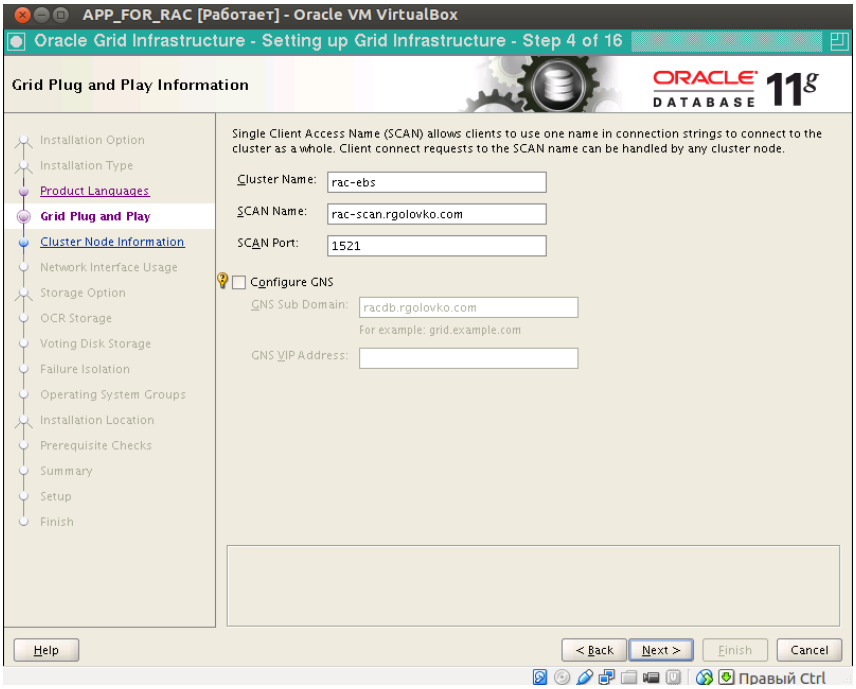
Click: Next



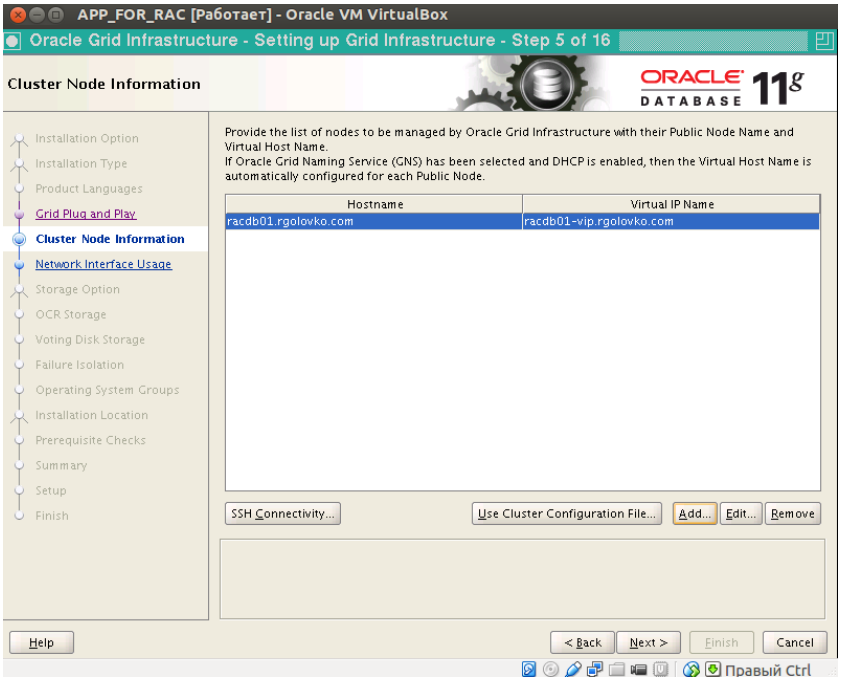
Cluster Name: rac-ebs

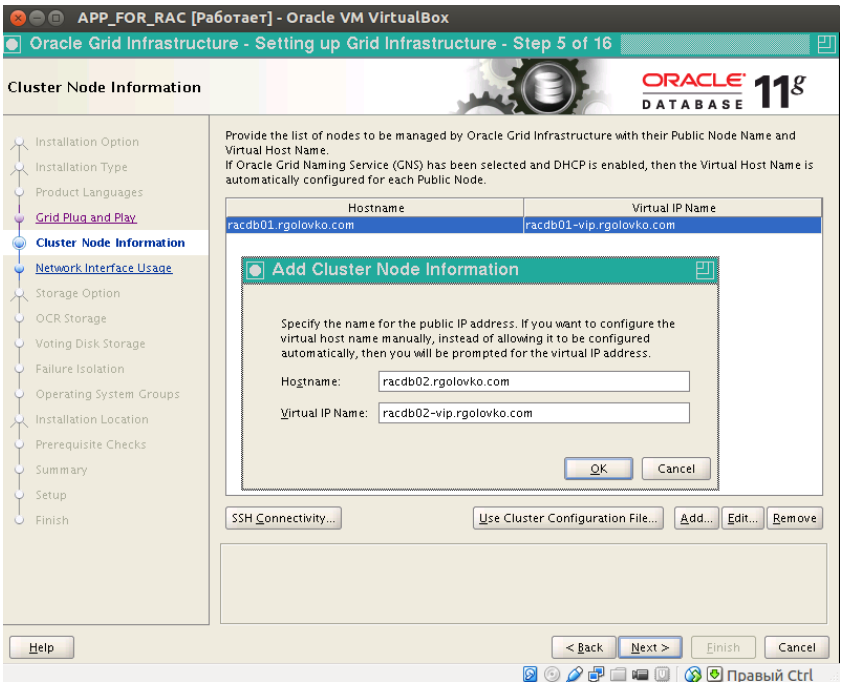
SCAN name: rac-scan.rgolovko.com

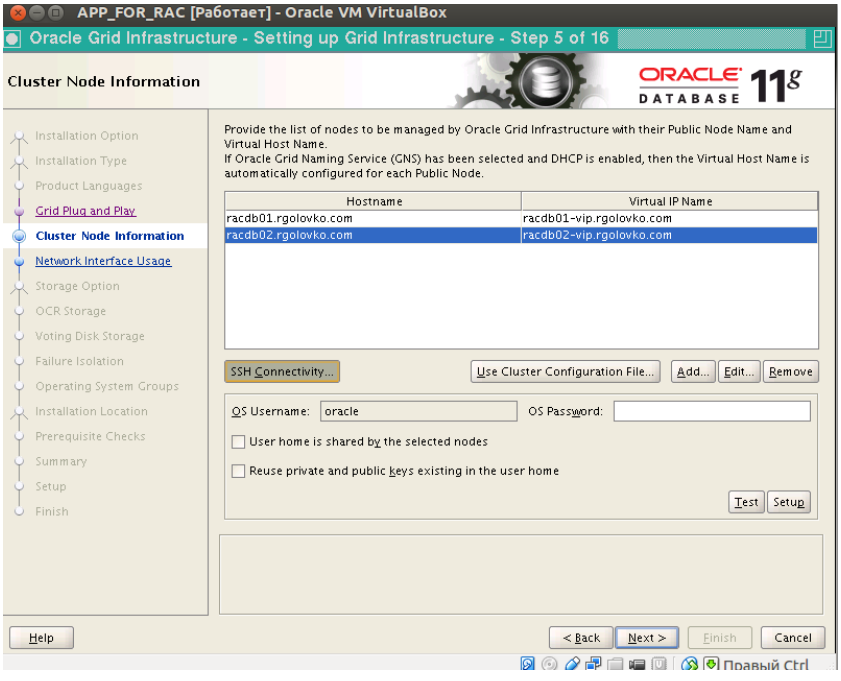
Port: 1521

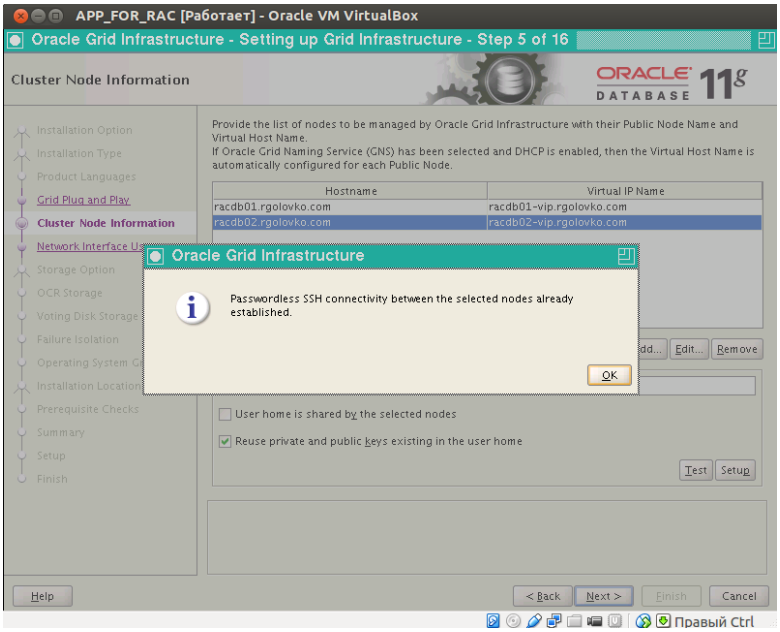


On next three screenshots I added second database node.

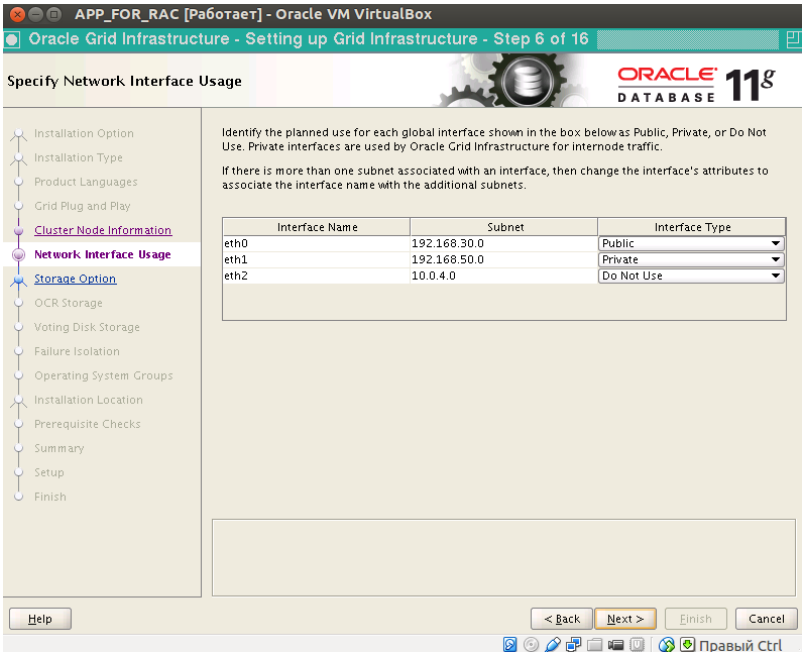

APP_FOR_RAC [Работает] - Oracle VM VirtualBox
Oracle Grid Infrastructure - Setting up Grid Infrastructure - Step 5 of 16
Cluster Node Information
ORACLE DATABASE 11g
Installation Option
Installation Type
Product Languages
Grid Plug and Play
Cluster Node Information
Network Interface Usage
Storage Option
OCR Storage
Voting Disk Storage
Failure Isolation
Operating System Groups
Installation Location
Prerequisite Checks
Summary
Setup
Finish
Provide the list of nodes to be managed by Oracle Grid Infrastructure with their Public Node Name and Virtual Host Name.
If Oracle Grid Naming Service (GNS) has been selected and DHCP is enabled, then the Virtual Host Name is automatically configured for each Public Node.
Hostname
Virtual IP Name
racdb01.rgolovko.com
racdb01-vip.rgolovko.com
SSH Connectivity...
Use Cluster Configuration File...
Add...
Edit...
Remove
Help
< Back
Next >
Finish
Cancel
Правый Ctrl


APP_FOR_RAC [Работает] - Oracle VM VirtualBox
Oracle Grid Infrastructure - Setting up Grid Infrastructure - Step 5 of 16
Cluster Node Information
ORACLE DATABASE 11g
Installation Option
Installation Type
Product Languages
Grid Plug and Play
Cluster Node Information
Network Interface Usage
Storage Option
OCR Storage
Voting Disk Storage
Failure Isolation
Operating System Groups
Installation Location
Prerequisite Checks
Summary
Setup
Finish
Provide the list of nodes to be managed by Oracle Grid Infrastructure with their Public Node Name and Virtual Host Name.
If Oracle Grid Naming Service (GNS) has been selected and DHCP is enabled, then the Virtual Host Name is automatically configured for each Public Node.
Hostname
Virtual IP Name
racdb01.rgolovko.com
racdb01-vip.rgolovko.com
Add Cluster Node Information
Specify the name for the public IP address. If you want to configure the virtual host name manually, instead of allowing it to be configured automatically, then you will be prompted for the virtual IP address.
Hostname:
racdb02.rgolovko.com
Virtual IP Name:
racdb02-vip.rgolovko.com
OK
Cancel
SSH Connectivity...
Use Cluster Configuration File...
Add...
Edit...
Remove
Help
< Back
Next >
Finish
Cancel
Правый Ctrl

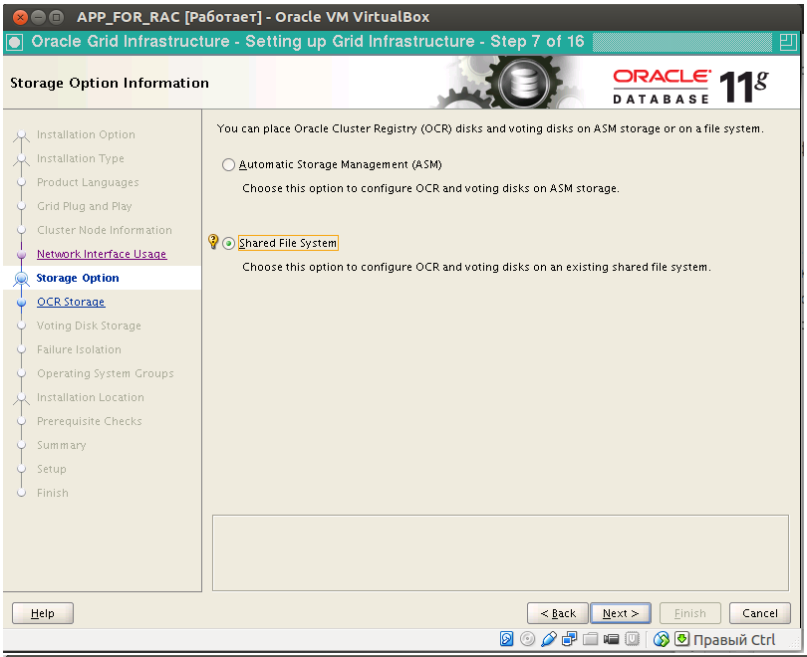

APP_FOR_RAC [Работает] - Oracle VM VirtualBox
Oracle Grid Infrastructure - Setting up Grid Infrastructure - Step 5 of 16
Cluster Node Information
ORACLE DATABASE 11g
Installation Option
Installation Type
Product Languages
Grid Plug and Play
Cluster Node Information
Network Interface Usage
Storage Option
OCR Storage
Voting Disk Storage
Failure Isolation
Operating System Groups
Installation Location
Prerequisite Checks
Summary
Setup
Finish
Provide the list of nodes to be managed by Oracle Grid Infrastructure with their Public Node Name and Virtual Host Name.
If Oracle Grid Naming Service (GNS) has been selected and DHCP is enabled, then the Virtual Host Name is automatically configured for each Public Node.
Hostname
Virtual IP Name
racdb01.rgolovko.com
racdb01-vip.rgolovko.com
racdb02.rgolovko.com
racdb02-vip.rgolovko.com
SSH Connectivity...
Use Cluster Configuration File...
Add...
Edit...
Remove
OS Username:
oracle
OS Password:
User home is shared by the selected nodes
Reuse private and public keys existing in the user home
Test
Setup
Help
< Back
Next >
Finish
Cancel
Правый Ctrl

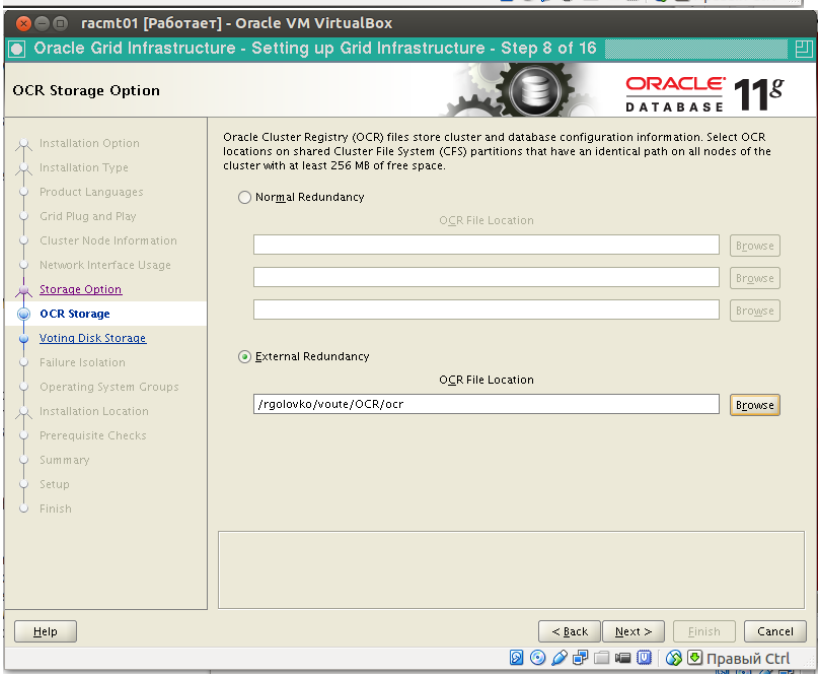


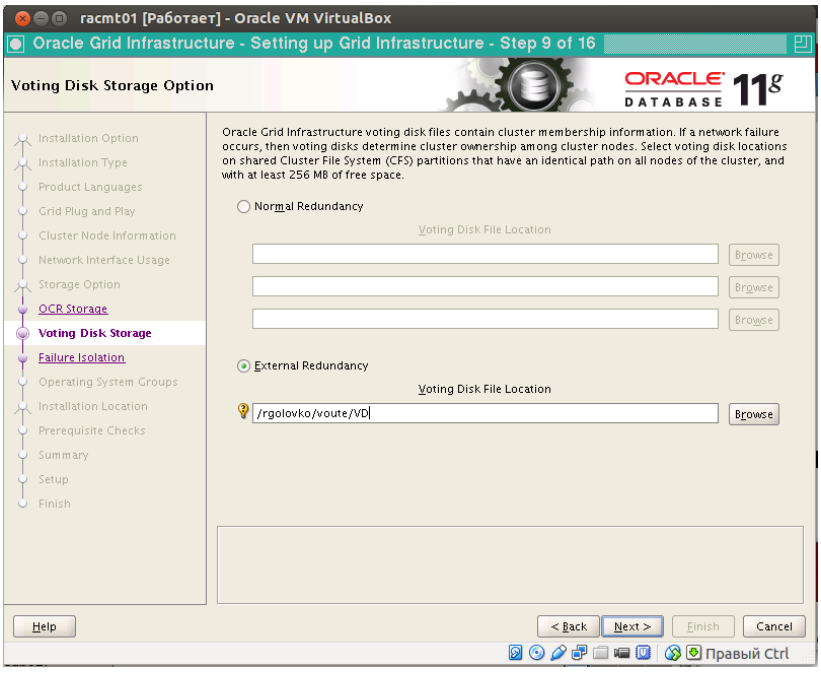
OUI defined networks as public and private as required.

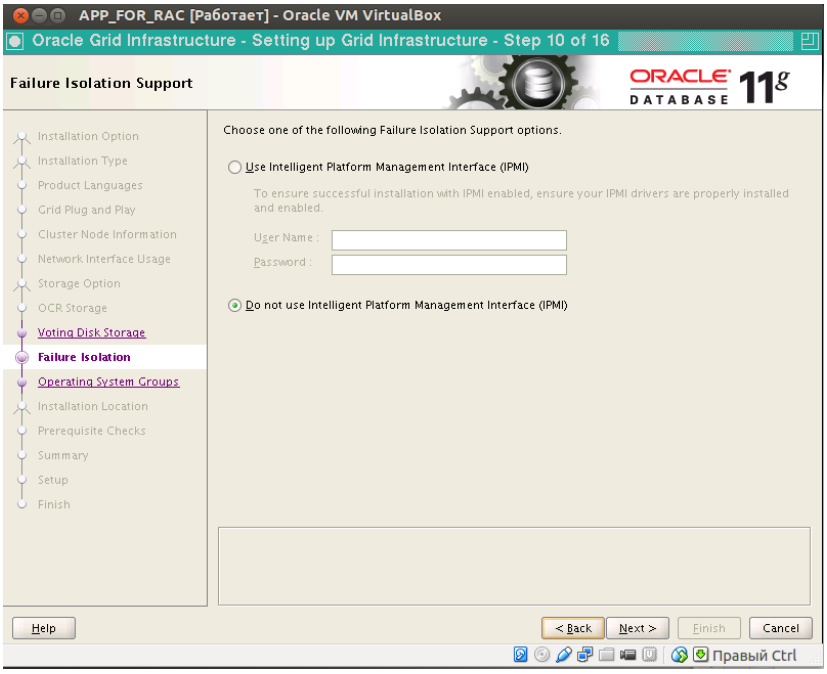


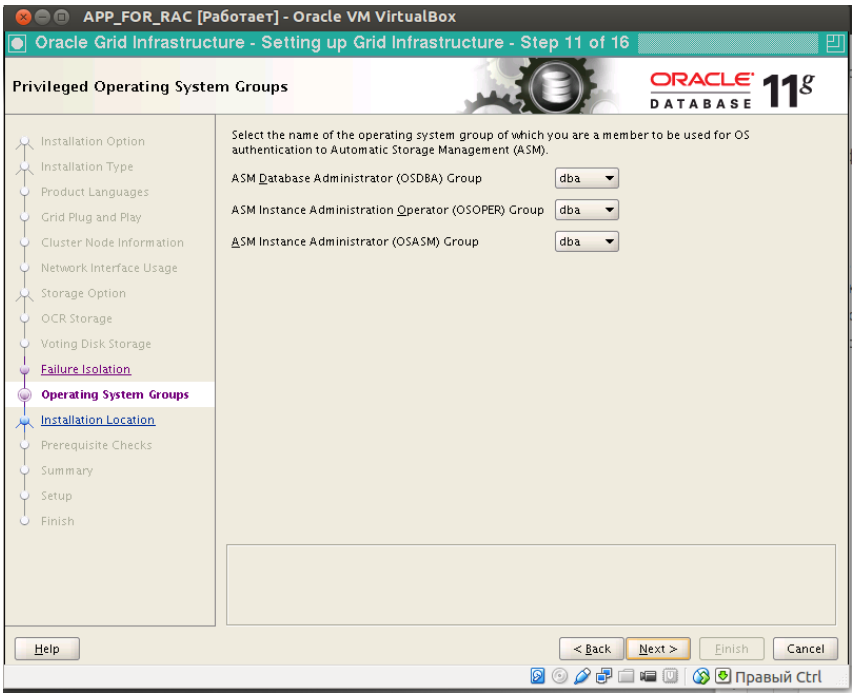
Selected Shared File System instead of ASM

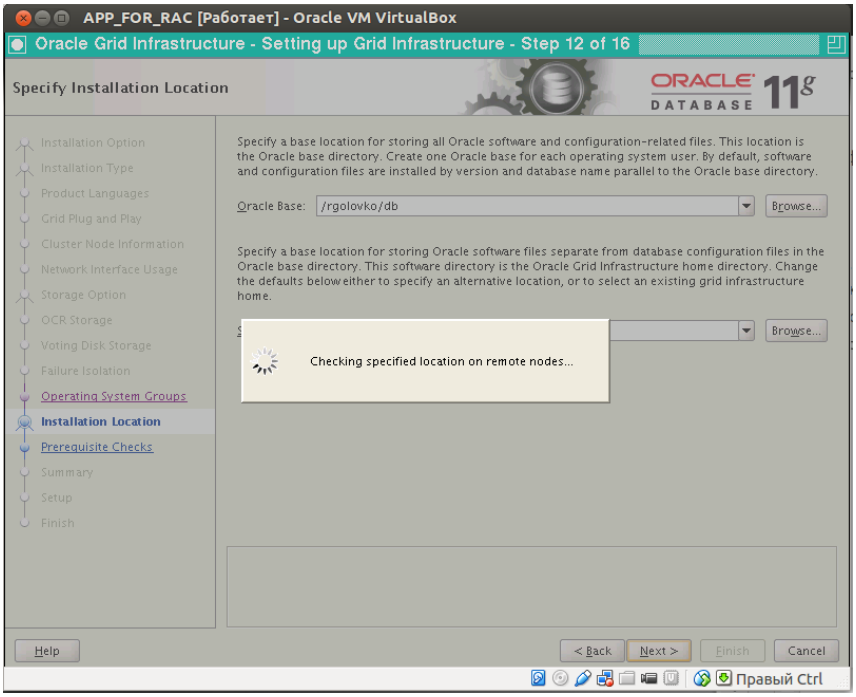

APP_FOR_RAC [Работает] - Oracle VM VirtualBox
Oracle Grid Infrastructure - Setting up Grid Infrastructure - Step 7 of 16
Storage Option Information
ORACLE DATABASE 11g
Installation Option
Installation Type
Product Languages
Grid Plug and Play
Cluster Node Information
Network Interface Usage
Storage Option
OCR Storage
Voting Disk Storage
Failure Isolation
Operating System Groups
Installation Location
Prerequisite Checks
Summary
Setup
Finish
You can place Oracle Cluster Registry (OCR) disks and voting disks on ASM storage or on a file system.
Automatic Storage Management (ASM)
Choose this option to configure OCR and voting disks on ASM storage.
Shared File System
Choose this option to configure OCR and voting disks on an existing shared file system.
Help
< Back
Next >
Finish
Cancel
Правый Ctrl

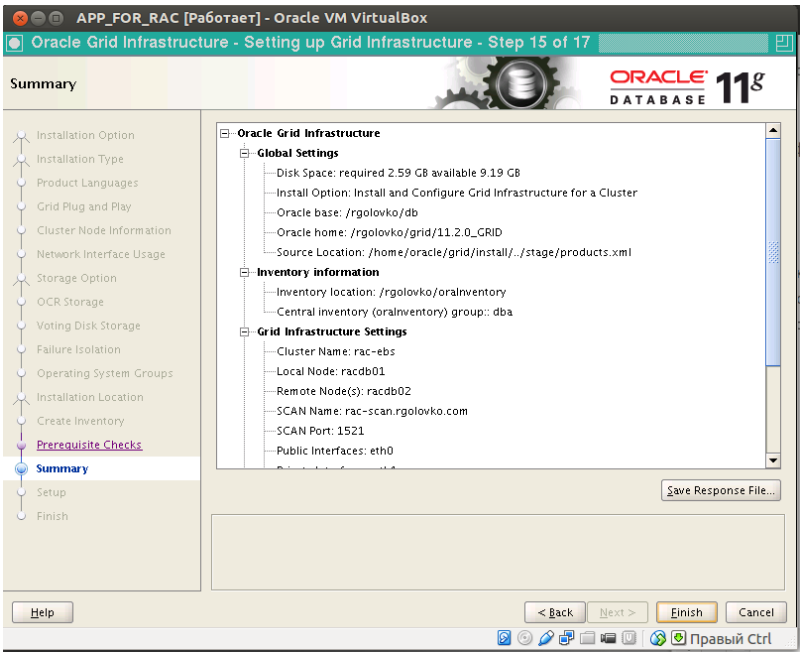

racmt01 [Работает] - Oracle VM VirtualBox
Oracle Grid Infrastructure - Setting up Grid Infrastructure - Step 8 of 16
OCR Storage Option
ORACLE DATABASE 11g
Installation Option
Installation Type
Product Languages
Grid Plug and Play
Cluster Node Information
Network Interface Usage
Storage Option
OCR Storage
Voting Disk Storage
Failure Isolation
Operating System Groups
Installation Location
Prerequisite Checks
Summary
Setup
Finish
Oracle Cluster Registry (OCR) files store cluster and database configuration information. Select OCR locations on shared Cluster File System (CFS) partitions that have an identical path on all nodes of the cluster with at least 256 MB of free space.
Normal Redundancy
OCR File Location
Browse
Browse
Browse
External Redundancy
OCR File Location
/rgolovko/voute/OCR/ocr
Browse
Help
< Back
Next >
Finish
Cancel
Правый Ctrl

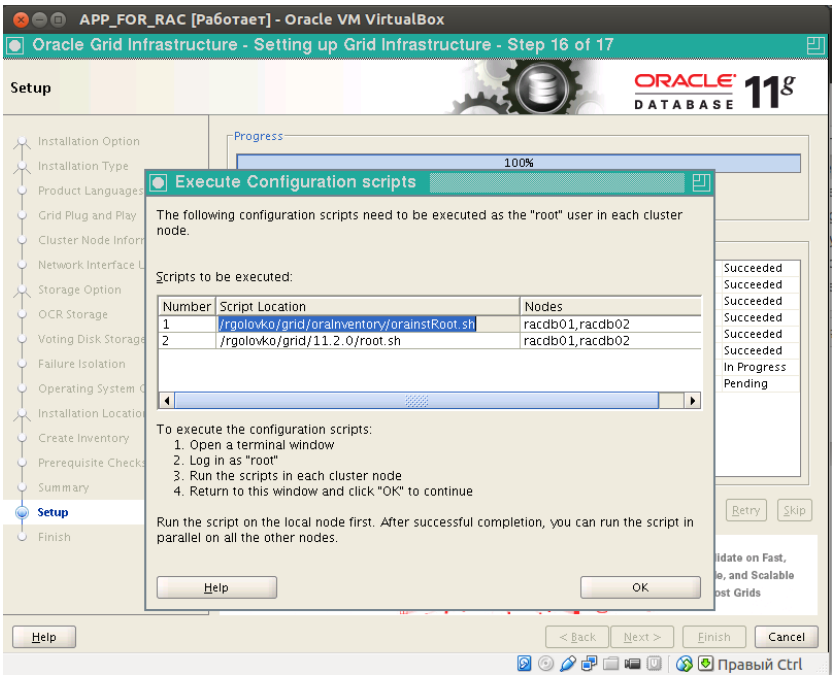

racmt01 [Работает] - Oracle VM VirtualBox
Oracle Grid Infrastructure - Setting up Grid Infrastructure - Step 9 of 16
Voting Disk Storage Option
ORACLE DATABASE 11g
Installation Option
Installation Type
Product Languages
Grid Plug and Play
Cluster Node Information
Network Interface Usage
Storage Option
OCR Storage
Voting Disk Storage
Failure Isolation
Operating System Groups
Installation Location
Prerequisite Checks
Summary
Setup
Finish
Oracle Grid Infrastructure voting disk files contain cluster membership information. If a network failure occurs, then voting disks determine cluster ownership among cluster nodes. Select voting disk locations on shared Cluster File System (CFS) partitions that have an identical path on all nodes of the cluster, and with at least 256 MB of free space.
Normal Redundancy
Voting Disk File Location
Browse
Browse
Browse
External Redundancy
Voting Disk File Location
/rgolovko/voute/VD
Browse
Help
< Back
Next >
Finish
Cancel
Правый Ctrl


APP_FOR_RAC [Работает] - Oracle VM VirtualBox
Oracle Grid Infrastructure - Setting up Grid Infrastructure - Step 10 of 16
Failure Isolation Support
ORACLE 11g DATABASE
Installation Option
Installation Type
Product Languages
Grid Plug and Play
Cluster Node Information
Network Interface Usage
Storage Option
OCR Storage
Voting Disk Storage
Failure Isolation
Operating System Groups
Installation Location
Prerequisite Checks
Summary
Setup
Finish
Choose one of the following Failure Isolation Support options.
Use Intelligent Platform Management Interface (IPMI)
To ensure successful installation with IPMI enabled, ensure your IPMI drivers are properly installed and enabled.
User Name :
Password :
Do not use Intelligent Platform Management Interface (IPMI)
Help
< Back
Next >
Finish
Cancel
Правый Ctrl


APP_FOR_RAC [Работает] - Oracle VM VirtualBox
Oracle Grid Infrastructure - Setting up Grid Infrastructure - Step 11 of 16
Privileged Operating System Groups
ORACLE 11g DATABASE
Installation Option
Installation Type
Product Languages
Grid Plug and Play
Cluster Node Information
Network Interface Usage
Storage Option
OCR Storage
Voting Disk Storage
Failure Isolation
Operating System Groups
Installation Location
Prerequisite Checks
Summary
Setup
Finish
Select the name of the operating system group of which you are a member to be used for OS authentication to Automatic Storage Management (ASM).
ASM Database Administrator (OSDBA) Group
dba
ASM Instance Administration Operator (OSOPER) Group
dba
ASM Instance Administrator (OSASM) Group
dba
Help
< Back
Next >
Finish
Cancel
Правый Ctrl


APP_FOR_RAC [Работает] - Oracle VM VirtualBox
Oracle Grid Infrastructure - Setting up Grid Infrastructure - Step 12 of 16
Specify Installation Location
ORACLE 11g DATABASE
Installation Option
Installation Type
Product Languages
Grid Plug and Play
Cluster Node Information
Network Interface Usage
Storage Option
OCR Storage
Voting Disk Storage
Failure Isolation
Operating System Groups
Installation Location
Prerequisite Checks
Summary
Setup
Finish
Specify a base location for storing all Oracle software and configuration-related files. This location is the Oracle base directory. Create one Oracle base for each operating system user. By default, software and configuration files are installed by version and database name parallel to the Oracle base directory.
Oracle Base: /rgolovko/db
Browse...
Specify a base location for storing Oracle software files separate from database configuration files in the Oracle base directory. This software directory is the Oracle Grid Infrastructure home directory. Change the defaults below either to specify an alternative location, or to select an existing grid infrastructure home.
Browse...
Checking specified location on remote nodes...
Help
< Back
Next >
Finish
Cancel
Правый Ctrl


APP_FOR_RAC [Работает] - Oracle VM VirtualBox
Oracle Grid Infrastructure - Setting up Grid Infrastructure - Step 15 of 17
Summary
ORACLE 11g DATABASE
Installation Option
Installation Type
Product Languages
Grid Plug and Play
Cluster Node Information
Network Interface Usage
Storage Option
OCR Storage
Voting Disk Storage
Failure Isolation
Operating System Groups
Installation Location
Create Inventory
Prerequisite Checks
Summary
Setup
Finish
Oracle Grid Infrastructure
Global Settings
Disk Space: required 2.59 GB available 9.19 GB
Install Option: Install and Configure Grid Infrastructure for a Cluster
Oracle base: /rgolovko/db
Oracle home: /rgolovko/grid/11.2.0_GRID
Source Location: /home/oracle/grid/install/../stage/products.xml
Inventory information
Inventory location: /rgolovko/oraInventory
Central inventory (oraInventory) group:: dba
Grid Infrastructure Settings
Cluster Name: rac-ebs
Local Node: racdb01
Remote Node(s): racdb02
SCAN Name: rac-scan.rgolovko.com
SCAN Port: 1521
Public Interfaces: eth0
Save Response File...
Help
< Back
Next >
Finish
Cancel
Правый Ctrl


APP_FOR_RAC [Работает] - Oracle VM VirtualBox
Oracle Grid Infrastructure - Setting up Grid Infrastructure - Step 16 of 17
Setup
ORACLE 11g DATABASE
Progress
100%
Execute Configuration scripts
The following configuration scripts need to be executed as the "root" user in each cluster node.
Scripts to be executed:
Number | Script Location | Nodes
1 | /rgolovko/grid/oraInventory/orainstRoot.sh | racdb01,racdb02
2 | /rgolovko/grid/11.2.0/root.sh | racdb01,racdb02
To execute the configuration scripts:
1. Open a terminal window
2. Log in as "root"
3. Run the scripts in each cluster node
4. Return to this window and click "OK" to continue
Run the script on the local node first. After successful completion, you can run the script in parallel on all the other nodes.
Help
OK
Succeeded
Succeeded
Succeeded
Succeeded
Succeeded
Succeeded
In Progress
Pending
Retry
Skip
Help
< Back
Next >
Finish
Cancel
Правый Ctrl

OUI offers to execute two scripts on each rac node:

[root@racdb01 rgolovko]# /rgolovko/oraInventory/orainstRoot.sh

```
Changing permissions of /rgolovko/oraInventory.
Adding read,write permissions for group.
Removing read,write,execute permissions for world.

Changing groupname of /rgolovko/oraInventory to dba.
The execution of the script is complete.
```

[root@racdb01 /]# /rgolovko/grid/11.2.0/root.sh

```
Running Oracle 11g root.sh script...

The following environment variables are set as:
    ORACLE_OWNER= grid
    ORACLE_HOME=  /rgolovko/grid/11.2.0

Enter the full pathname of the local bin directory: [/usr/local/bin]:
   Copying dbhome to /usr/local/bin ...
   Copying oraenv to /usr/local/bin ...
   Copying coraenv to /usr/local/bin ...

Entries will be added to the /etc/oratab file as needed by
Database Configuration Assistant when a database is created
Finished running generic part of root.sh script.
Now product-specific root actions will be performed.
2014-02-13 17:31:45: Parsing the host name
2014-02-13 17:31:45: Checking for super user privileges
2014-02-13 17:31:45: User has super user privileges
Using configuration parameter file: /rgolovko/grid/11.2.0/crs/install/crsconfig_params
LOCAL ADD MODE
Creating OCR keys for user 'root', privgrp 'root'..
Operation successful.
Adding daemon to inittab
CRS-4123: Oracle High Availability Services has been started.
ohasd is starting
CRS-2672: Attempting to start 'ora.gipcd' on 'racdb01'
```

```
CRS-2672: Attempting to start 'ora.mdnsd' on 'racdb01'
CRS-2676: Start of 'ora.gipcd' on 'racdb01' succeeded
CRS-2676: Start of 'ora.mdnsd' on 'racdb01' succeeded
CRS-2672: Attempting to start 'ora.gpnpd' on 'racdb01'
CRS-2676: Start of 'ora.gpnpd' on 'racdb01' succeeded
CRS-2672: Attempting to start 'ora.cssdmonitor' on 'racdb01'
CRS-2676: Start of 'ora.cssdmonitor' on 'racdb01' succeeded
CRS-2672: Attempting to start 'ora.cssd' on 'racdb01'
CRS-2672: Attempting to start 'ora.diskmon' on 'racdb01'
CRS-2676: Start of 'ora.diskmon' on 'racdb01' succeeded
CRS-2676: Start of 'ora.cssd' on 'racdb01' succeeded
CRS-2672: Attempting to start 'ora.ctssd' on 'racdb01'
CRS-2676: Start of 'ora.ctssd' on 'racdb01' succeeded
clscfg: -install mode specified
Successfully accumulated necessary OCR keys.
Creating OCR keys for user 'root', privgrp 'root'..
Operation successful.
CRS-2672: Attempting to start 'ora.crsd' on 'racdb01'
CRS-2676: Start of 'ora.crsd' on 'racdb01' succeeded
Now formatting voting disk: /rgolovko/crs/storage/vdsk.crs.
CRS-4603: Successful addition of voting disk /rgolovko/crs/storage/vdsk.crs.
##  STATE    File Universal Id               File Name Disk group
--  -----    -----------------               --------- ---------
 1. ONLINE   4c446421fb354f98bf372265e8c3dbd5 (/rgolovko/crs/storage/vdsk.crs) []
Located 1 voting disk(s).
CRS-2673: Attempting to stop 'ora.crsd' on 'racdb01'
CRS-2677: Stop of 'ora.crsd' on 'racdb01' succeeded
CRS-2673: Attempting to stop 'ora.ctssd' on 'racdb01'
CRS-2677: Stop of 'ora.ctssd' on 'racdb01' succeeded
CRS-2673: Attempting to stop 'ora.cssdmonitor' on 'racdb01'
CRS-2677: Stop of 'ora.cssdmonitor' on 'racdb01' succeeded
CRS-2673: Attempting to stop 'ora.cssd' on 'racdb01'
CRS-2677: Stop of 'ora.cssd' on 'racdb01' succeeded
CRS-2673: Attempting to stop 'ora.gpnpd' on 'racdb01'
CRS-2677: Stop of 'ora.gpnpd' on 'racdb01' succeeded
CRS-2673: Attempting to stop 'ora.gipcd' on 'racdb01'
CRS-2677: Stop of 'ora.gipcd' on 'racdb01' succeeded
```

```
CRS-2673: Attempting to stop 'ora.mdnsd' on 'racdb01'
CRS-2677: Stop of 'ora.mdnsd' on 'racdb01' succeeded
CRS-2672: Attempting to start 'ora.mdnsd' on 'racdb01'
CRS-2676: Start of 'ora.mdnsd' on 'racdb01' succeeded
CRS-2672: Attempting to start 'ora.gipcd' on 'racdb01'
CRS-2676: Start of 'ora.gipcd' on 'racdb01' succeeded
CRS-2672: Attempting to start 'ora.gpnpd' on 'racdb01'
CRS-2676: Start of 'ora.gpnpd' on 'racdb01' succeeded
CRS-2672: Attempting to start 'ora.cssdmonitor' on 'racdb01'
CRS-2676: Start of 'ora.cssdmonitor' on 'racdb01' succeeded
CRS-2672: Attempting to start 'ora.cssd' on 'racdb01'
CRS-2672: Attempting to start 'ora.diskmon' on 'racdb01'
CRS-2676: Start of 'ora.diskmon' on 'racdb01' succeeded
CRS-2676: Start of 'ora.cssd' on 'racdb01' succeeded
CRS-2672: Attempting to start 'ora.ctssd' on 'racdb01'
CRS-2676: Start of 'ora.ctssd' on 'racdb01' succeeded
CRS-2672: Attempting to start 'ora.crsd' on 'racdb01'
CRS-2676: Start of 'ora.crsd' on 'racdb01' succeeded
CRS-2672: Attempting to start 'ora.evmd' on 'racdb01'
CRS-2676: Start of 'ora.evmd' on 'racdb01' succeeded

racdb01     2014/02/13 17:35:50     /rgolovko/grid/11.2.0/cdata/racdb01/backup_20140213_173550.olr
Preparing packages for installation...
cvuqdisk-1.0.7-1
Configure Oracle Grid Infrastructure for a Cluster ... succeeded
Updating inventory properties for clusterware
Starting Oracle Universal Installer...

Checking swap space: must be greater than 500 MB.   Actual 3131 MB    Passed
The inventory pointer is located at /etc/oraInst.loc
The inventory is located at /rgolovko/oraInventory
'UpdateNodeList' was successful.
```

The same scripts were executed on second node.

After that installation completed, and crs started also it will be started automatically after reboot machine.

but at first I need to stop CRS for normal configuring listener by Rapidwiz

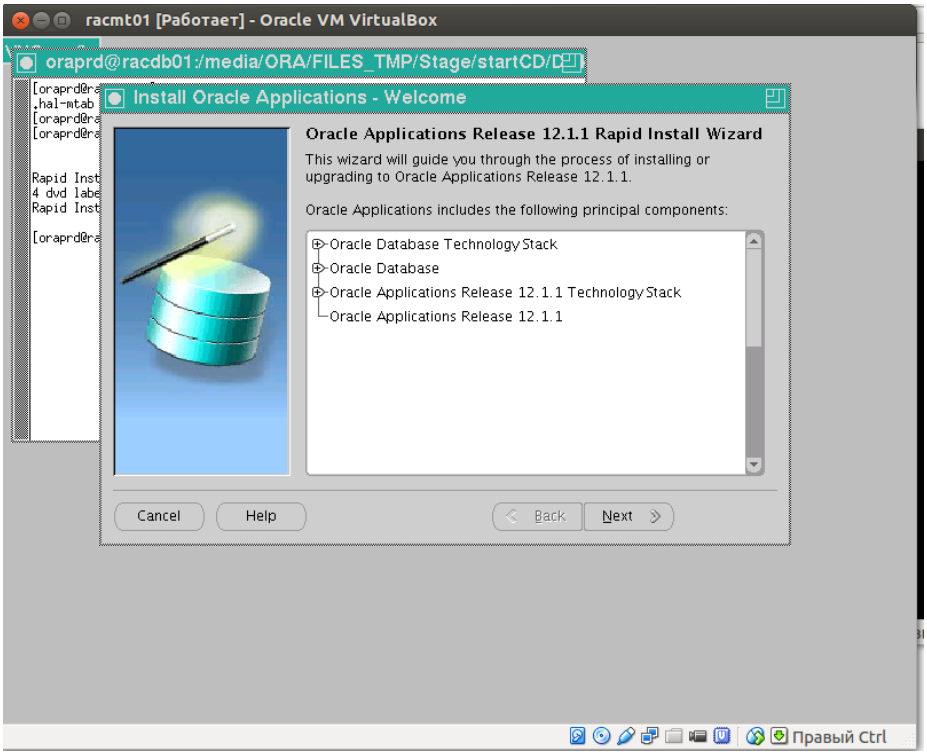
[grid@racdb01~]$ srvctl stop listener -l LISTENER
and
[root@racdb01~]# /rgolovko/grid/11.2.0/bin/crs_stop -all -q
Now we can move to installing OEBS.

3. Installing OEBS R12

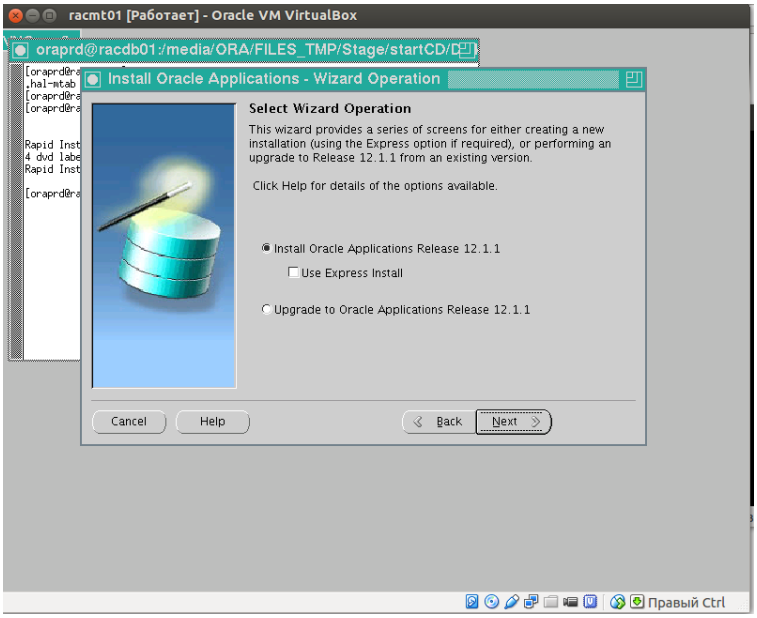
I have not enough space in root '/' and home directories for unpacking archives disks OEBS.

That's why I have to use DATA_TOP as temporary storage, there 100GB free space but ~47 gb will consumed by datafiles after installation.

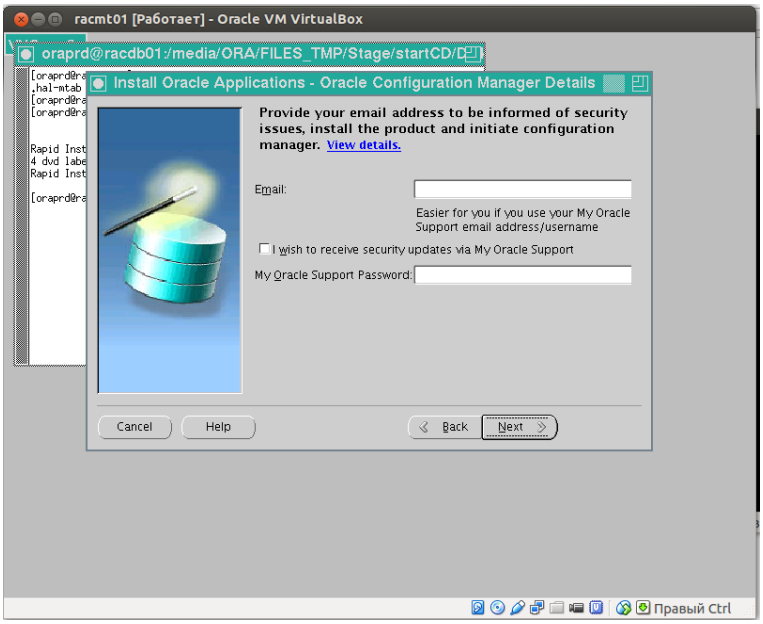
The best way is to install EBS on two nodes at once, but it needs more space in the middle-tier node for the installation files it needs to run Rapidwiz at the database level, and after installation to take generated response file and copy it to a middle-tier node also run with rapidwiz specifying response file, I do not have enough space on my racmt01 node and that's why I installed the application database on one node (database), and then moved using rapidclone applications to middle-tier node.



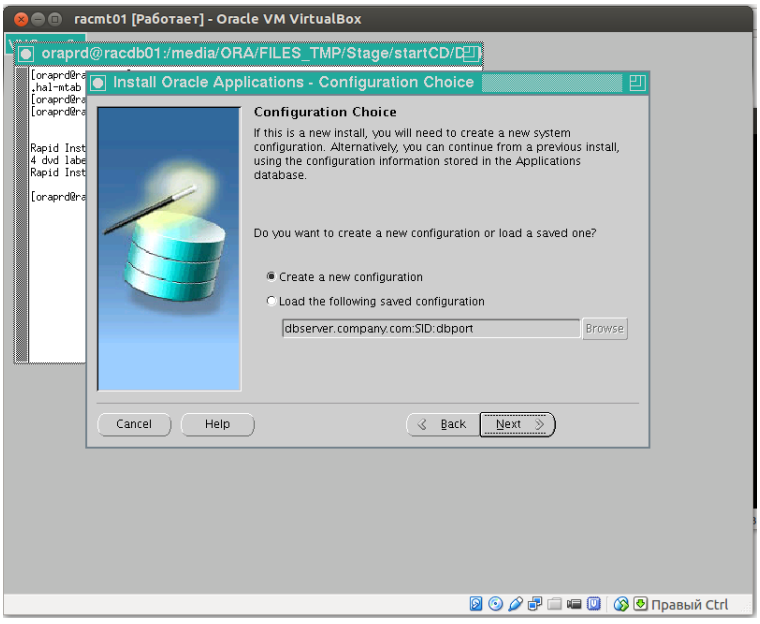
Checked: Install Oracle Applications Release 12.1.1



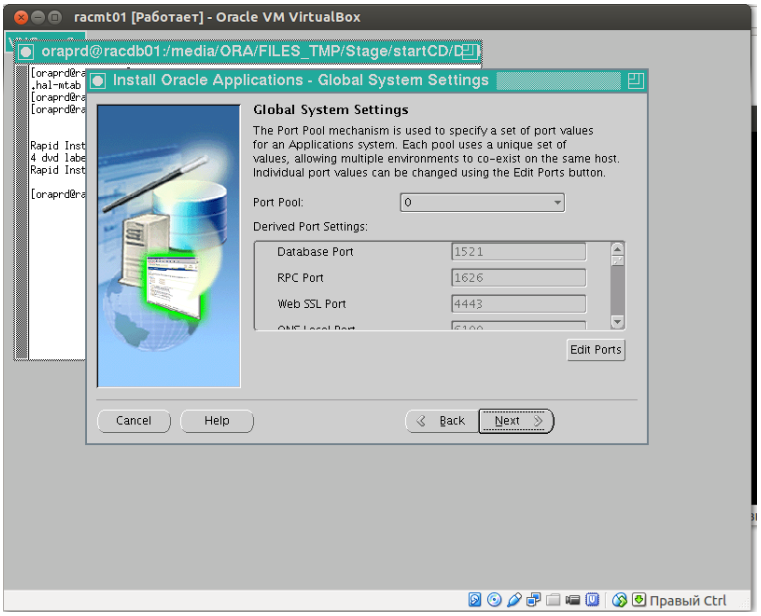
Simply click “Next” and ignore message about email.



Create a new configuration



I’m using default sport pool, that’s why simply click “Next”



Database type: Fresh Database (it is require less disk space than VIS)

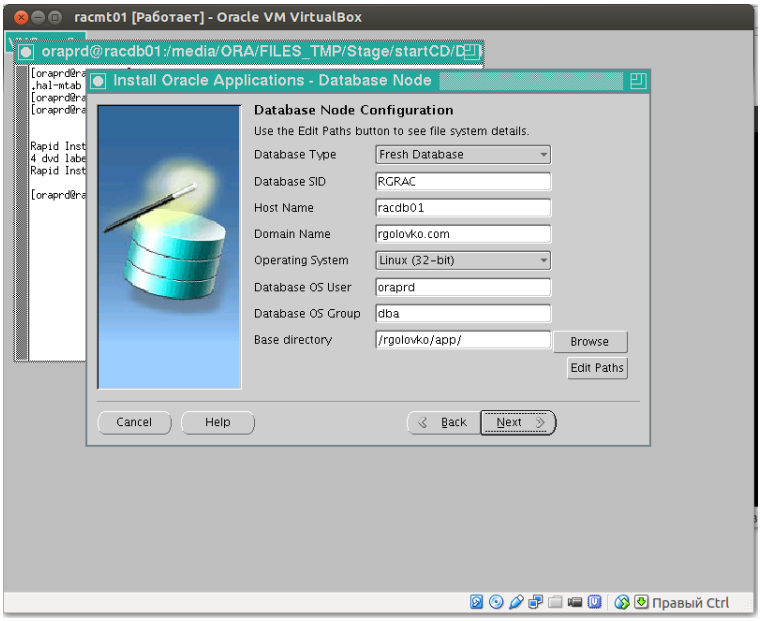
Database SID: RGRAC (Roman Golovko Real Application Cluster)

Host Name: racdb01 and Domain: rgolovko.com

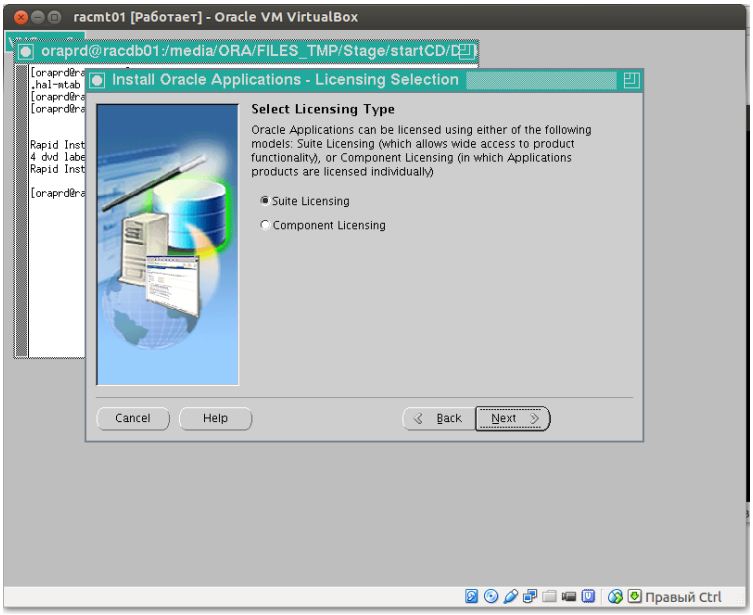
OS: Linux (32 bit)

OS user: oraprd and OS group: dba

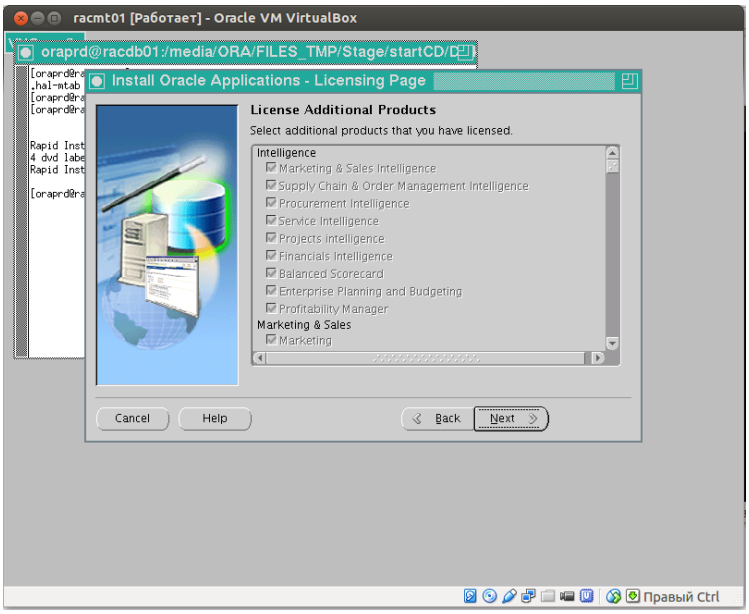
Base dir: /rgolovko/app/



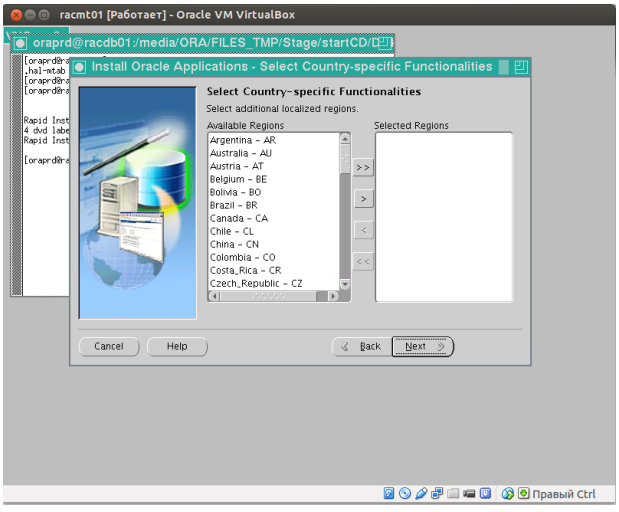
Select Licensing type: leave default (Suite Licensing)

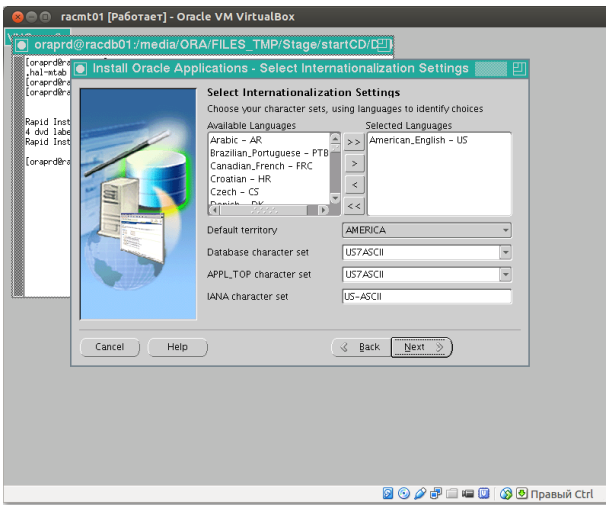


Simply click ‘next’



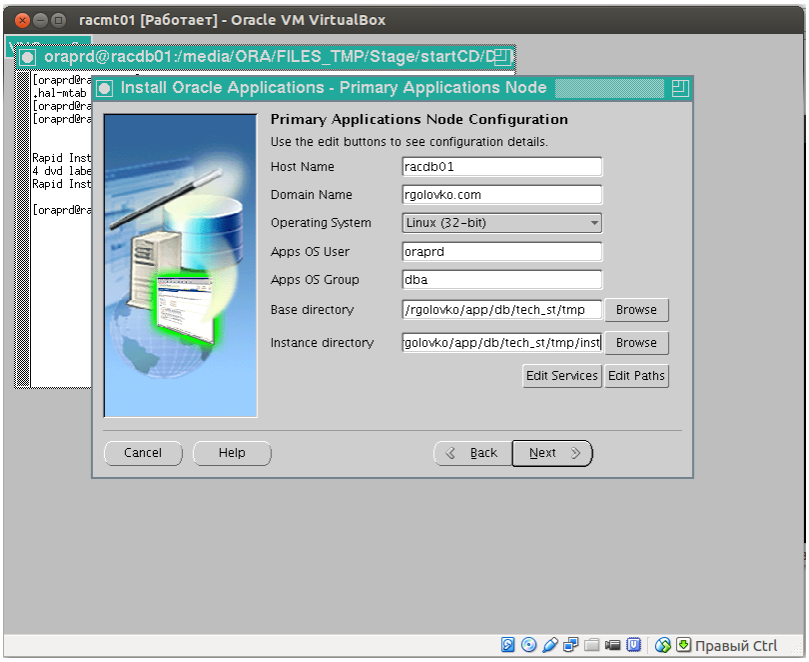
This is test environment, for simplifying patching I won’t install any localization

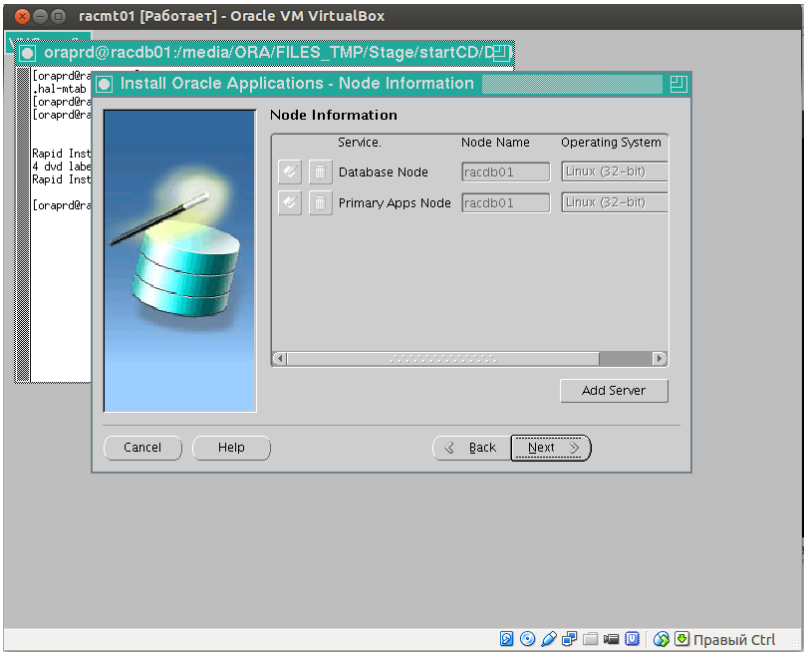


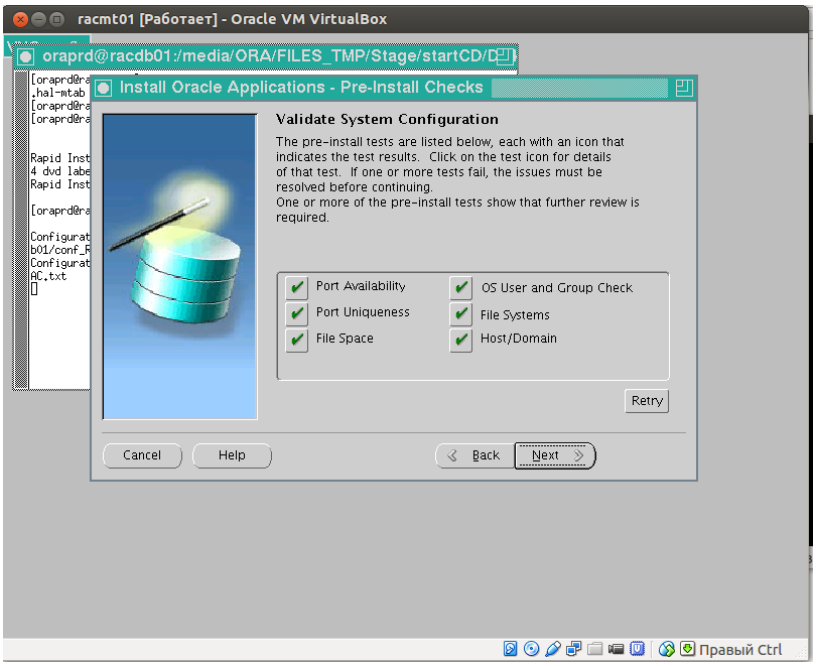


Set temporary parameters because it will be moved to racmt01 node.

Also directory which I used for application is temporary disk created on windows file system and mounted to /rgolovko/app/db/tech_st/tmp/ directory.


racmt01 [Работает] - Oracle VM VirtualBox
oraprd@racdb01:/media/ORA/FILES_TMP/Stage/startCD/D
Install Oracle Applications - Primary Applications Node
Primary Applications Node Configuration
Use the edit buttons to see configuration details.
Host Name
racdb01
Domain Name
rgolovko.com
Operating System
Linux (32-bit)
Apps OS User
oraprd
Apps OS Group
dba
Base directory
/rgolovko/app/db/tech_st/tmp
Browse
Instance directory
golovko/app/db/tech_st/tmp/inst
Browse
Edit Services
Edit Paths
Cancel
Help
Back
Next
Правый Ctrl


racmt01 [Работает] - Oracle VM VirtualBox
oraprd@racdb01:/media/ORA/FILES_TMP/Stage/startCD/D
Install Oracle Applications - Node Information
Node Information
Service.
Node Name
Operating System
Database Node
racdb01
Linux (32-bit)
Primary Apps Node
racdb01
Linux (32-bit)
Add Server
Cancel
Help
Back
Next
Правый Ctrl


racmt01 [Работает] - Oracle VM VirtualBox
oraprd@racdb01:/media/ORA/FILES_TMP/Stage/startCD/D
Install Oracle Applications - Pre-Install Checks
Validate System Configuration
The pre-install tests are listed below, each with an icon that indicates the test results. Click on the test icon for details of that test. If one or more tests fail, the issues must be resolved before continuing.
One or more of the pre-install tests show that further review is required.
Port Availability
Port Uniqueness
File Space
OS User and Group Check
File Systems
Host/Domain
Retry
Cancel
Help
Back
Next
Правый Ctrl

After installation completed I can move my application to tacmt01.

Set application environment:

[oraprd@racdb01 ~]$ source /rgolovko/app/db/tech_st/tmp/apps/apps_st/appl/APPSRGRAC_racdb01.env

Prepare application tier for cloning:

[oraprd@racdb01 ~]$ cd ${ADMIN_SCRIPTS_HOME} && perl ./adpreclone.pl appsTier

[oraprd@racdb01 scripts]$ ./adcmctl.sh abort apps/*****

[oraprd@racdb01 scripts]$ ps -fu $LOGNAME | egrep 'FNDLIBR|FNDSM' | grep -v grep | wc -l

if count is 0, I can stop other services.

[oraprd@racdb01 scripts]$ ./adstpall.sh apps/*****

[oraprd@racdb01 scripts]$ cd ~ && rsync -rl /rgolovko/app/db/tech_st/tmp/apps/ applprd@racmt01:/rgolovko/apps/

When files were copied I can start to configure application.

[applprd@racmt01 ~]$ cd /rgolovko/apps/apps_st/comn/clone/bin && perl ./adcfgclone.pl appsTier

Link environment:

[applprd@racmt01 ~]$ ls -s /rgolovko/apps/apps_st/appl/APPRGRAC_racmt01.env ~/

[applprd@racmt01 ~]$. APPRGRAC_racmt01.env

Stop services:

[applprd@racmt01 ~]$ cd $ADMIN_SCRIPTS_HOME && ./adcmctl.sh abort apps/*****

[applprd@racmt01 scripts]$ ./adstpall.sh apps/*****

Reregister already moved server:

~~~~~~

connect as apps:

create table fnd_nodes_bak as select * from fnd_nodes;

Remove server:

exec fnd_net_services.remove_server('RGRAC','RACDB01');

commit;

Flush FND_NODES and related tables.

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

exec fnd_conc_clone.setup_clean;

commit;

SQL> select node_name from apps.fnd_nodes;

no rows selected

(good)

Run autoconfig on both nodes for re-registering in database:

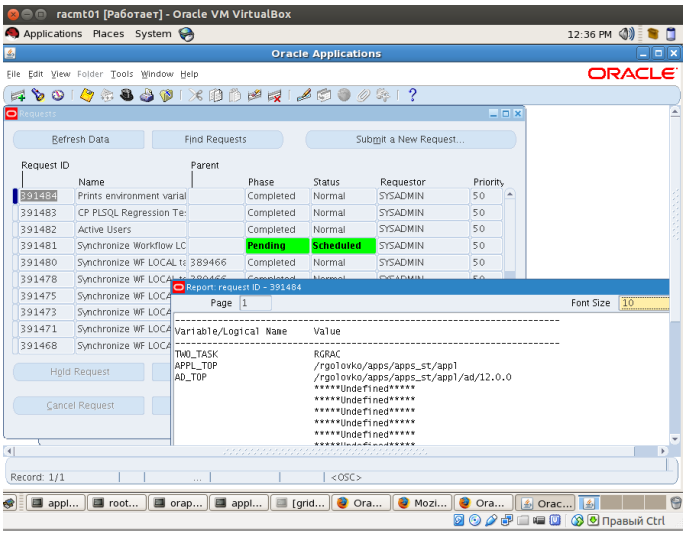
[oraprd@racdb01 ~] cd $ORACLE_HOME/appsutil/scripts/ && ./adautocfg.sh

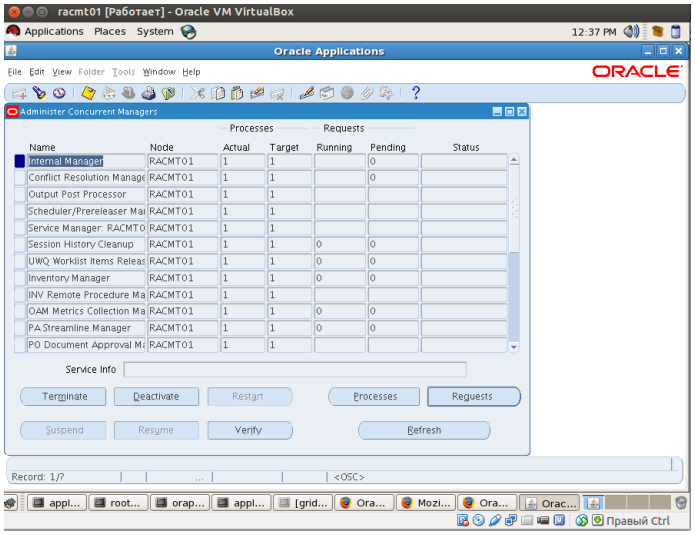
On application tier:

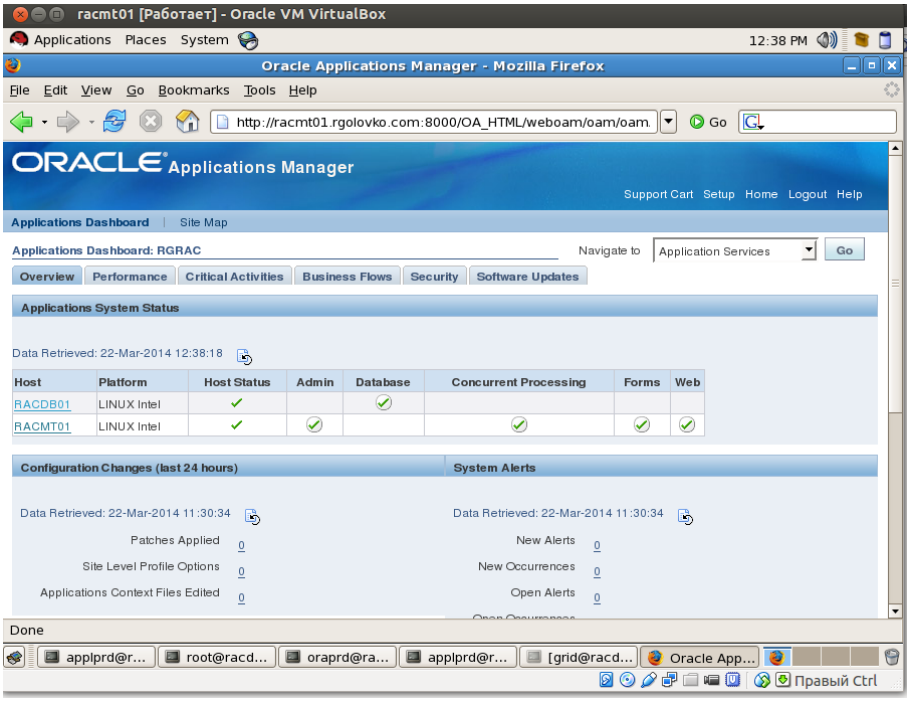
[applprd@racmt01 scripts]$ cd $ADMIN_SCRIPTS_HOME && ./adautocfg.sh

Start services:

[applprd@racmt01 scripts]$ ./adstrtal.sh apps/*****

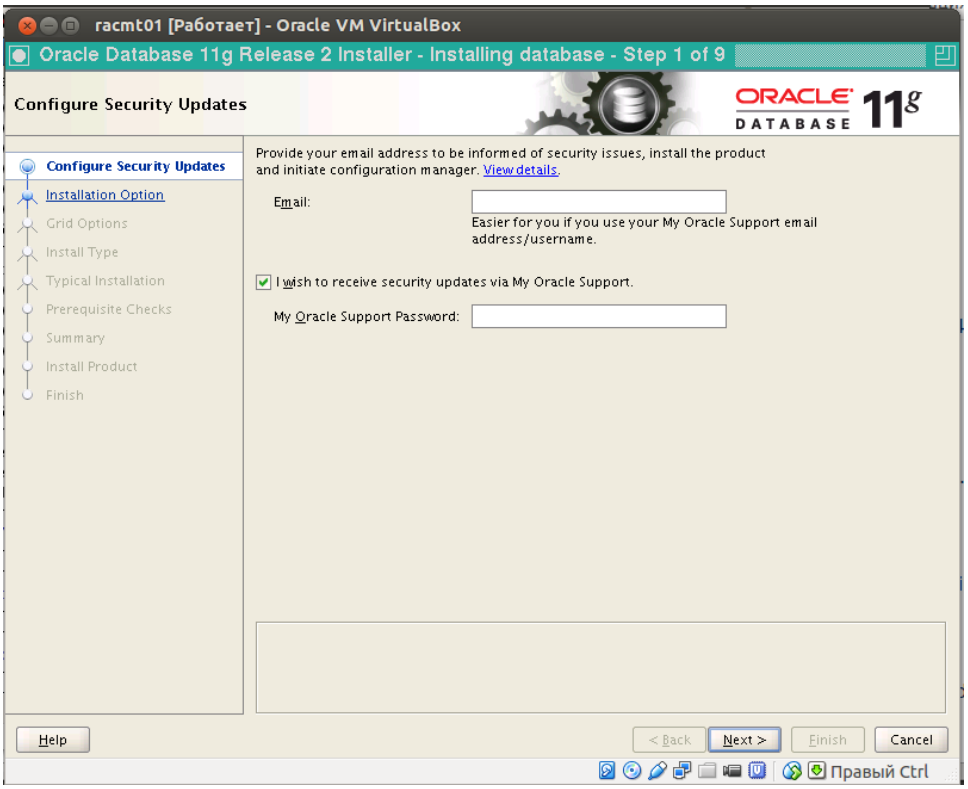


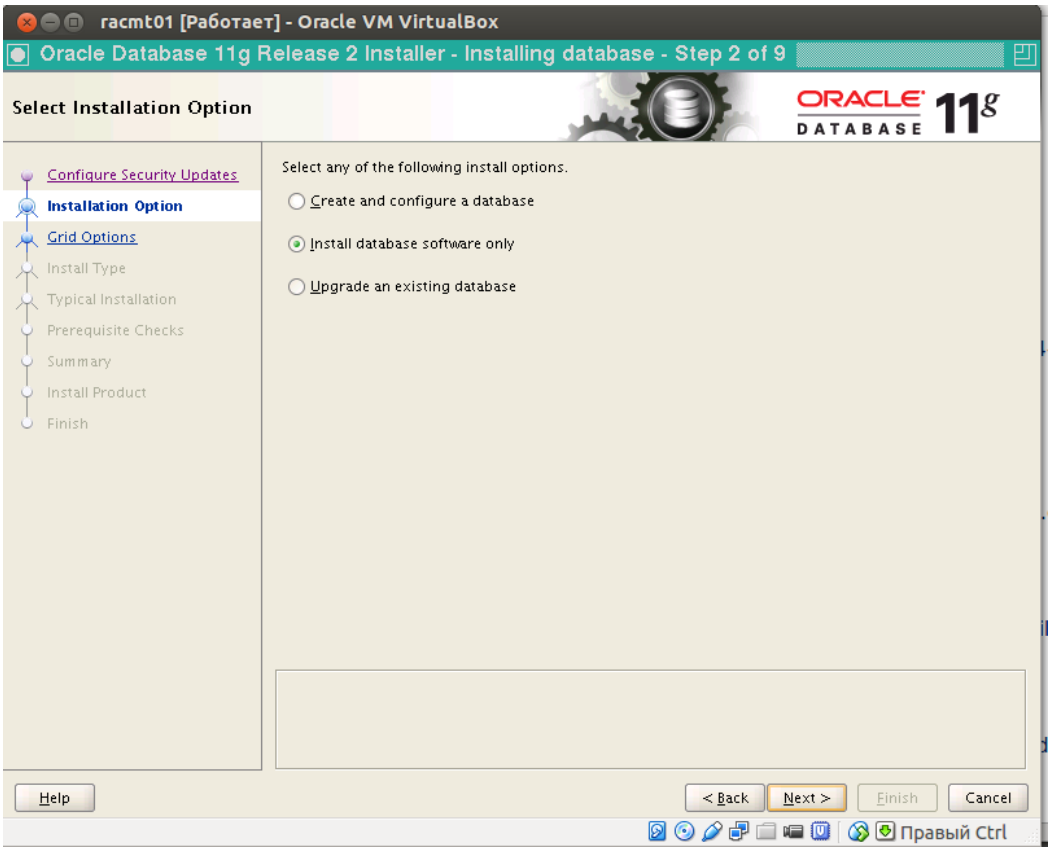


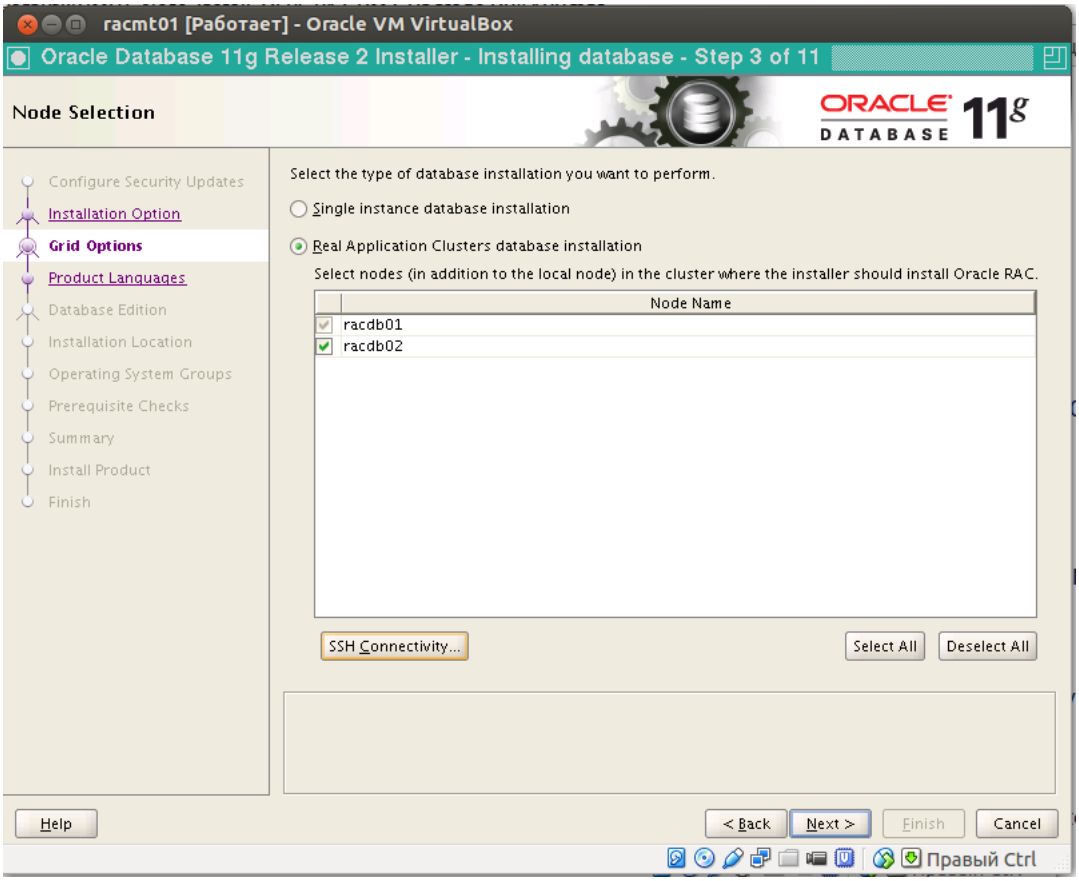


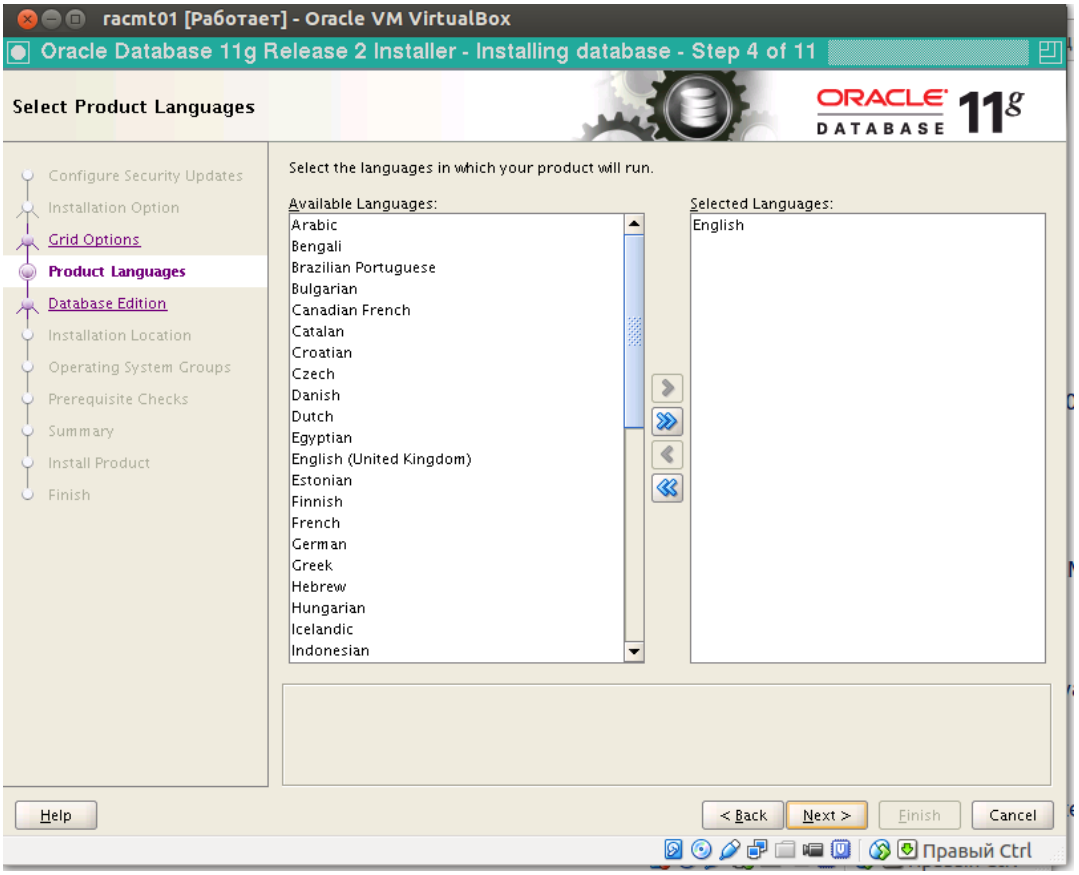
4. Installing new RDBMS 11.2.0.1

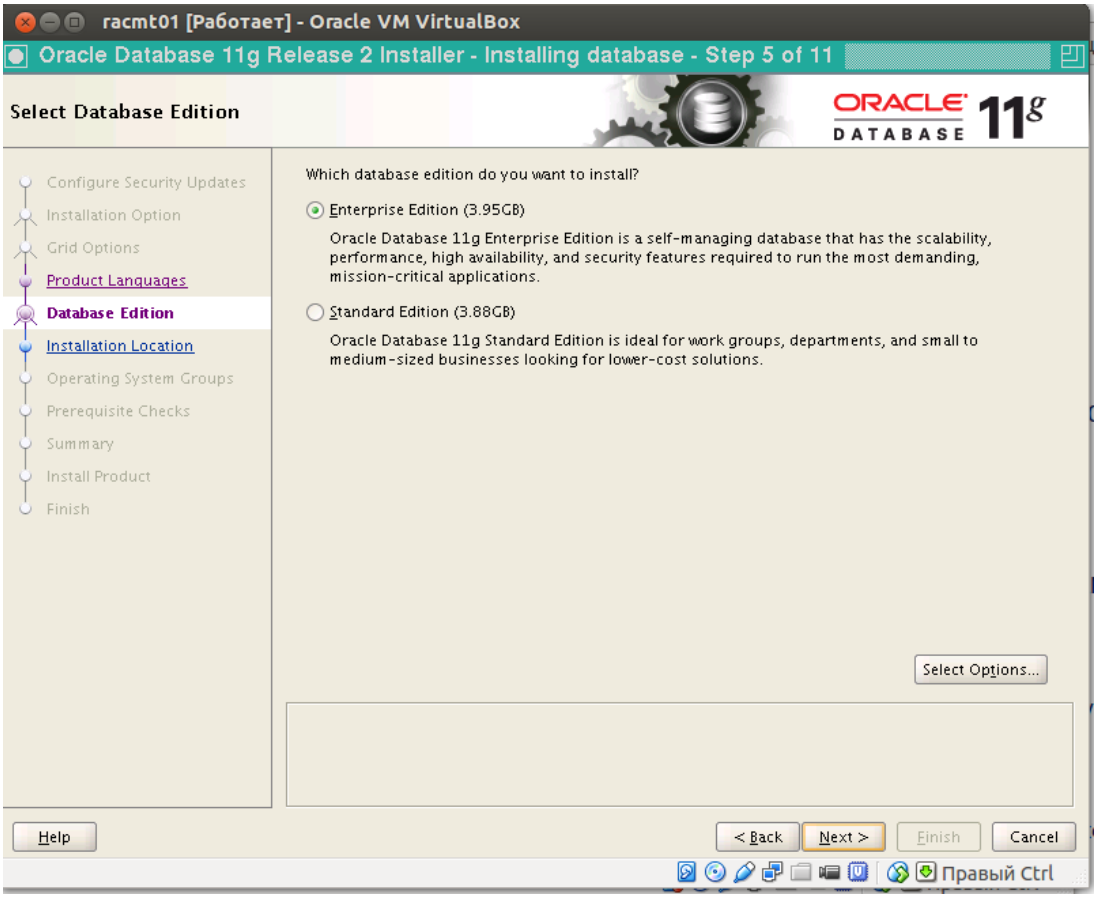
Used VNC as usual from racmt01 to racdb01:

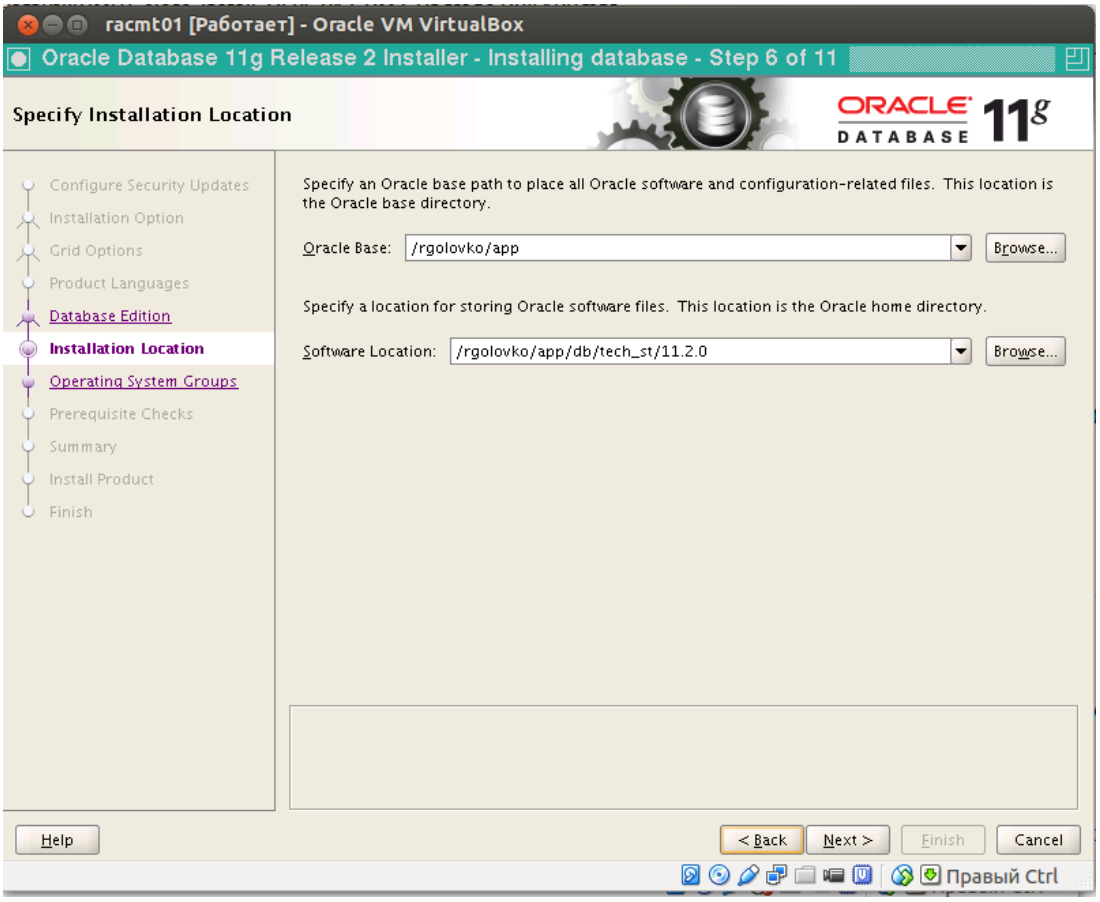


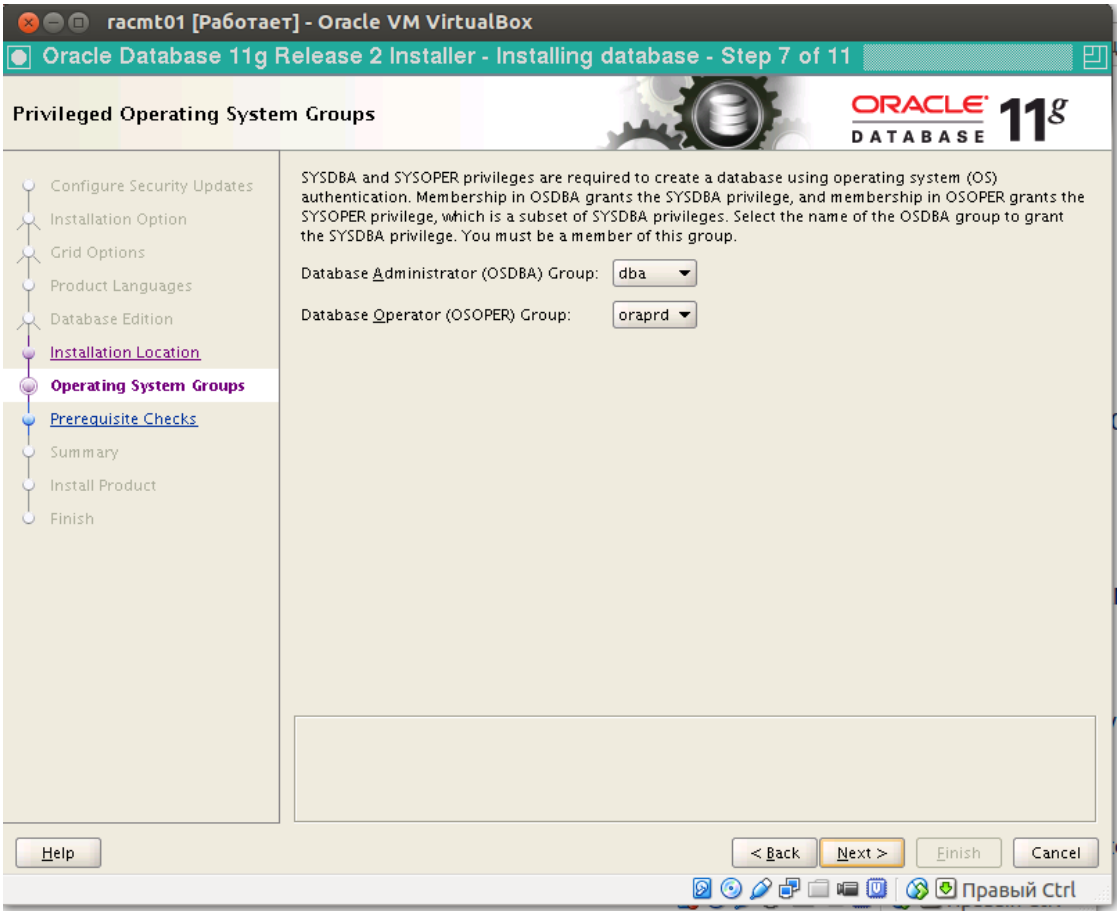


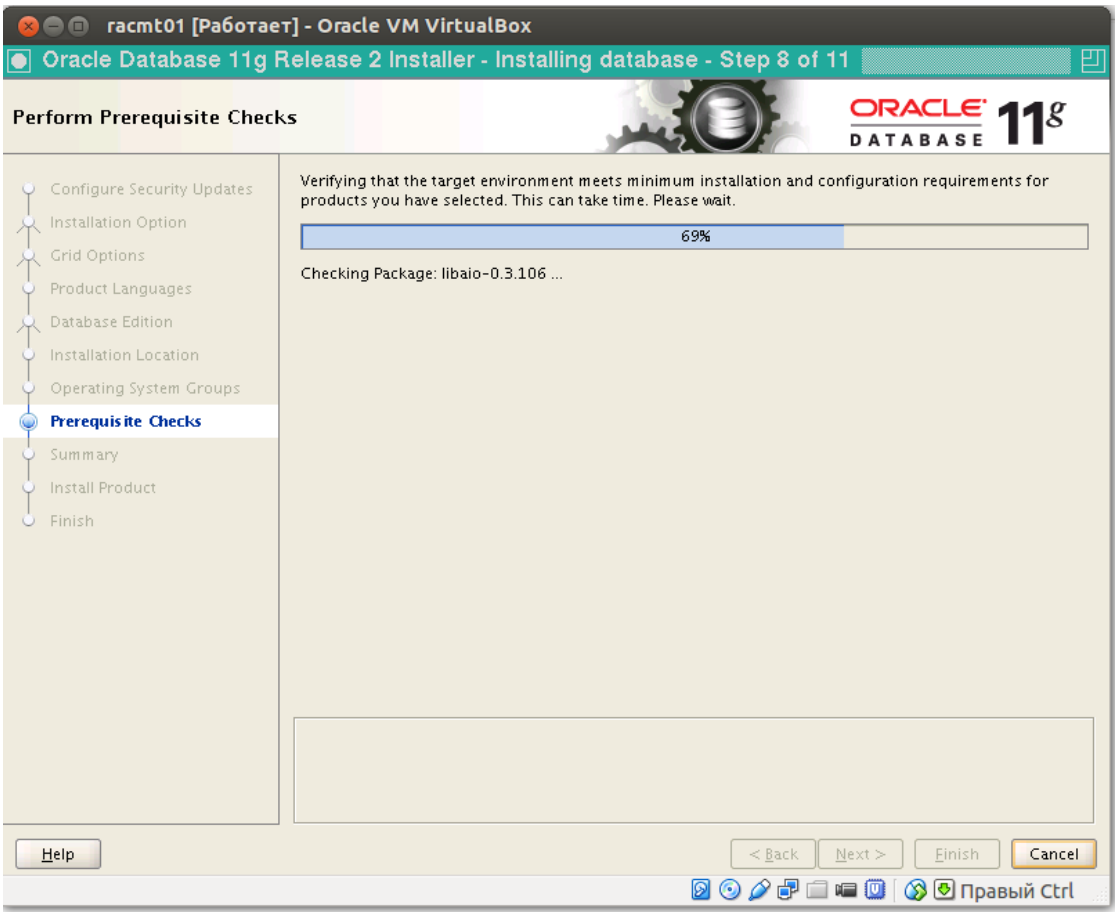

racmt01 [Работает] - Oracle VM VirtualBox
Oracle Database 11g Release 2 Installer - Installing database - Step 3 of 11
Node Selection
ORACLE DATABASE 11g
Configure Security Updates
Installation Option
Grid Options
Product Languages
Database Edition
Installation Location
Operating System Groups
Prerequisite Checks
Summary
Install Product
Finish
Select the type of database installation you want to perform.
Single instance database installation
Real Application Clusters database installation
Select nodes (in addition to the local node) in the cluster where the installer should install Oracle RAC.
Node Name
racdb01
racdb02
SSH Connectivity...
Select All
Deselect All
Help
< Back
Next >
Finish
Cancel
Правый Ctrl

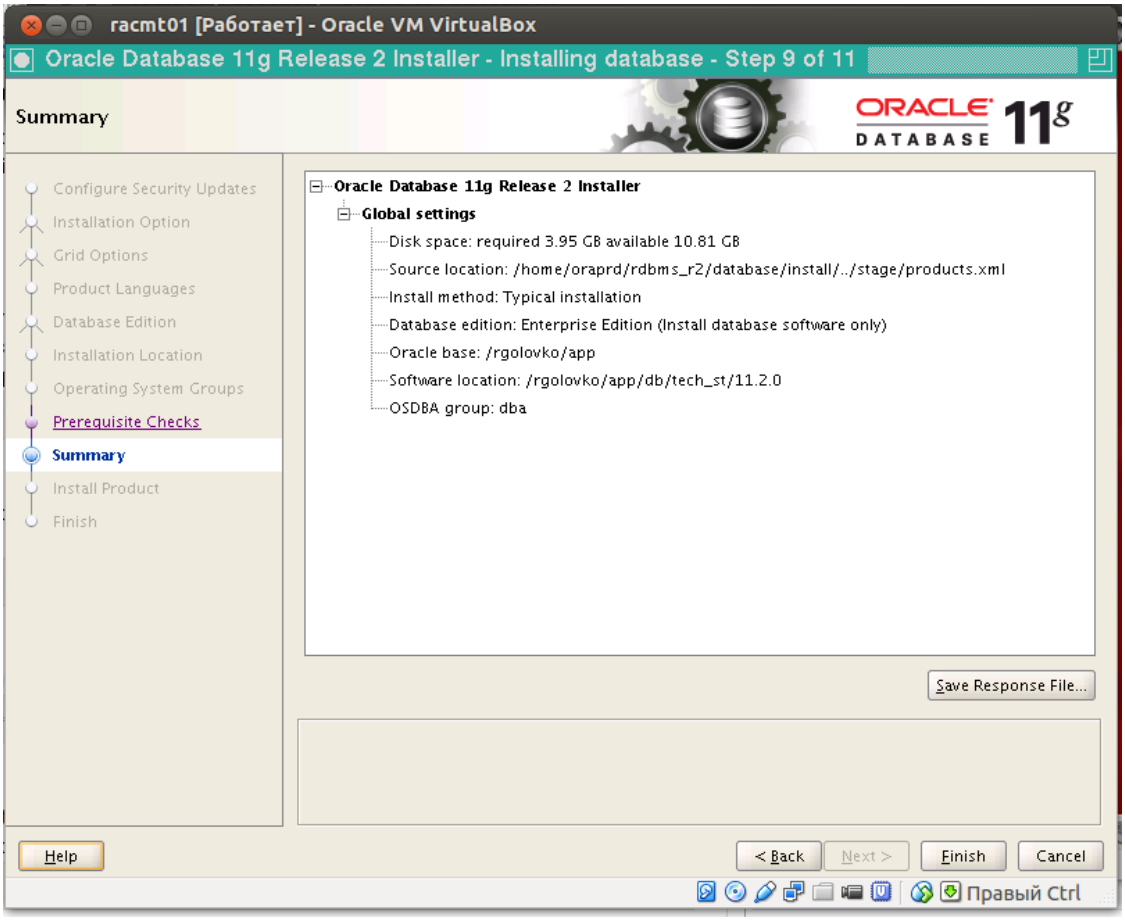

racmt01 [Работает] - Oracle VM VirtualBox
Oracle Database 11g Release 2 Installer - Installing database - Step 4 of 11
Select Product Languages
ORACLE DATABASE 11g
Configure Security Updates
Installation Option
Grid Options
Product Languages
Database Edition
Installation Location
Operating System Groups
Prerequisite Checks
Summary
Install Product
Finish
Select the languages in which your product will run.
Available Languages:
Arabic
Bengali
Brazilian Portuguese
Bulgarian
Canadian French
Catalan
Croatian
Czech
Danish
Dutch
Egyptian
English (United Kingdom)
Estonian
Finnish
French
German
Greek
Hebrew
Hungarian
Icelandic
Indonesian
Selected Languages:
English
Help
< Back
Next >
Finish
Cancel
Правый Ctrl

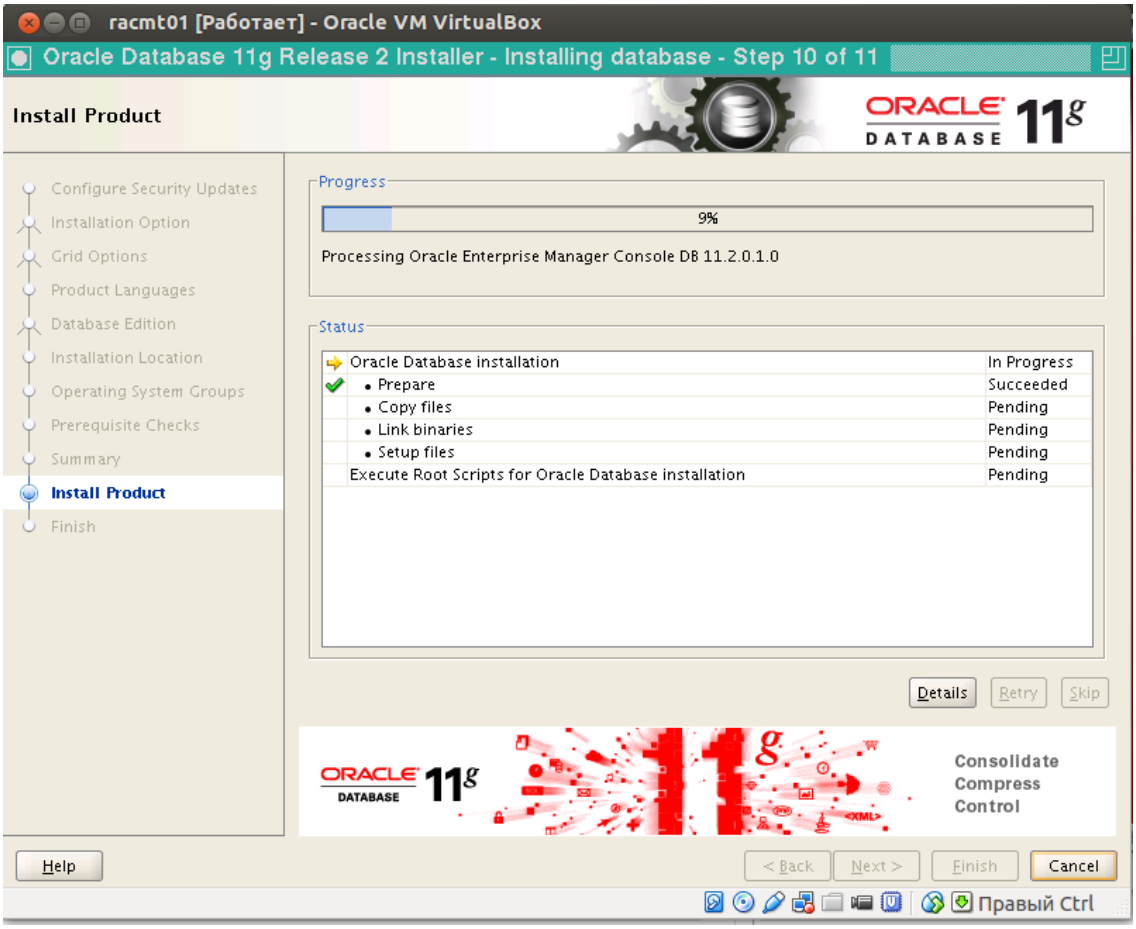

racmt01 [Работает] - Oracle VM VirtualBox
Oracle Database 11g Release 2 Installer - Installing database - Step 5 of 11
Select Database Edition
ORACLE DATABASE 11g
Configure Security Updates
Installation Option
Grid Options
Product Languages
Database Edition
Installation Location
Operating System Groups
Prerequisite Checks
Summary
Install Product
Finish
Which database edition do you want to install?
Enterprise Edition (3.95GB)
Oracle Database 11g Enterprise Edition is a self-managing database that has the scalability, performance, high availability, and security features required to run the most demanding, mission-critical applications.
Standard Edition (3.88GB)
Oracle Database 11g Standard Edition is ideal for work groups, departments, and small to medium-sized businesses looking for lower-cost solutions.
Select Options...
Help
< Back
Next >
Finish
Cancel
Правый Ctrl

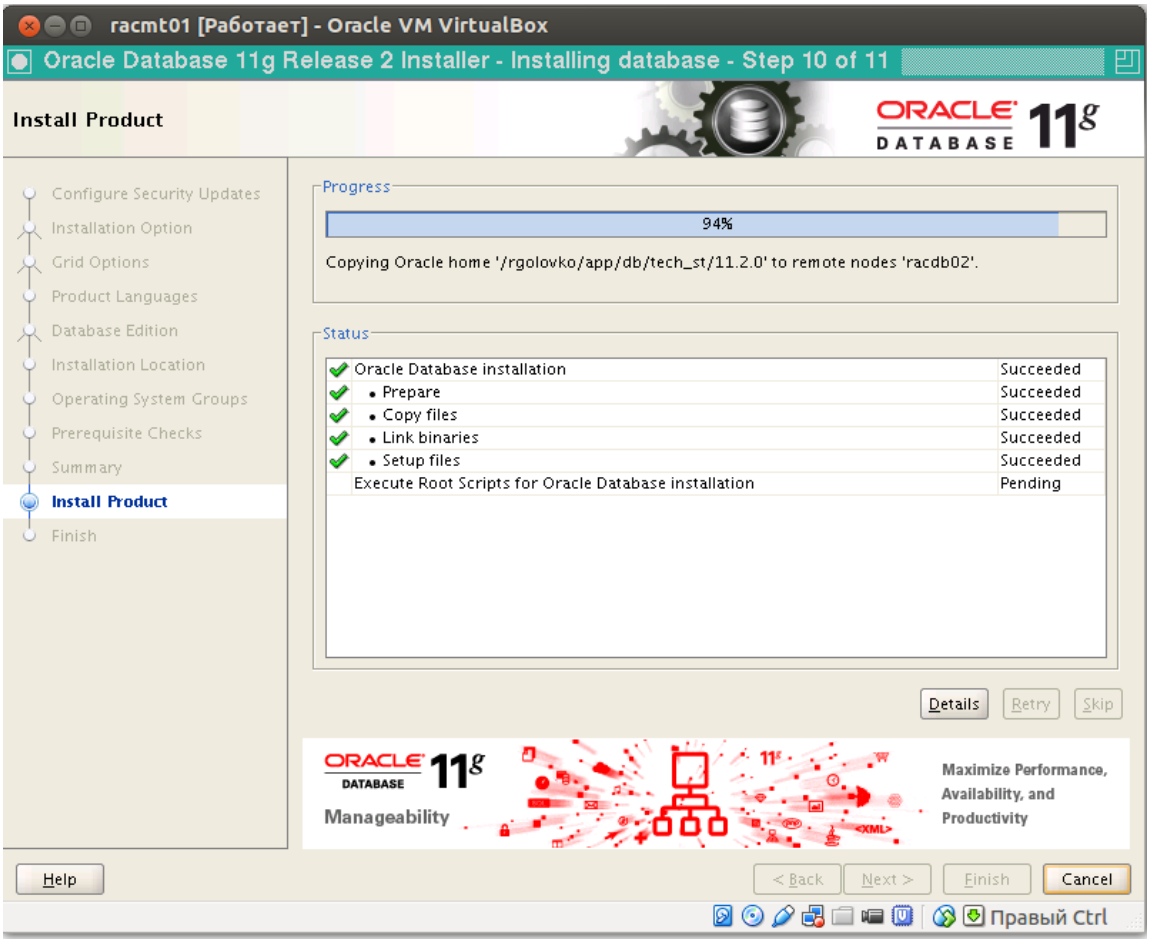

racmt01 [Работает] - Oracle VM VirtualBox
Oracle Database 11g Release 2 Installer - Installing database - Step 6 of 11
Specify Installation Location
ORACLE DATABASE 11g
Configure Security Updates
Installation Option
Grid Options
Product Languages
Database Edition
Installation Location
Operating System Groups
Prerequisite Checks
Summary
Install Product
Finish
Specify an Oracle base path to place all Oracle software and configuration-related files. This location is the Oracle base directory.
Oracle Base: /rgolovko/app
Browse...
Specify a location for storing Oracle software files. This location is the Oracle home directory.
Software Location: /rgolovko/app/db/tech_st/11.2.0
Browse...
Help
< Back
Next >
Finish
Cancel
Правый Ctrl

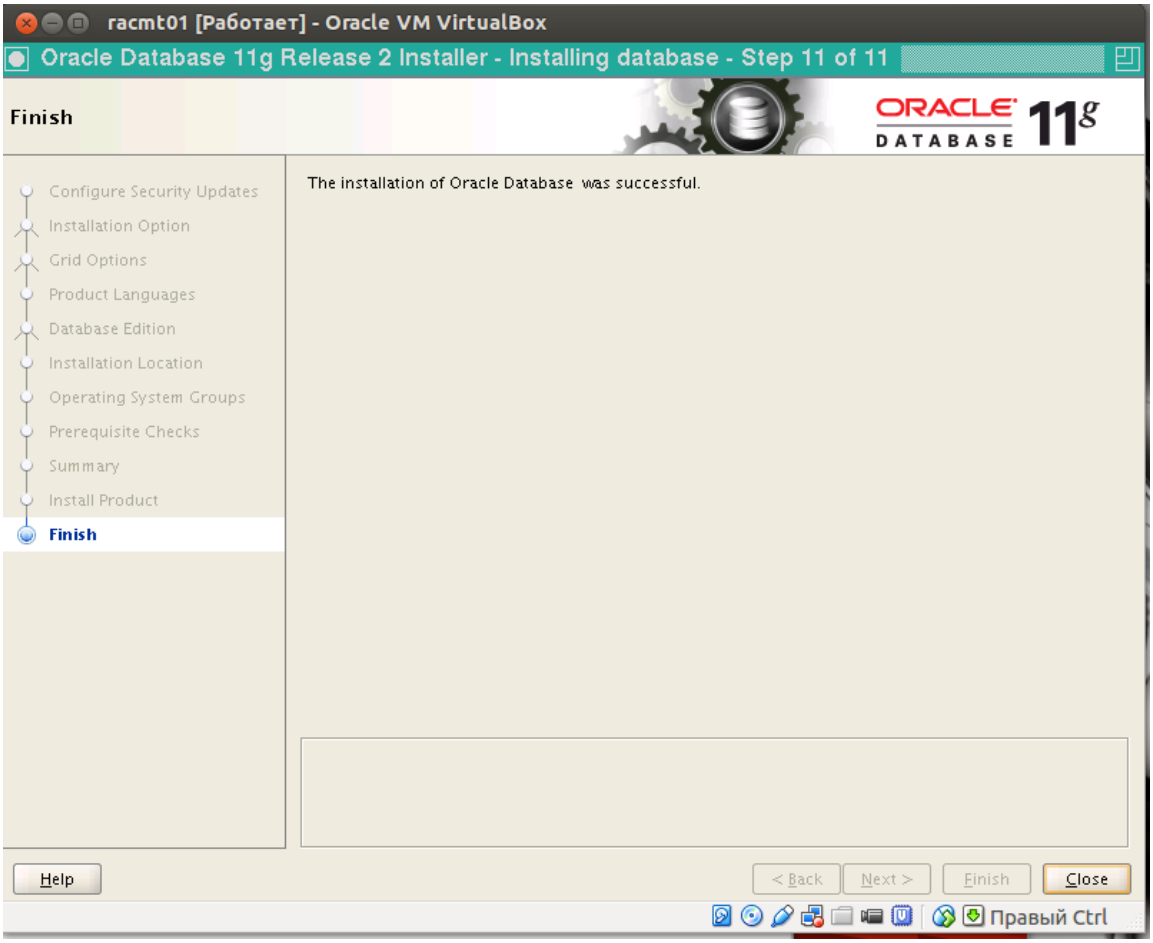

racmt01 [Работает] - Oracle VM VirtualBox
Oracle Database 11g Release 2 Installer - Installing database - Step 7 of 11
Privileged Operating System Groups
ORACLE DATABASE 11g
Configure Security Updates
Installation Option
Grid Options
Product Languages
Database Edition
Installation Location
Operating System Groups
Prerequisite Checks
Summary
Install Product
Finish
SYSDBA and SYSOPER privileges are required to create a database using operating system (OS) authentication. Membership in OSDBA grants the SYSDBA privilege, and membership in OSOPER grants the SYSOPER privilege, which is a subset of SYSDBA privileges. Select the name of the OSDBA group to grant the SYSDBA privilege. You must be a member of this group.
Database Administrator (OSDBA) Group: dba
Database Operator (OSOPER) Group: oraprd
Help
< Back
Next >
Finish
Cancel
Правый Ctrl

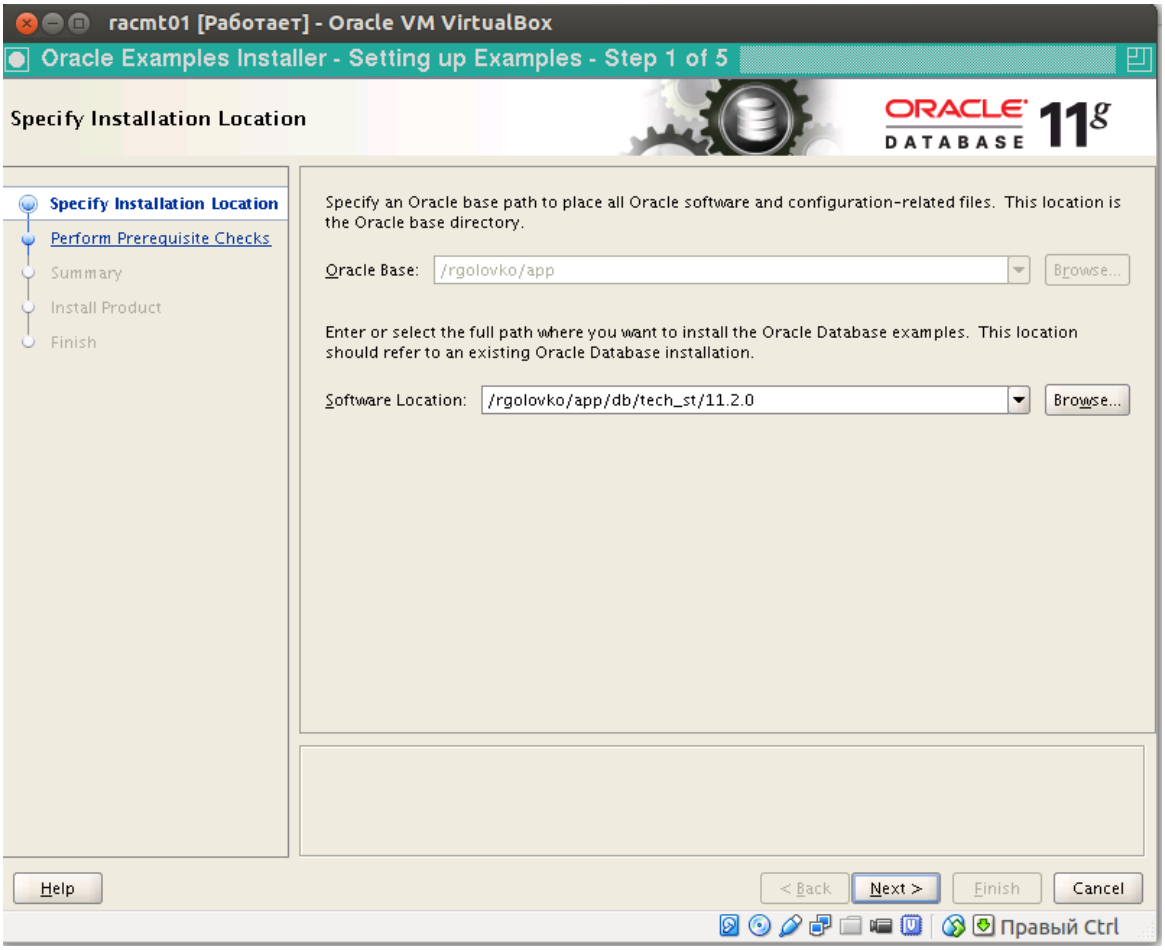

racmt01 [Работает] - Oracle VM VirtualBox
Oracle Database 11g Release 2 Installer - Installing database - Step 8 of 11
Perform Prerequisite Checks
ORACLE DATABASE 11g
Configure Security Updates
Installation Option
Grid Options
Product Languages
Database Edition
Installation Location
Operating System Groups
Prerequisite Checks
Summary
Install Product
Finish
Verifying that the target environment meets minimum installation and configuration requirements for products you have selected. This can take time. Please wait.
69%
Checking Package: libaio-0.3.106 ...
Help
< Back
Next >
Finish
Cancel
Правый Ctrl

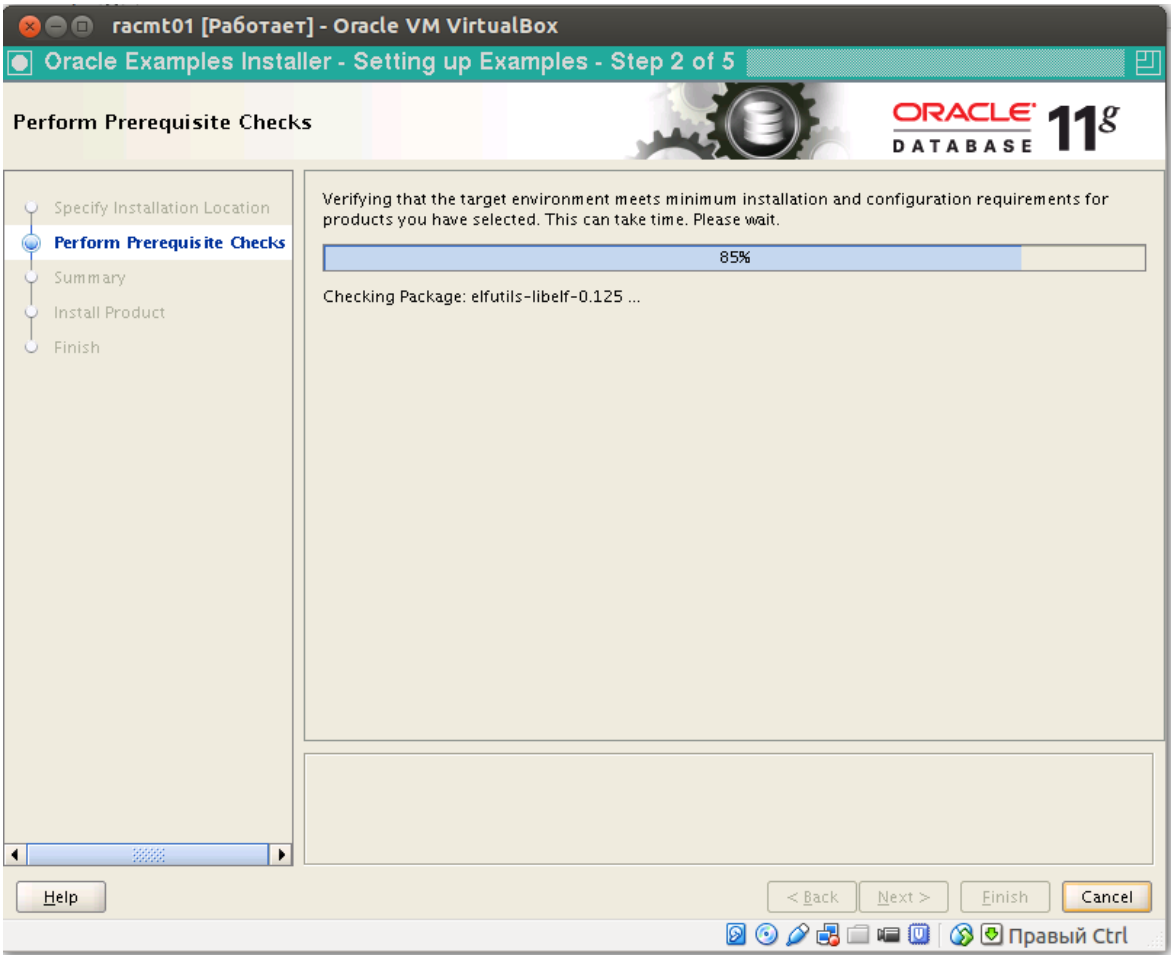

racmt01 [Работает] - Oracle VM VirtualBox
Oracle Database 11g Release 2 Installer - Installing database - Step 9 of 11
Summary
ORACLE DATABASE 11g
Configure Security Updates
Installation Option
Grid Options
Product Languages
Database Edition
Installation Location
Operating System Groups
Prerequisite Checks
Summary
Install Product
Finish
Oracle Database 11g Release 2 Installer
Global settings
Disk space: required 3.95 GB available 10.81 GB
Source location: /home/oraprd/rdbms_r2/database/install/../stage/products.xml
Install method: Typical installation
Database edition: Enterprise Edition (Install database software only)
Oracle base: /rgolovko/app
Software location: /rgolovko/app/db/tech_st/11.2.0
OSDBA group: dba
Save Response File...
Help
< Back
Next >
Finish
Cancel
Правый Ctrl

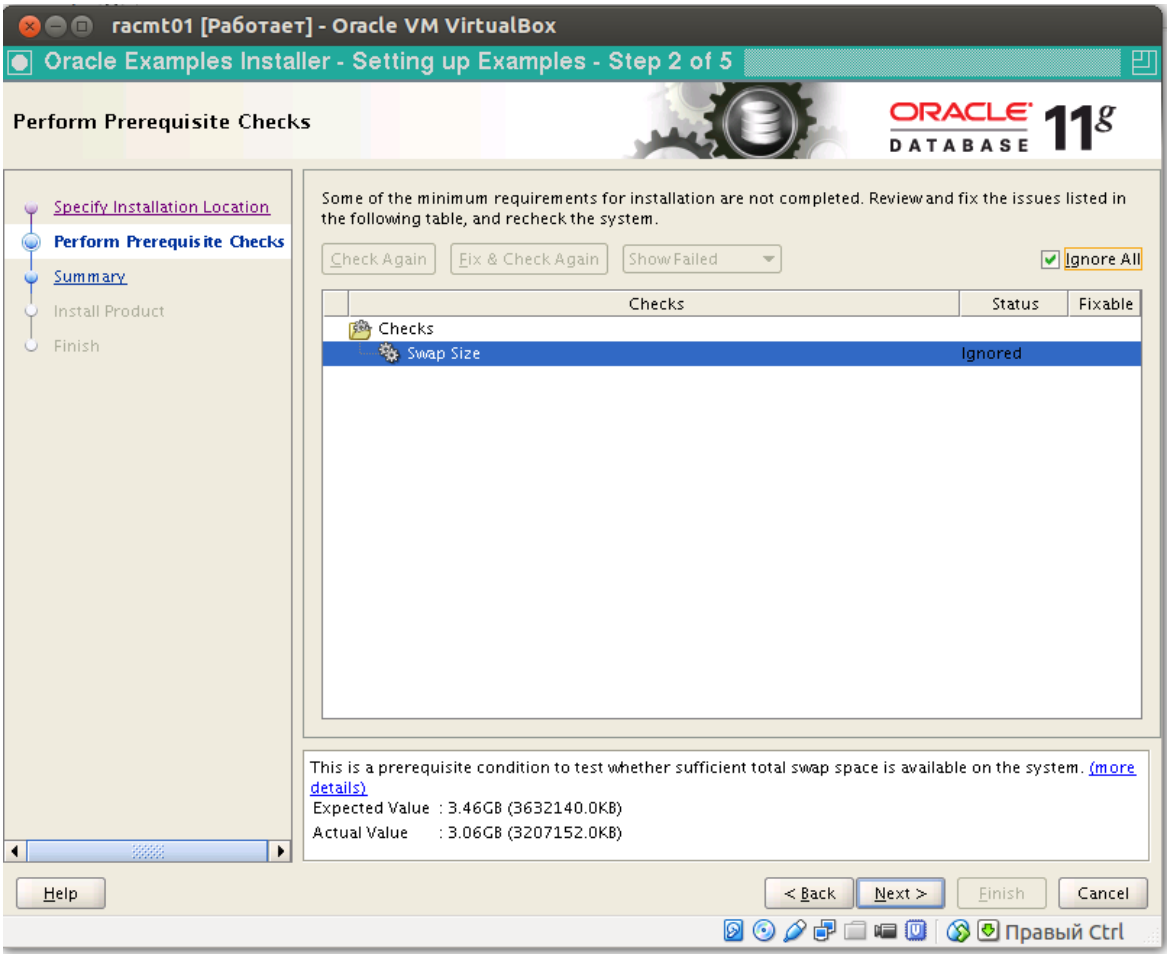

racmt01 [Работает] - Oracle VM VirtualBox
Oracle Database 11g Release 2 Installer - Installing database - Step 10 of 11
Install Product
ORACLE DATABASE 11g
Configure Security Updates
Installation Option
Grid Options
Product Languages
Database Edition
Installation Location
Operating System Groups
Prerequisite Checks
Summary
Install Product
Finish
Progress
9%
Processing Oracle Enterprise Manager Console DB 11.2.0.1.0
Status
Oracle Database installation
In Progress
Prepare
Succeeded
Copy files
Pending
Link binaries
Pending
Setup files
Pending
Execute Root Scripts for Oracle Database installation
Pending
Details
Retry
Skip
ORACLE DATABASE 11g
Consolidate
Compress
Control
Help
< Back
Next >
Finish
Cancel
Правый Ctrl

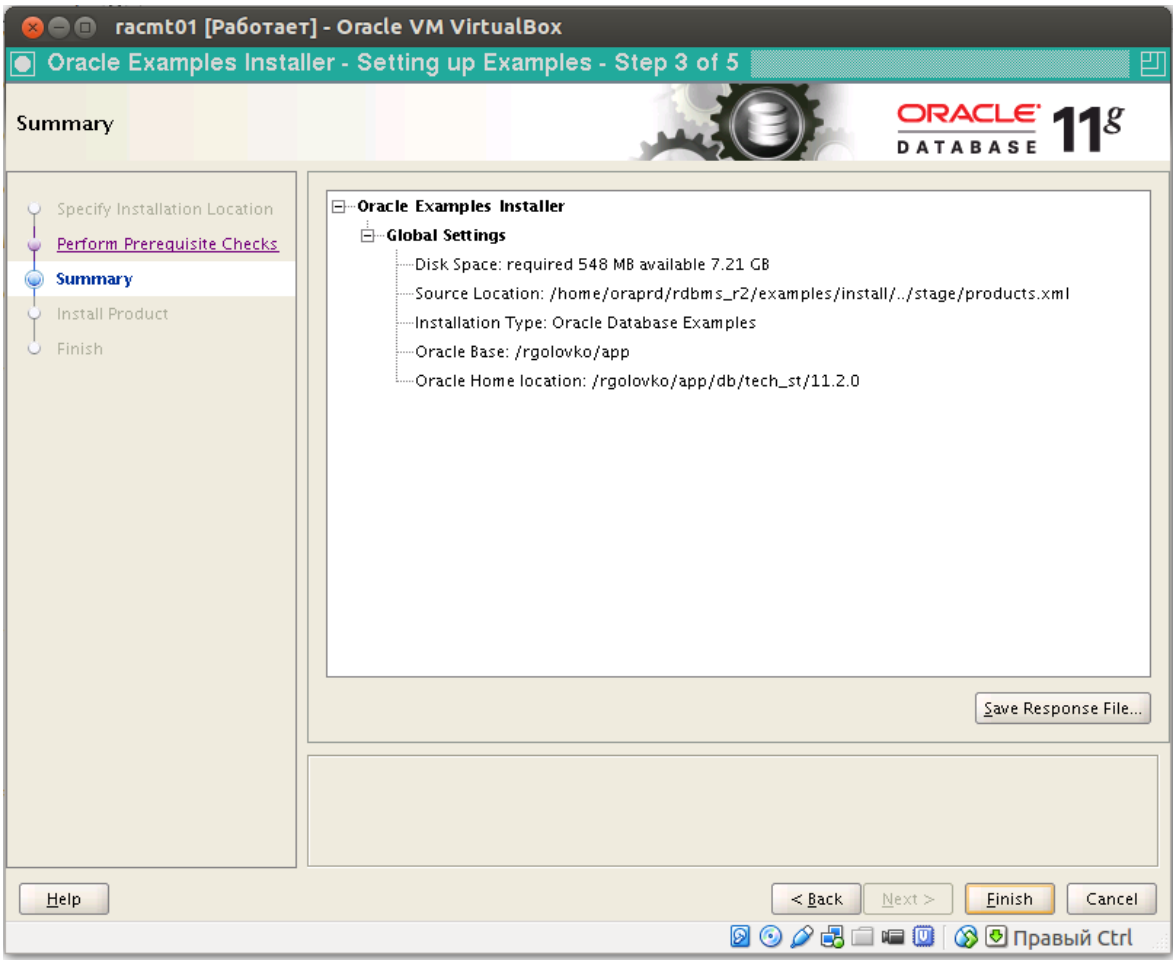

racmt01 [Работает] - Oracle VM VirtualBox
Oracle Database 11g Release 2 Installer - Installing database - Step 10 of 11
Install Product
ORACLE DATABASE 11g
Configure Security Updates
Installation Option
Grid Options
Product Languages
Database Edition
Installation Location
Operating System Groups
Prerequisite Checks
Summary
Install Product
Finish
Progress
94%
Copying Oracle home '/rgolovko/app/db/tech_st/11.2.0' to remote nodes 'racdb02'.
Status
Oracle Database installation Succeeded
• Prepare Succeeded
• Copy files Succeeded
• Link binaries Succeeded
• Setup files Succeeded
Execute Root Scripts for Oracle Database installation Pending
Details
Retry
Skip
ORACLE DATABASE 11g
Manageability
Maximize Performance, Availability, and Productivity
Help
< Back
Next >
Finish
Cancel
Правый Ctrl

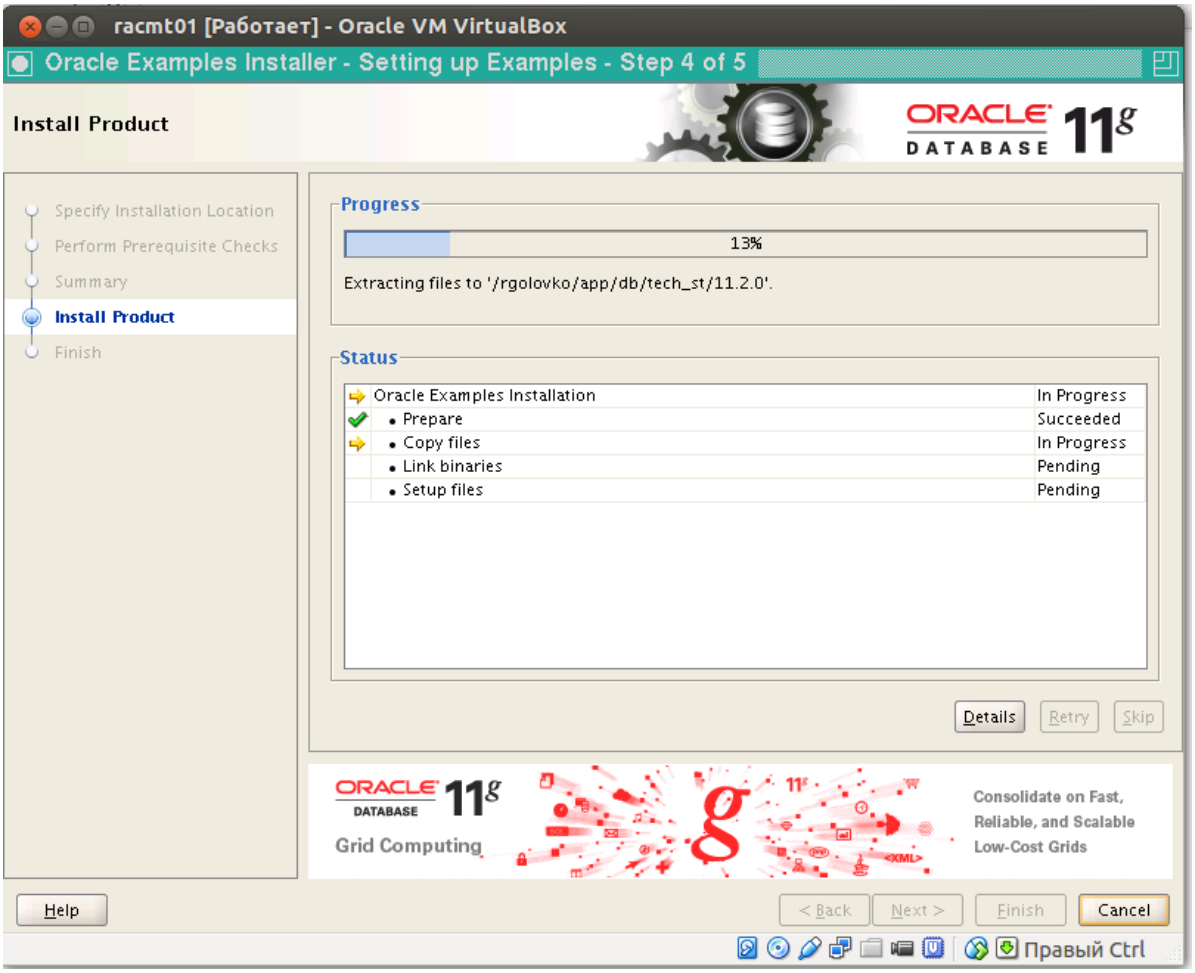

racmt01 [Работает] - Oracle VM VirtualBox
Oracle Database 11g Release 2 Installer - Installing database - Step 11 of 11
Finish
ORACLE DATABASE 11g
Configure Security Updates
Installation Option
Grid Options
Product Languages
Database Edition
Installation Location
Operating System Groups
Prerequisite Checks
Summary
Install Product
Finish
The installation of Oracle Database was successful.
Help
< Back
Next >
Finish
Close
Правый Ctrl

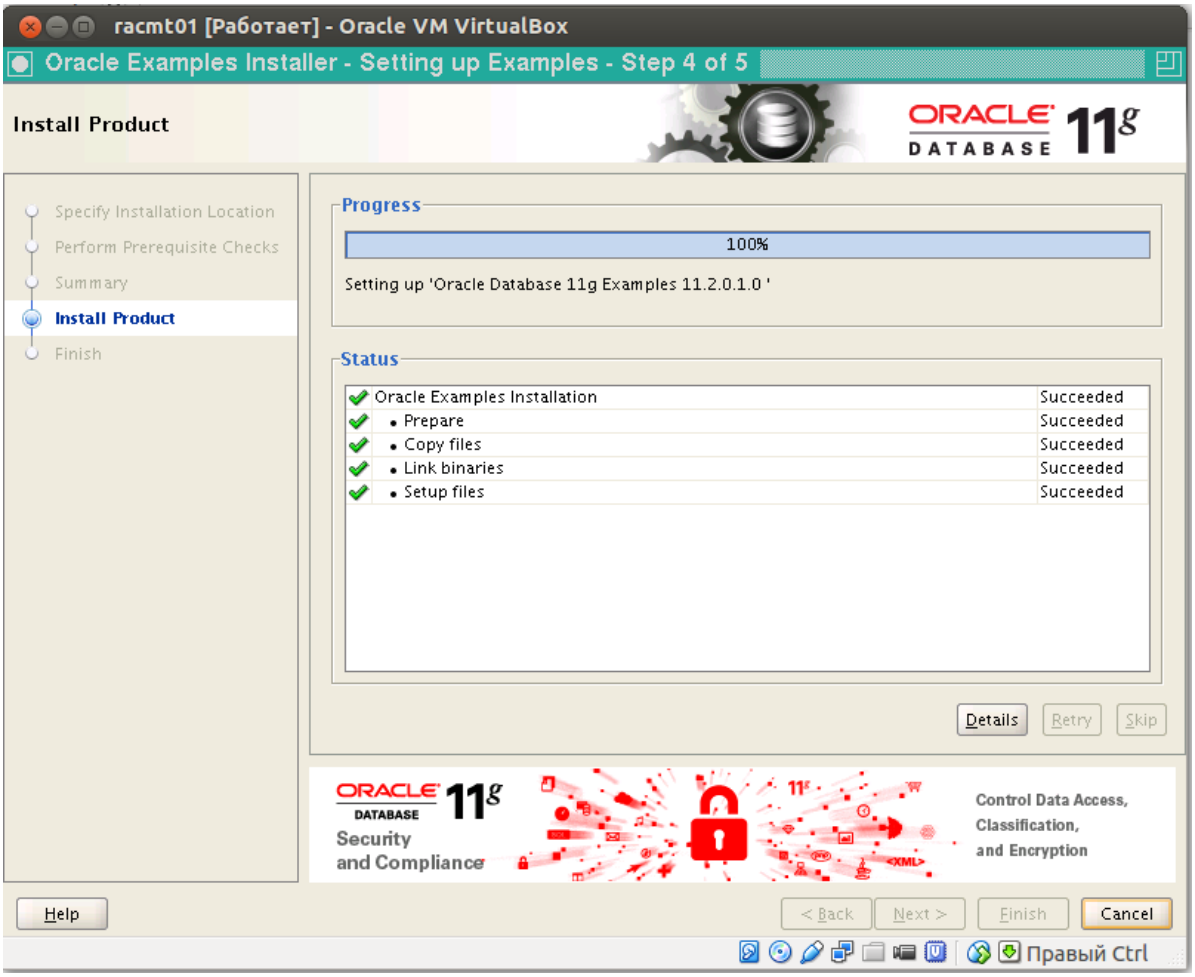

racmt01 [Работает] - Oracle VM VirtualBox
Oracle Examples Installer - Setting up Examples - Step 1 of 5
Specify Installation Location
ORACLE DATABASE 11g
Specify Installation Location
Perform Prerequisite Checks
Summary
Install Product
Finish
Specify an Oracle base path to place all Oracle software and configuration-related files. This location is the Oracle base directory.
Oracle Base: /rgolovko/app
Browse...
Enter or select the full path where you want to install the Oracle Database examples. This location should refer to an existing Oracle Database installation.
Software Location: /rgolovko/app/db/tech_st/11.2.0
Browse...
Help
< Back
Next >
Finish
Cancel
Правый Ctrl

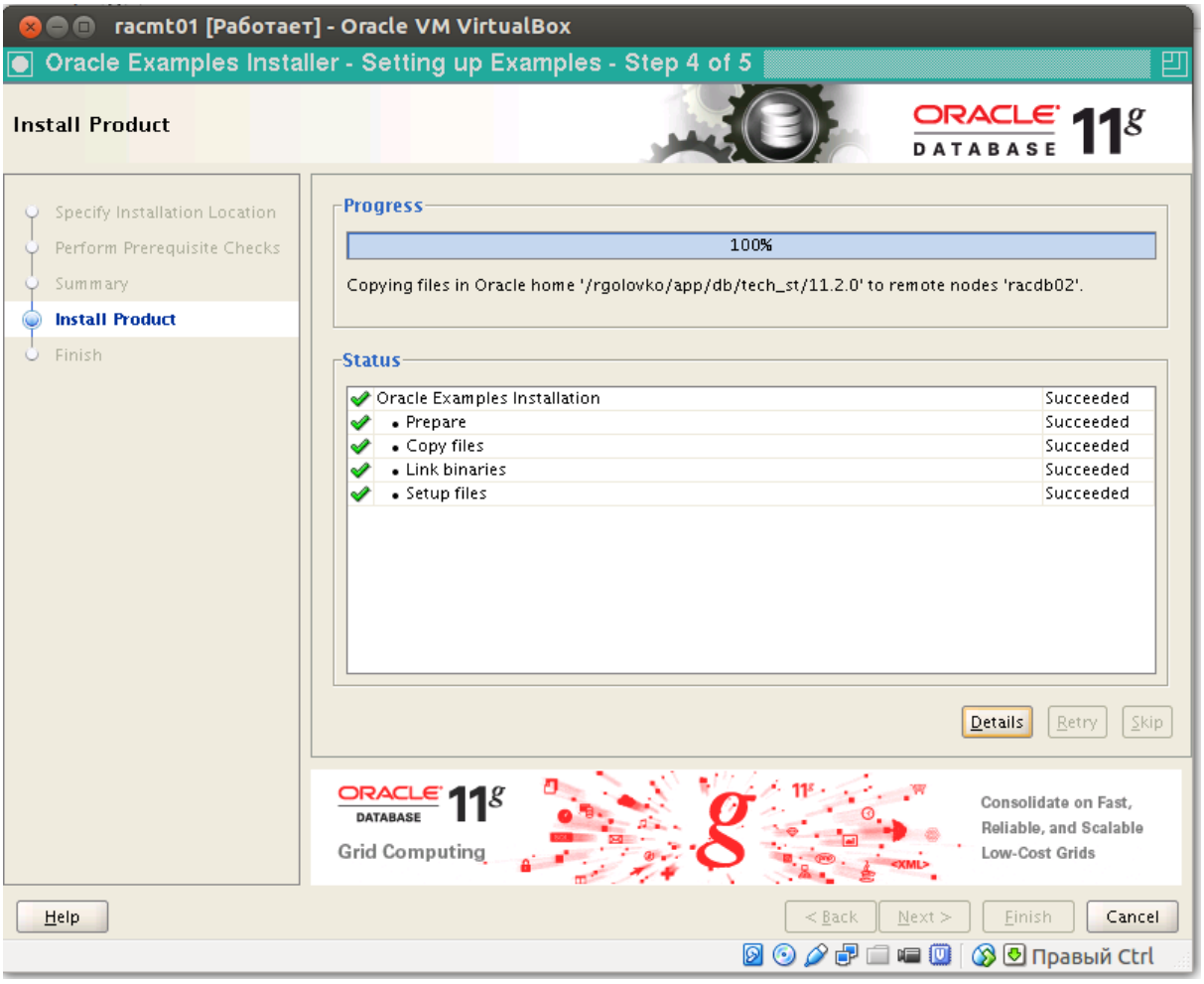

racmt01 [Работает] - Oracle VM VirtualBox
Oracle Examples Installer - Setting up Examples - Step 2 of 5
Perform Prerequisite Checks
ORACLE DATABASE 11g
Specify Installation Location
Perform Prerequisite Checks
Summary
Install Product
Finish
Verifying that the target environment meets minimum installation and configuration requirements for products you have selected. This can take time. Please wait.
85%
Checking Package: elfutils-libelf-0.125 ...
Help
< Back
Next >
Finish
Cancel
Правый Ctrl

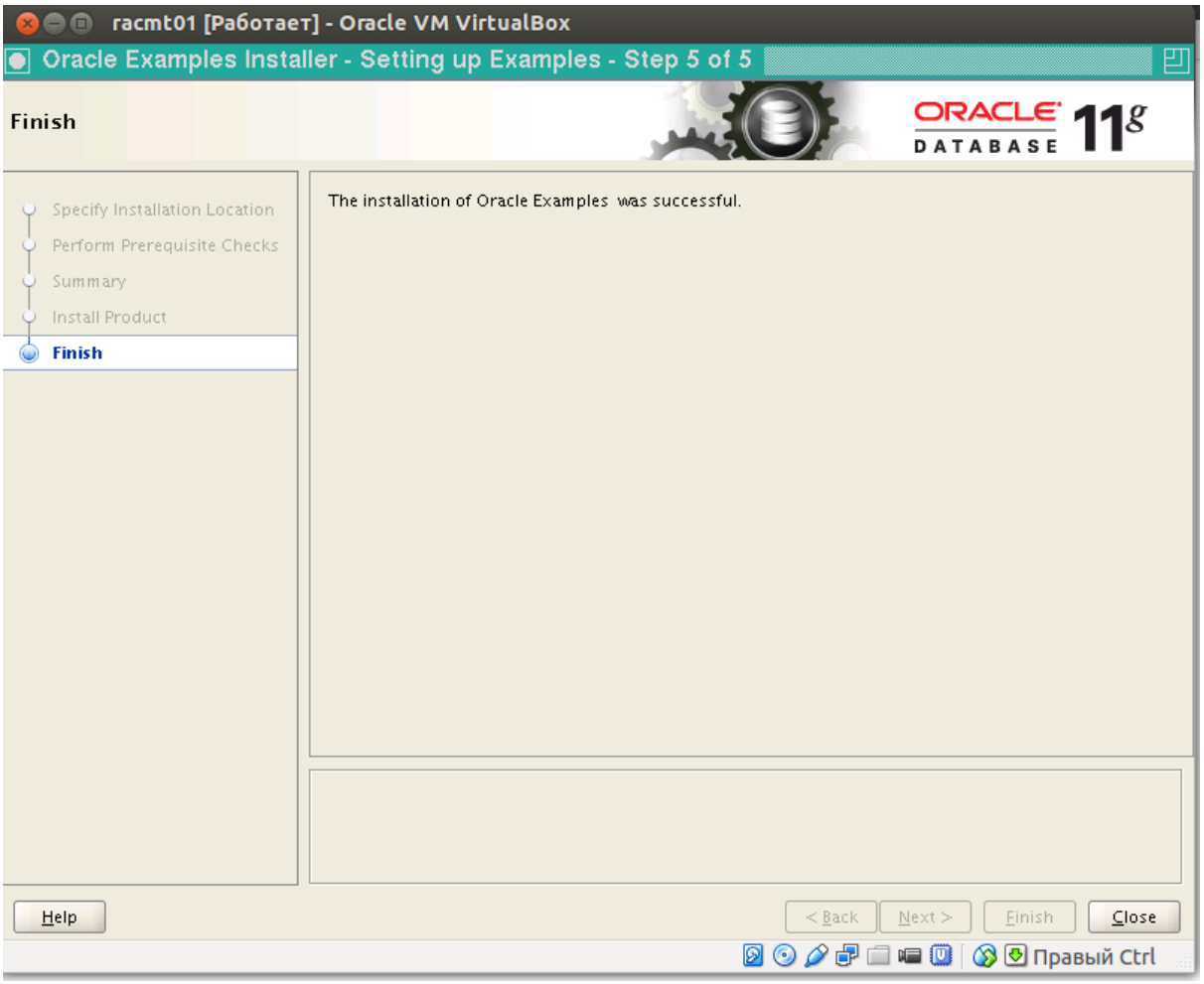

racmt01 [Работает] - Oracle VM VirtualBox
Oracle Examples Installer - Setting up Examples - Step 2 of 5
Perform Prerequisite Checks
ORACLE DATABASE 11g
Specify Installation Location
Perform Prerequisite Checks
Summary
Install Product
Finish
Some of the minimum requirements for installation are not completed. Review and fix the issues listed in the following table, and recheck the system.
Check Again
Fix & Check Again
Show Failed
Ignore All
Checks
Status
Fixable
Checks
Swap Size
Ignored
This is a prerequisite condition to test whether sufficient total swap space is available on the system. (more details)
Expected Value : 3.46GB (3632140.0KB)
Actual Value : 3.06GB (3207152.0KB)
Help
< Back
Next >
Finish
Cancel
Правый Ctrl


racmt01 [Работает] - Oracle VM VirtualBox
Oracle Examples Installer - Setting up Examples - Step 3 of 5
Summary
ORACLE DATABASE 11g
Specify Installation Location
Perform Prerequisite Checks
Summary
Install Product
Finish
Oracle Examples Installer
Global Settings
Disk Space: required 548 MB available 7.21 GB
Source Location: /home/oraprd/rdbms_r2/examples/install/../stage/products.xml
Installation Type: Oracle Database Examples
Oracle Base: /rgolovko/app
Oracle Home location: /rgolovko/app/db/tech_st/11.2.0
Save Response File...
Help
< Back
Next >
Finish
Cancel
Правый Ctrl


racmt01 [Работает] - Oracle VM VirtualBox
Oracle Examples Installer - Setting up Examples - Step 4 of 5
Install Product
ORACLE 11g DATABASE
Specify Installation Location
Perform Prerequisite Checks
Summary
Install Product
Finish
Progress
13%
Extracting files to '/rgolovko/app/db/tech_st/11.2.0'.
Status
Oracle Examples Installation In Progress
• Prepare Succeeded
• Copy files In Progress
• Link binaries Pending
• Setup files Pending
Details
Retry
Skip
ORACLE 11g DATABASE
Grid Computing
Consolidate on Fast, Reliable, and Scalable Low-Cost Grids
Help
< Back
Next >
Finish
Cancel
Правый Ctrl


racmt01 [Работает] - Oracle VM VirtualBox
Oracle Examples Installer - Setting up Examples - Step 4 of 5
Install Product
ORACLE 11g DATABASE
Specify Installation Location
Perform Prerequisite Checks
Summary
Install Product
Finish
Progress
100%
Setting up 'Oracle Database 11g Examples 11.2.0.1.0 '
Status
Oracle Examples Installation Succeeded
• Prepare Succeeded
• Copy files Succeeded
• Link binaries Succeeded
• Setup files Succeeded
Details
Retry
Skip
ORACLE 11g DATABASE
Security and Compliance
Control Data Access, Classification, and Encryption
Help
< Back
Next >
Finish
Cancel
Правый Ctrl


racmt01 [Работает] - Oracle VM VirtualBox
Oracle Examples Installer - Setting up Examples - Step 4 of 5
Install Product
ORACLE DATABASE 11g
Specify Installation Location
Perform Prerequisite Checks
Summary
Install Product
Finish
Progress
100%
Copying files in Oracle home '/rgolovko/app/db/tech_st/11.2.0' to remote nodes 'racdb02'.
Status
Oracle Examples Installation Succeeded
• Prepare Succeeded
• Copy files Succeeded
• Link binaries Succeeded
• Setup files Succeeded
Details
Retry
Skip
ORACLE DATABASE 11g
Grid Computing
Consolidate on Fast, Reliable, and Scalable Low-Cost Grids
Help
< Back
Next >
Finish
Cancel
Правый Ctrl


racmt01 [Работает] - Oracle VM VirtualBox
Oracle Examples Installer - Setting up Examples - Step 5 of 5
Finish
ORACLE DATABASE 11g
Specify Installation Location
Perform Prerequisite Checks
Summary
Install Product
Finish
The installation of Oracle Examples was successful.
Help
< Back
Next >
Finish
Close
Правый Ctrl

5. Upgrade database.

Preparing for upgrade (PPA):

##

[-] 9868229 - (10.4 KB) - CST_LAYER_ACTUAL_COST_DTLS_V BECOMES INVALID AFTER 11.2.0.2 UPGRADE

[-] 10163753 - (14.6 KB) - APPSST11202: BIV_B_AGE_H_SUM_MV FAILS DURING INDEX CREATION

[-] 9062910 - (57.7 KB) - INTEROPERABILITY PATCH FOR R12.1.1 ON 11.2 RDBMS

[-] 8919489 - (27.6 MB) - R12.TXK.B.delta.3: Oracle E-Business Suite Techstack 12.1.3 Product Release Update Pack

[-] 11071569 - (35.4 KB) - TCH11202:ADBLDXML FAILS ON

[-] 9583541 - (7.8 KB) - ISSUES WITH ENHANCEMENTS FOR ADOPMNCTL.SH VIA BUG 9394597

[+] 8919489 - (27.6 MB) - R12.TXK.B.delta.3

Post steps/checks:

Patch 9868229:

~~~~~~~~~~~~~~~

$BOM_TOP/patch/115/odf cstfifo.odf 120.1.12010000.2

Patch 8919489:

~~~~~~~~~~~~~~~

Mandatory post-install patch(es):

- Apply patch 9583541:R12.TXK.B (Skip this step if already merged and applied along with 8919489 R12.TXK.B.Delta.3)

1. Update the RDBMS ORACLE_HOME file system with the AutoConfig files by performing the following steps:

1.1. On the Application Tier (as the APPLPRD user):

1.1.1. Source the environment file.

1.1.2. Create the appsutil.zip file by executing:

perl $AD_TOP/bin/admkappsutil.pl

This will create appsutil.zip under $INST_TOP/admin/out

1.2. On the Database Tier (as the ORAPRD user):

1.2.1. Copy the appsutil.zip file to the <RDBMS ORACLE_HOME>

1.2.2. cd <RDBMS ORACLE_HOME>

1.2.3. unzip -o appsutil.zip

1.2.4. Run AutoConfig by executing:

<RDBMS_ORACLE_HOME>/appsutil/scripts/<CONTEXT_NAME>/adautocfg.sh

2. Run AutoConfig

##

Summary:

##

9868229 - (10.4 KB) - CST_LAYER_ACTUAL_COST_DTLS_V BECOMES INVALID AFTER 11.2.0.2 UPGRADE

10163753 - (14.6 KB) - APPSST11202: BIV_B_AGE_H_SUM_MV FAILS DURING INDEX CREATION

9062910 - (57.7 KB) - INTEROPERABILITY PATCH FOR R12.1.1 ON 11.2 RDBMS

8919489 - (27.6 MB) - R12.TXK.B.delta.3: Oracle E-Business Suite Techstack 12.1.3 Product Release Update Pack

11071569 - (35.4 KB) - TCH11202:ADBLDXML FAILS ON

9583541 - (7.8 KB) - ISSUES WITH ENHANCEMENTS FOR ADOPMNCTL.SH VIA BUG 9394597

##

PATCHING

##

select UPPER(b.NODE_NAME) as "Node Name",UPPER(a.name) as "APPL_TOP Name" from APPLSYS.FND_APPL_TOPS a,apps.fnd_nodes b where a.NODE_ID=b.NODE_ID;

Node Name APPL_TOP Name

---------- ----------

RACMT01 RACMT01

Invalid objects before upgrade:

~~~~~~

SQL> select count(*) from all_objects where status <>'VALID';

  COUNT(*)

         3

sqlplus apps/***** @$AD_TOP/patch/115/sql/adsetmmd.sql ENABLE

SQL> select fnd_profile.value('APPS_MAINTENANCE_MODE') as status from dual;

STATUS

MAINT

[applprd@racmt01 9868229]$ egrep -i 'ap-|ac-|error|ora-'
/rgolovko/apps/apps_st/appl/admin/RGRAC/log/adpatch.log

   0 files had fatal errors.

[applprd@racmt01 10163753]$ egrep -i 'ap-|ac-|error|ora-'
/rgolovko/apps/apps_st/appl/admin/RGRAC/log/adpatch.log

   0 files had fatal errors.

[applprd@racmt01 9062910]$ egrep -i 'ap-|ac-|error|ora-'
/rgolovko/apps/apps_st/appl/admin/RGRAC/log/adpatch.log

   0 files had fatal errors.

[applprd@racmt01 8919489]$ egrep -i 'ap-|ac-|error|ora-'
~~~~~~

/rgolovko/apps/apps_st/appl/admin/RGRAC/log/adpatch.log

0 files had fatal errors.

Errors and warnings are listed in the log file

Per MOS (known issues) can be safely ignored.

Cause: Error while trying to read metadata from file /rgolovko/apps/tech_st/10.1.3/diagnostics/lib/ojdl.jar: No metadata entry META-INF/JRIMETA.DAT found

Cause: Error while trying to read metadata from file /rgolovko/apps/tech_st/10.1.3/j2ee/home/lib/mail.jar: No metadata entry META-INF/JRIMETA.DAT found

Cause: Error while trying to read metadata from file /rgolovko/apps/tech_st/10.1.3/j2ee/home/lib/activation.jar: No metadata entry META-INF/JRIMETA.DAT found

[applprd@racmt01 11071569]$ egrep -i 'ap-|ac-|error|ora-' /rgolovko/apps/apps_st/appl/admin/RGRAC/log/adpatch.log

0 files had fatal errors.

Cause: Error while trying to read metadata from file /rgolovko/apps/tech_st/10.1.3/jlib/osdt_xmlsec.jar: No metadata entry META-INF/JRIMETA.DAT found

Cause: Error while trying to read metadata from file /rgolovko/apps/tech_st/10.1.3/jlib/osdt_core.jar: No metadata entry META-INF/JRIMETA.DAT found

[applprd@racmt01 9583541]$ egrep -i 'ap-|ac-|error|ora-' /rgolovko/apps/apps_st/appl/admin/RGRAC/log/adpatch.log

0 files had fatal errors.

sqlplus apps/***** @$AD_TOP/patch/115/sql/adsetmmd.sql DISABLE

SQL> select fnd_profile.value('APPS_MAINTENANCE_MODE') as status from dual;

STATUS

NORMAL

```
[applprd@racmt01 9583541]$ $AD_TOP/bin/admkappsutil.pl
Starting the generation of appsutil.zip
Log file located at /rgolovko/inst/apps/RGRAC_racmt01/admin/log/MakeAppsUtil_02281616.log
output located at /rgolovko/inst/apps/RGRAC_racmt01/admin/out/appsutil.zip
MakeAppsUtil completed successfully.


[oraprd@racdb01 11.1.0]$ sqlplus / as sysdba

SQL> @/rgolovko/app/db/tech_st/11.2.0/rdbms/admin/utlu112i.sql

**********************************************************************
Database:
**********************************************************************
--> name:          RGRAC
--> version:       11.1.0.7.0
--> compatible:    11.1.0
--> blocksize:     8192
--> platform:      Linux IA (32-bit)
--> timezone file: V10
.
**********************************************************************
Tablespaces: [make adjustments in the current environment]
**********************************************************************
--> SYSTEM tablespace is adequate for the upgrade.
.... minimum required size: 11042 MB
--> CTXD tablespace is adequate for the upgrade.
.... minimum required size: 19 MB
--> ODM tablespace is adequate for the upgrade.
.... minimum required size: 10 MB
--> APPS_UNDOTS1 tablespace is adequate for the upgrade.
.... minimum required size: 1054 MB
--> APPS_TS_TX_DATA tablespace is adequate for the upgrade.
.... minimum required size: 5166 MB
```

--> APPS_TS_QUEUES tablespace is adequate for the upgrade.

.... minimum required size: 107 MB

--> OLAP tablespace is adequate for the upgrade.

.... minimum required size: 16 MB

WARNING: --> SYSAUX tablespace is not large enough for the upgrade.

.... currently allocated size: 472 MB

.... minimum required size: 507 MB

.... increase current size by: 35 MB

.... tablespace is NOT AUTOEXTEND ENABLED.

.

****

Flashback: OFF

****

****

Update Parameters: [Update Oracle Database 11.2 init.ora or spfile]

****

WARNING: --> "java_pool_size" needs to be increased to at least 64 MB

.

****

Renamed Parameters: [Update Oracle Database 11.2 init.ora or spfile]

****

-- No renamed parameters found. No changes are required.

.

****

Obsolete/Deprecated Parameters: [Update Oracle Database 11.2 init.ora or spfile]

****

--> plsql_native_library_dir 11.2 OBSOLETE

--> plsql_native_library_subdir_ 11.2 OBSOLETE

.

****

Components: [The following database components will be upgraded or installed]

****

--> Oracle Catalog Views [upgrade] VALID

--> Oracle Packages and Types [upgrade] VALID

--> JServer JAVA Virtual Machine [upgrade] VALID

--> Oracle XDK for Java [upgrade] VALID

--> Real Application Clusters [upgrade] INVALID

--> OLAP Analytic Workspace [upgrade] VALID

--> OLAP Catalog [upgrade] VALID

--> Oracle Text [upgrade] VALID

--> Oracle XML Database [upgrade] VALID

--> Oracle Java Packages [upgrade] VALID

--> Oracle interMedia [upgrade] VALID

--> Spatial [upgrade] VALID

--> Data Mining [upgrade] VALID

--> Oracle OLAP API [upgrade] VALID

.

****

Miscellaneous Warnings

****

WARNING: --> Database is using a timezone file older than version 11.

.... After the release migration, it is recommended that DBMS_DST package

.... be used to upgrade the 11.1.0.7.0 database timezone version

.... to the latest version which comes with the new release.

WARNING: --> Database contains schemas with stale optimizer statistics.

.... Refer to the Upgrade Guide for instructions to update

.... schema statistics prior to upgrading the database.

.... Component Schemas with stale statistics:

.... SYS

.... OLAPSYS

.... CTXSYS

.... MDSYS

WARNING:--> recycle bin in use.

.... Your recycle bin is turned on and it contains

.... 1609 object(s). It is REQUIRED

.... that the recycle bin is empty prior to upgrading

.... your database.

.... The command: PURGE DBA_RECYCLEBIN

.... must be executed immediately prior to executing your upgrade.

.

PL/SQL procedure successfully completed.

==========

****

Tablespaces: [make adjustments in the current environment]

****

select TABLESPACE_NAME,sum(BYTES/1024/1024) "SIZE MB" from dba_data_files where TABLESPACE_NAME in ('SYSTEM','CTXD','ODM','APPS_UNDOTS1','APPS_TS_TX_DATA','APPS_TS_QUEUES','OLAP','SYSAUX') group by TABLESPACE_NAME;

TABLESPACE_NAME	SIZE MB
APPS_TS_QUEUES	1000
CTXD	19
SYSAUX	472.6875
APPS_UNDOTS1	1802
SYSTEM	12012.1328
ODM	11
OLAP	17.2421875
APPS_TS_TX_DATA	5680.125

alter database datafile '/rgolovko/app/db/apps_st/data/sysaux02.dbf' resize 200M;

****

Update Parameters: [Update Oracle Database 11.2 init.ora or spfile]

****

SQL> alter system set java_pool_size='80M';

System altered.

SQL> show parameter java_pool_size

NAME TYPE VALUE

---

java_pool_size big integer 80M

vi $ORACLE_HOME/dbs/initRGRAC.ora

add line:

java_pool_size = 80M

:x

****

Obsolete/Deprecated Parameters: [Update Oracle Database 11.2 init.ora or spfile]

****

Commented out in pfile file:

~~~~~~~~~~~~

vi $ORACLE_HOME/dbs/initRGRAC.ora

#plsql_native_library_dir = /rgolovko/app/db/tech_st/11.1.0/plsql/nativelib

#plsql_native_library_subdir_count = 149

****

Miscellaneous Warnings

****

PURGE DBA_RECYCLEBIN;
~~~~~~~~~~~~

DBA Recyclebin purged.

exec dbms_stats.gather_schema_stats('SYS');

PL/SQL procedure successfully completed.

exec dbms_stats.gather_schema_stats('OLAPSYS');

PL/SQL procedure successfully completed.

exec dbms_stats.gather_schema_stats('CTXSYS');

PL/SQL procedure successfully completed.

exec dbms_stats.gather_schema_stats('MDSYS');

PL/SQL procedure successfully completed.

SQL> SELECT version FROM v$timezone_file;

```
   VERSION
----------
        10
```

[oraprd@racdb01 11.1.0]$ lsnrctl start $ORACLE_SID

Clear environment (re-run terminal)

[oraprd@racdb01 ~]$ export ORACLE_HOME=/rgolovko/app/db/tech_st/11.2.0
[oraprd@racdb01 ~]$ export ORACLE_SID=RGRAC

[oraprd@racdb01 ~]$ export PATH=$ORACLE_HOME/bin:$ORACLE_HOME/perl/bin:$PATH

[oraprd@racdb01 ~]$ export LD_LIBRARY_PATH=$ORACLE_HOME/lib

[oraprd@racdb01 ~]$ export PERL5LIB=$ORACLE_HOME/perl/lib/5.10.0:$ORACLE_HOME/perl/lib/site_perl/5.10.0

[oraprd@racdb01 ~]$ perl $ORACLE_HOME/nls/data/old/cr9idata.pl

Creating directory /rgolovko/app/db/tech_st/11.2.0/nls/data/9idata ...

Copying files to /rgolovko/app/db/tech_st/11.2.0/nls/data/9idata...

Copy finished.

Please reset environment variable ORA_NLS10 to /rgolovko/app/db/tech_st/11.2.0/nls/data/9idata!

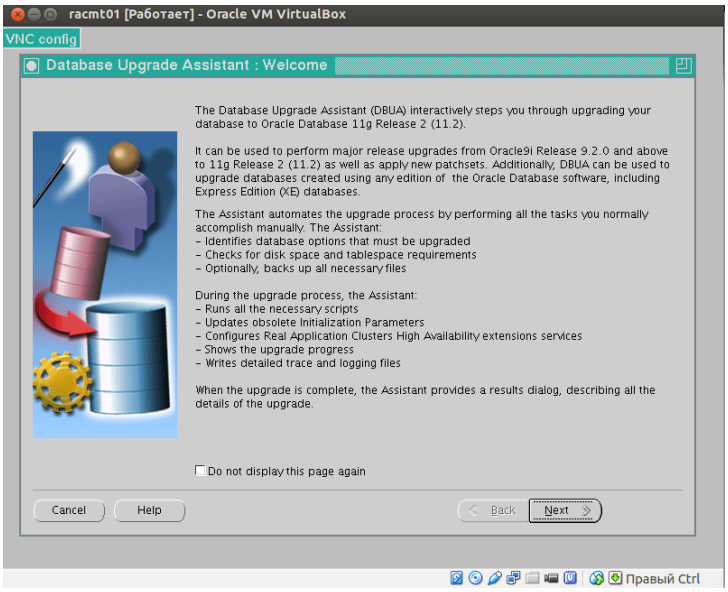
[oraprd@racdb01 ~]$ export ORA_NLS10=/rgolovko/app/db/tech_st/11.2.0/nls/data/9idata

[oraprd@racdb01 ~]$ echo $DISPLAY

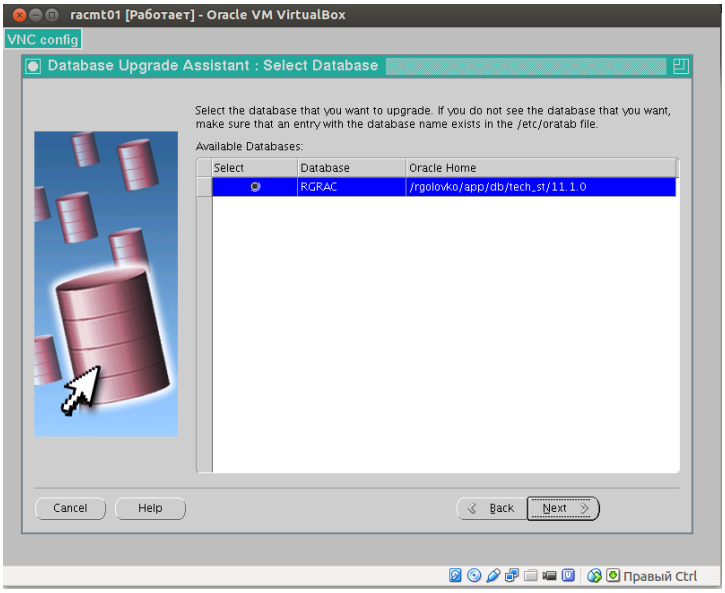
:0.0

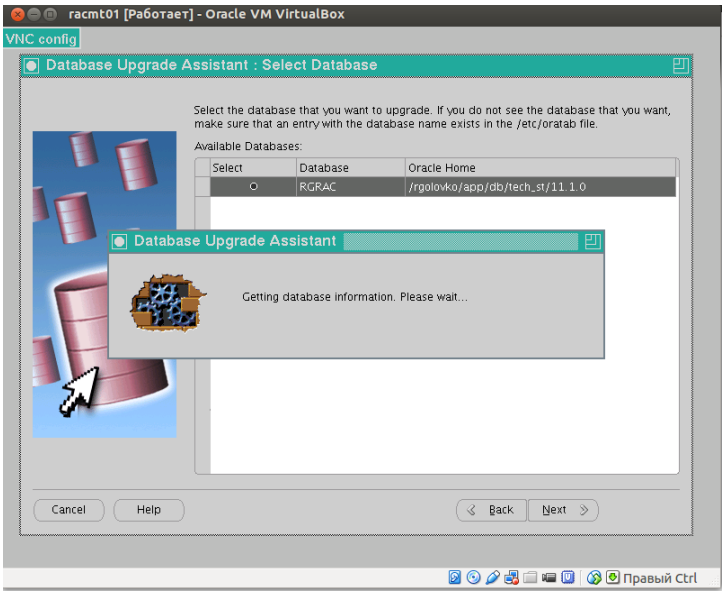
[oraprd@racdb01 ~]$ dbua

1st window click “Next”

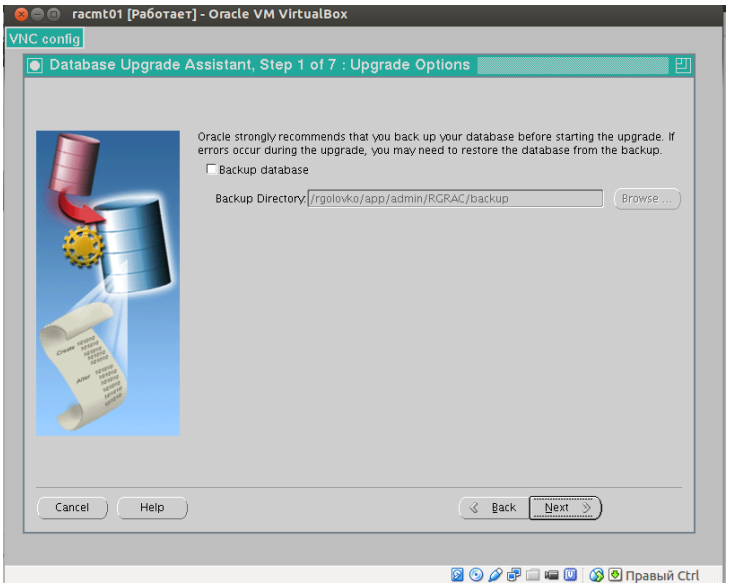


Pick database and click “Next”

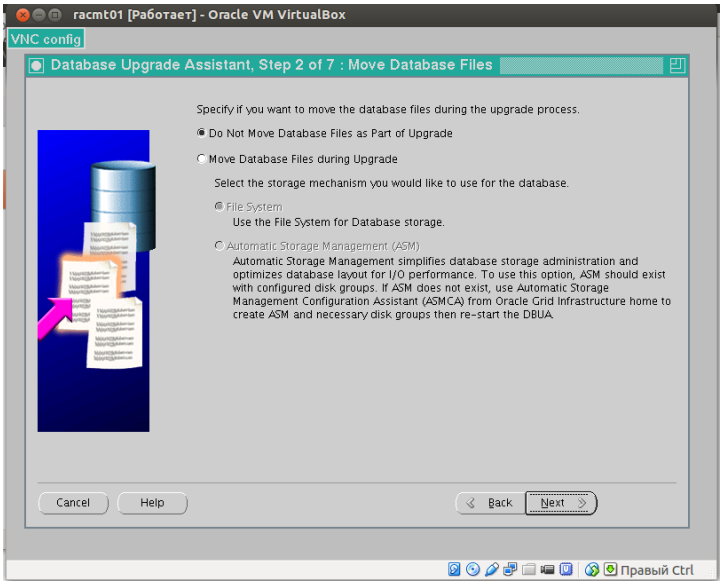




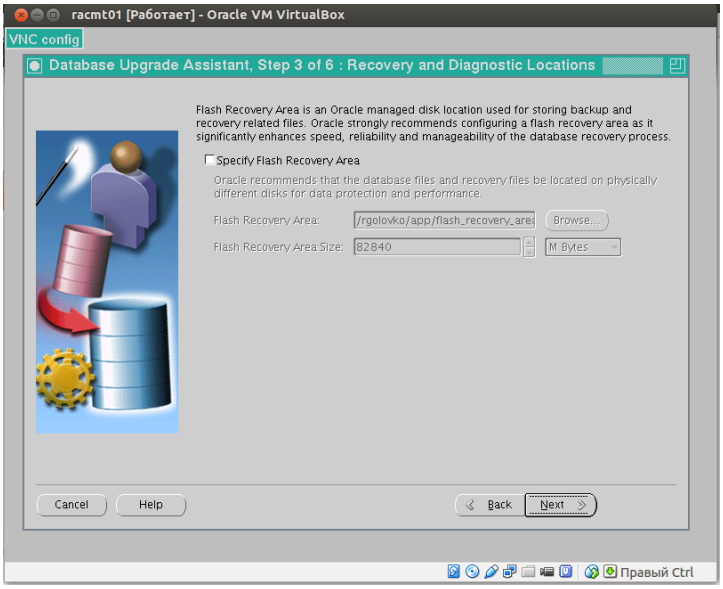
Step 1 of 7, click “Next”



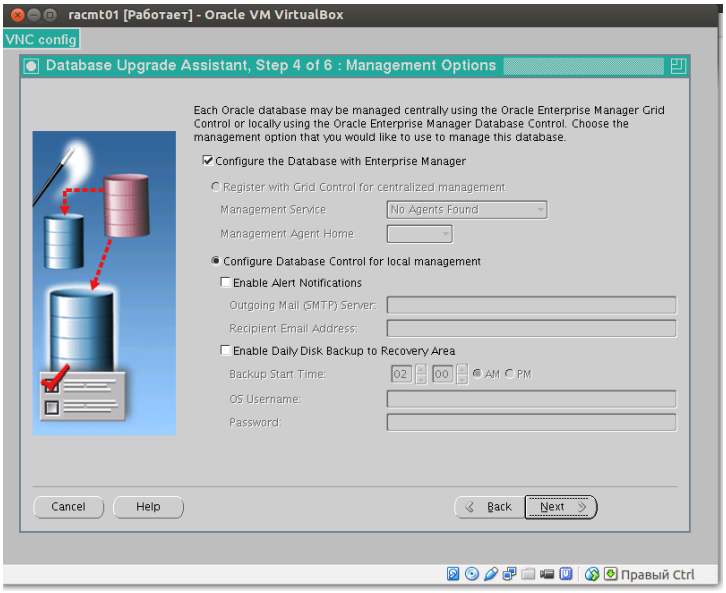
Step 2 of 7, selected “Do Not move database files as part of upgrade”

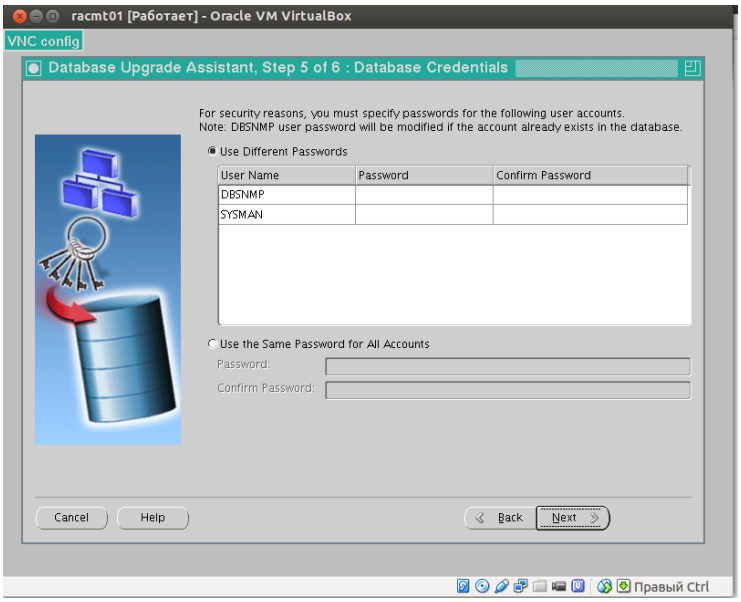


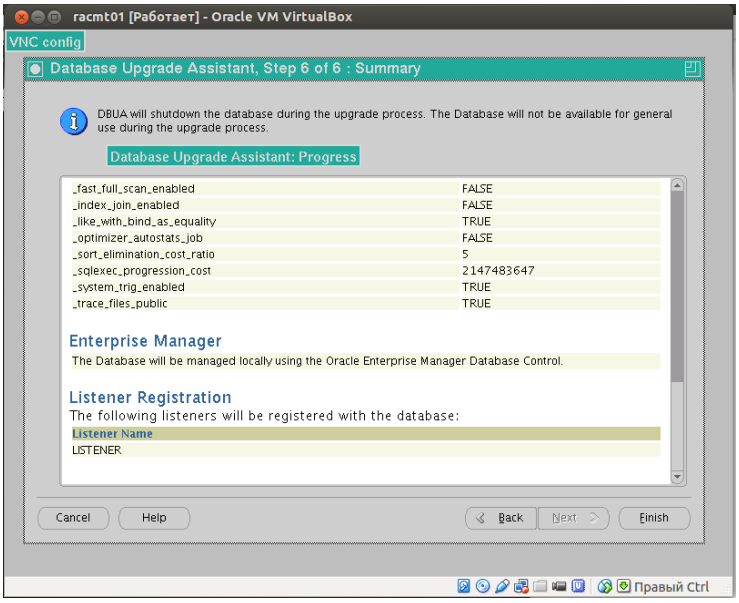
Step 3 of 7, click next

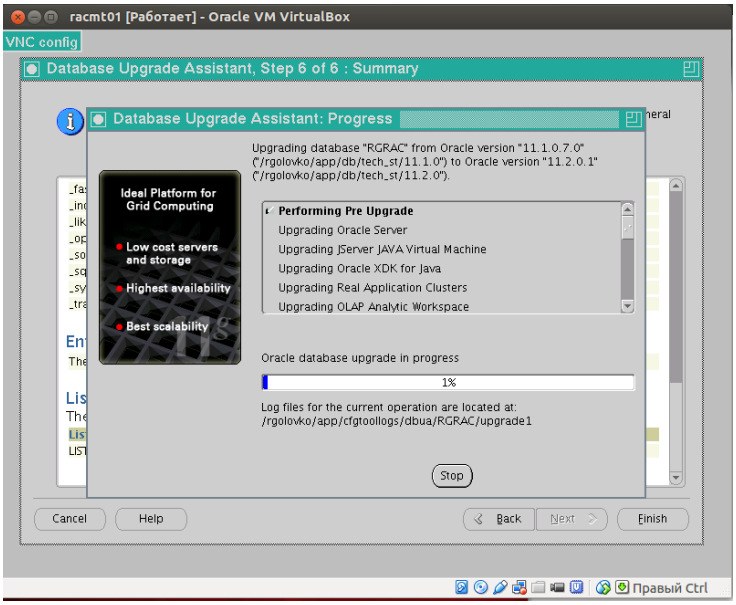


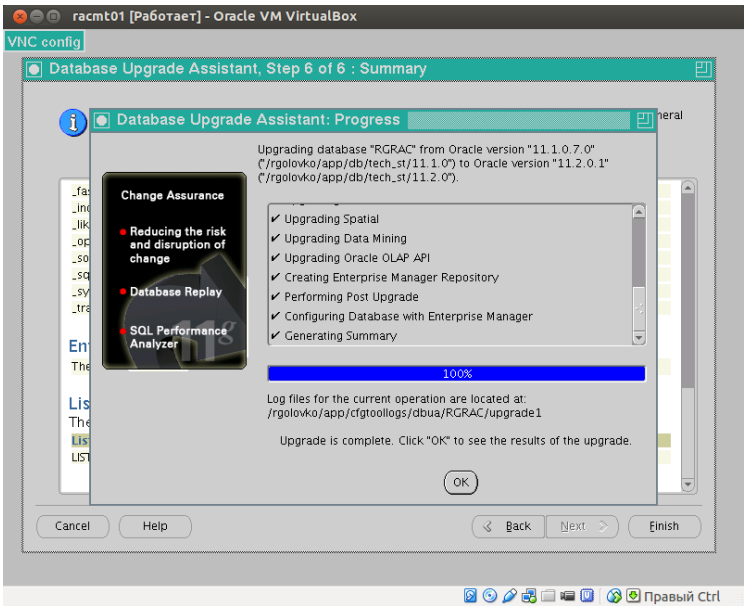
Step 4 of 7, Picked EM console for fun)


racmt01 [Работает] - Oracle VM VirtualBox
VNC config
Database Upgrade Assistant, Step 4 of 6 : Management Options
Each Oracle database may be managed centrally using the Oracle Enterprise Manager Grid Control or locally using the Oracle Enterprise Manager Database Control. Choose the management option that you would like to use to manage this database.
Configure the Database with Enterprise Manager
Register with Grid Control for centralized management
Management Service
No Agents Found
Management Agent Home
Configure Database Control for local management
Enable Alert Notifications
Outgoing Mail (SMTP) Server:
Recipient Email Address:
Enable Daily Disk Backup to Recovery Area
Backup Start Time:
02
00
AM
PM
OS Username:
Password:
Cancel
Help
Back
Next
Правый Ctrl

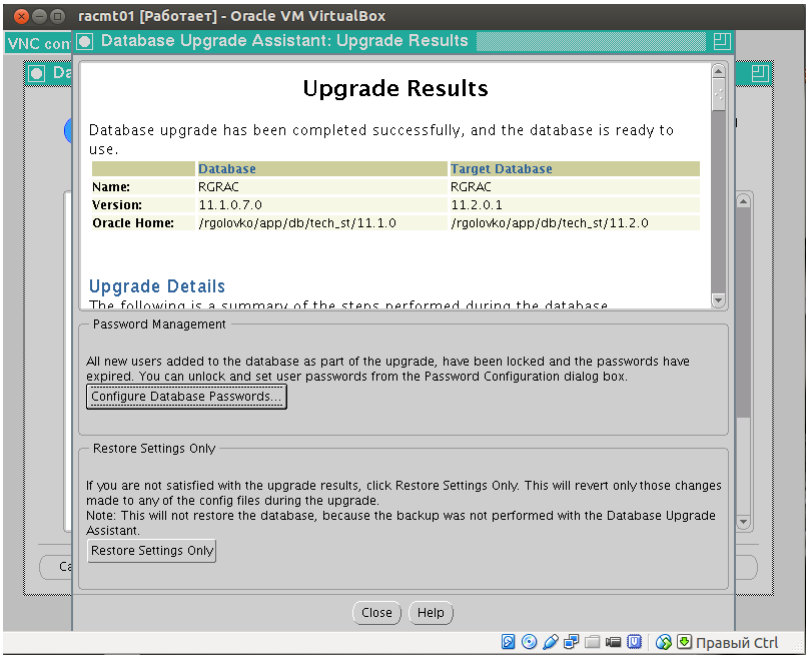

racmt01 [Работает] - Oracle VM VirtualBox
VNC config
Database Upgrade Assistant, Step 5 of 6 : Database Credentials
For security reasons, you must specify passwords for the following user accounts.
Note: DBSNMP user password will be modified if the account already exists in the database.
Use Different Passwords
User Name
Password
Confirm Password
DBSNMP
SYSMAN
Use the Same Password for All Accounts
Password:
Confirm Password:
Cancel
Help
Back
Next
Правый Ctrl

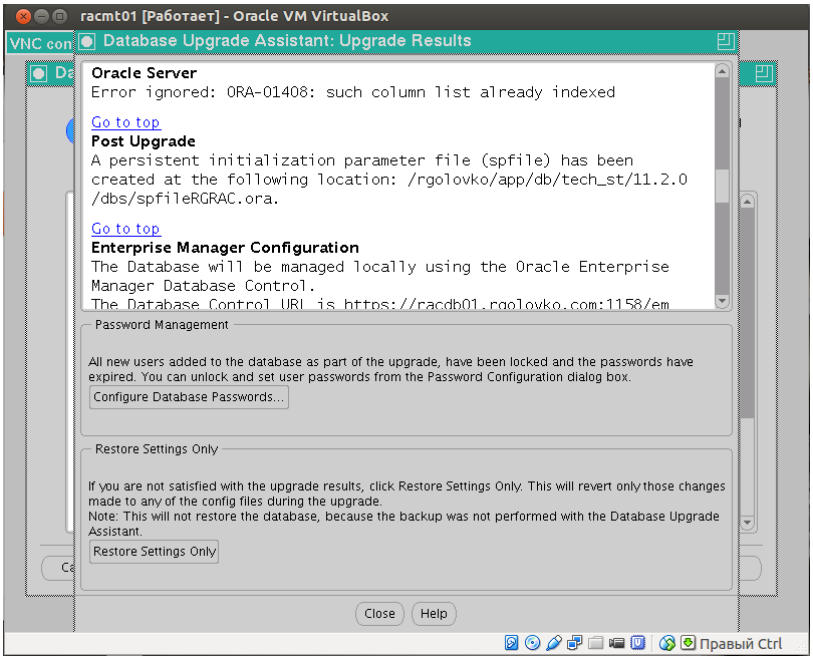

racmt01 [Работает] - Oracle VM VirtualBox
VNC config
Database Upgrade Assistant, Step 6 of 6 : Summary
DBUA will shutdown the database during the upgrade process. The Database will not be available for general use during the upgrade process.
Database Upgrade Assistant: Progress
_fast_full_scan_enabled FALSE
_index_join_enabled FALSE
_like_with_bind_as_equality TRUE
_optimizer_autostats_job FALSE
_sort_elimination_cost_ratio 5
_sqlexec_progression_cost 2147483647
_system_trig_enabled TRUE
_trace_files_public TRUE
Enterprise Manager
The Database will be managed locally using the Oracle Enterprise Manager Database Control.
Listener Registration
The following listeners will be registered with the database:
Listener Name
LISTENER
Cancel
Help
Back
Next
Finish
Правый Ctrl


racmt01 [Работает] - Oracle VM VirtualBox
VNC config
Database Upgrade Assistant, Step 6 of 6 : Summary
Database Upgrade Assistant: Progress
Upgrading database "RGRAC" from Oracle version "11.1.0.7.0" ("/rgolovko/app/db/tech_st/11.1.0") to Oracle version "11.2.0.1" ("/rgolovko/app/db/tech_st/11.2.0").
Ideal Platform for Grid Computing
Low cost servers and storage
Highest availability
Best scalability
Performing Pre Upgrade
Upgrading Oracle Server
Upgrading JServer JAVA Virtual Machine
Upgrading Oracle XDK for Java
Upgrading Real Application Clusters
Upgrading OLAP Analytic Workspace
Oracle database upgrade in progress
1%
Log files for the current operation are located at:
/rgolovko/app/cfgtoollogs/dbua/RGRAC/upgrade1
Stop
Cancel
Help
Back
Next
Finish
Правый Ctrl


racmt01 [Работает] - Oracle VM VirtualBox
VNC config
Database Upgrade Assistant, Step 6 of 6 : Summary
Database Upgrade Assistant: Progress
Upgrading database "RGRAC" from Oracle version "11.1.0.7.0" ("/rgolovko/app/db/tech_st/11.1.0") to Oracle version "11.2.0.1" ("/rgolovko/app/db/tech_st/11.2.0").
Change Assurance
Reducing the risk and disruption of change
Database Replay
SQL Performance Analyzer
Upgrading Spatial
Upgrading Data Mining
Upgrading Oracle OLAP API
Creating Enterprise Manager Repository
Performing Post Upgrade
Configuring Database with Enterprise Manager
Generating Summary
100%
Log files for the current operation are located at:
/rgolovko/app/cfgtoollogs/dbua/RGRAC/upgrade1
Upgrade is complete. Click "OK" to see the results of the upgrade.
OK
Cancel
Help
Back
Next
Finish
Правый Ctrl

Result:


racmt01 [Работает] - Oracle VM VirtualBox
Database Upgrade Assistant: Upgrade Results
Upgrade Results
Database upgrade has been completed successfully, and the database is ready to use.
Database
Target Database
Name: RGRAC RGRAC
Version: 11.1.0.7.0 11.2.0.1
Oracle Home: /rgolovko/app/db/tech_st/11.1.0 /rgolovko/app/db/tech_st/11.2.0
Upgrade Details
Password Management
All new users added to the database as part of the upgrade, have been locked and the passwords have expired. You can unlock and set user passwords from the Password Configuration dialog box.
Configure Database Passwords...
Restore Settings Only
If you are not satisfied with the upgrade results, click Restore Settings Only. This will revert only those changes made to any of the config files during the upgrade.
Note: This will not restore the database, because the backup was not performed with the Database Upgrade Assistant.
Restore Settings Only
Close
Help
Правый Ctrl



==========

Post upgrade steps:

==========

[applprd@racmt01 ~]$ scp $APPL_TOP/admin/adgrants.sql oraprd@racdb01:/rgolovko/app/db/tech_st/11.2.0/rdbms/admin/

adgrants.sql 100% 52KB 51.7KB/s 00:00

[oraprd@racdb01 ~]$ sqlplus / as sysdba @?/rdbms/admin/adgrants.sql APPS

[applprd@racmt01 ~]$ sqlplus apps/**apps_pwd** @$AD_TOP/patch/115/sql/adctxprv.sql **system_pwd** CTXSYS

Connecting to SYSTEM

Connected.

PL/SQL procedure successfully completed.

Commit complete.

SQL> select count(*) from dba_objects where status =! 'VALID';

```
  COUNT(*)
----------
        16

SQL> @?/rdbms/utlrp.sql

SQL> select count(*) from dba_objects where status <> 'VALID';

  COUNT(*)
----------
         0

SQL> exec ctxsys.ctx_adm.set_parameter('file_access_role', 'public');

PL/SQL procedure successfully completed.


[applprd@racmt01 ~]$ sqlplus apps/apps @$FND_TOP/patch/115/sql/wfaqupfix.sql APPLSYS APPS


PL/SQL procedure successfully completed.


Commit complete.

Created appsutil for new db home:
~~~~~~~~~~~~~~~~~~~~~~~~~~~~
[applprd@racmt01 ~]$ perl $AD_TOP/bin/admkappsutil.pl
Starting the generation of appsutil.zip
Log file located at /rgolovko/inst/apps/RGRAC_racmt01/admin/log/MakeAppsUtil_03010549.log
output located at /rgolovko/inst/apps/RGRAC_racmt01/admin/out/appsutil.zip
MakeAppsUtil completed successfully.
```

[oraprd@racdb01 ~]$ scp applprd@racmt01:/rgolovko/inst/apps/RGRAC_racmt01/admin/out/appsutil.zip $ORACLE_HOME/

appsutil.zip 100% 2720KB 2.7MB/s 00:00

[oraprd@racdb01 ~]$ cd $ORACLE_HOME

[oraprd@racdb01 11.2.0]$ unzip -o appsutil.zip

[oraprd@racdb01 ~]$ cp -R /rgolovko/app/db/tech_st/11.1.0/network/admin/RGRAC_racdb01/ $ORACLE_HOME/network/admin/

[oraprd@racdb01 ~]$ cd $ORACLE_HOME/network/admin/RGRAC_racdb01/

[oraprd@racdb01 RGRAC_racdb01]$ sed -i 's/11.1.0/11.2.0/g' listener.ora

[oraprd@racdb01 RGRAC_racdb01]$ sed -i 's/11.1.0/11.2.0/g' tnsnames.ora

[oraprd@racdb01 RGRAC_racdb01]$ cd /rgolovko/app/db/tech_st/11.2.0/appsutil/bin/

[oraprd@racdb01 bin]$ perl adbldxml.pl

/rgolovko/app/db/tech_st/11.2.0/appsutil/RGRAC_racdb01.xml

Re-register nodes in fnd_nodes:

~~~~~~~~~~~~~~~~~~~~~~~~~

SQL> connect apps/****

Connected.

SQL> exec fnd_conc_clone.setup_clean;

PL/SQL procedure successfully completed.

[oraprd@racdb01 bin]$ ./adconfig.sh contextfile=/rgolovko/app/db/tech_st/11.2.0/appsutil/RGRAC_racdb01.xml

AutoConfig completed successfully.

[oraprd@racdb01 bin]$ ln -s $ORACLE_HOME/RGRAC_racdb01.env ~/RGRAC_R2_racdb01.env
~~~~~~~~~~~~~~~~~~~~~~~~~

[applprd@racmt01 ~]$ cd $ADMIN_SCRIPTS_HOME

[applprd@racmt01 scripts]$ ./adautocfg.sh

[applprd@racmt01 scripts]$ cd ~/patches/9151516/

[applprd@racmt01 9151516]$ sqlplus apps/apps @$AD_TOP/patch/115/sql/adsetmmd.sql ENABLE

[applprd@racmt01 9151516]$ adpatch apply=yes

[applprd@racmt01 9151516]$ egrep -i 'ap-|ac-|ora-|error'
/rgolovko/apps/apps_st/appl/admin/RGRAC/log/adpatch.log

0 files had fatal errors.

[applprd@racmt01 9151516]$ sqlplus apps/apps @$AD_TOP/patch/115/sql/adsetmmd.sql DISABLE

[applprd@racmt01 9151516]$ scp $APPL_TOP/admin/adstats.sql
oraprd@racdb01:/rgolovko/app/db/tech_st/11.2.0/rdbms/admin/

adstats.sql 100% 2752 2.7KB/s 00:00

[oraprd@racdb01 bin]$ sqlplus / as sysdba

SQL> alter system enable restricted session;

System altered.

SQL> @?/rdbms/admin/adstats.sql

PL/SQL procedure successfully completed.

SQL> alter system disable restricted session;

Re-create grants and synonyms

==========

[applmgr@glvk-prd ~]$ adadmin

!--> 4. Maintain Applications Database Entities menu

!--> 2. Recreate grants and synonyms for APPS schema

Compile Invalid Objects

==========

SQL>@utlrp.sql

SQL> select OWNER,OBJECT_NAME,OBJECT_TYPE from dba_objects where STATUS='INVALID';

no rows selected

Last step: Synchronize Workflow views

==========

Log on to Oracle E-Business Suite with the "System Administrator" responsibility. Click Requests > Run > Single Request and then OK button. Enter the following

parameters:

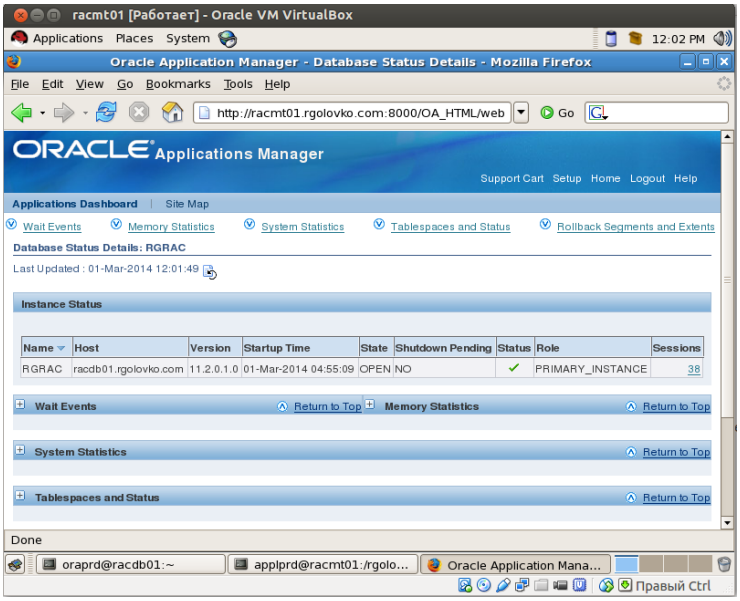
Request Name = Workflow Directory Services User/Role Validation

p_BatchSize = 10000

p_Check_Dangling = Yes

Add missing user/role assignments = Yes

Update WHO columns in WF tables = No



Database has been upgraded successfully.

6. Migrate from non-RAC to RAC

Check status of CRS:

~~~~~~

[root@racdb01 ~]# /rgolovko/grid/11.2.0/bin/crs_stat -t -v

Name Type R/RA F/FT Target State Host

---

ora....ER.lsnr ora....er.type 0/5 0/ ONLINE ONLINE racdb01

ora....N1.lsnr ora....er.type 0/5 0/0 ONLINE ONLINE racdb01

ora....N2.lsnr ora....er.type 0/5 0/0 ONLINE ONLINE racdb02

ora....N3.lsnr ora....er.type 0/5 0/0 ONLINE ONLINE racdb02

ora.asm ora.asm.type 0/5 0/ ONLINE ONLINE racdb01

ora.eons ora.eons.type 0/3 0/ ONLINE ONLINE racdb01

ora.gsd ora.gsd.type 0/5 0/ OFFLINE OFFLINE

ora....network ora....rk.type 0/5 0/ ONLINE ONLINE racdb01

ora.oc4j ora.oc4j.type 0/5 0/0 OFFLINE OFFLINE

ora.ons ora.ons.type 0/3 0/ ONLINE ONLINE racdb01

ora....SM1.asm application 0/5 0/0 ONLINE ONLINE racdb01

ora....01.lsnr application 0/5 0/0 ONLINE ONLINE racdb01

ora....b01.gsd application 0/5 0/0 OFFLINE OFFLINE

ora....b01.ons application 0/3 0/0 ONLINE ONLINE racdb01

ora....b01.vip ora....t1.type 0/0 0/0 ONLINE ONLINE racdb01

ora....SM2.asm application 0/5 0/0 ONLINE ONLINE racdb02

ora....02.lsnr application 0/5 0/0 ONLINE ONLINE racdb02

ora....b02.gsd application 0/5 0/0 OFFLINE OFFLINE

ora....b02.ons application 0/3 0/0 ONLINE ONLINE racdb02

ora....b02.vip ora....t1.type 0/0 0/0 ONLINE ONLINE racdb02

ora....ry.acfs ora....fs.type 0/5 0/ ONLINE ONLINE racdb01

ora.rgrac.db ora....se.type 0/2 0/1 ONLINE ONLINE racdb01

ora.scan1.vip ora....ip.type 0/0 0/0 ONLINE ONLINE racdb01

ora.scan2.vip ora....ip.type 0/0 0/0 ONLINE ONLINE racdb02

ora.scan3.vip ora....ip.type 0/0 0/0 ONLINE ONLINE racdb02

srvctl modify listener -l LISTENER -p
~~~~~~

At first create test configuration file for rconfig (parameter set to <n:Convert verify="ONLY">):

[oraprd@racdb01 ~]$ vi /rgolovko/app/db/tech_st/11.2.0/assistants/rconfig/sampleXMLs/myRac.xml

~~~~~~

```
<?xml version="1.0" encoding="UTF-8"?>
<n:RConfig xmlns:n="http://www.oracle.com/rconfig"
      xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
      xsi:schemaLocation="http://www.oracle.com/rconfig">
  <n:ConvertToRAC>
<!-- Verify does a precheck to ensure all pre-requisites are met, before the conversion is attempted.
Allowable values are: YES|NO|ONLY -->
    <n:Convert verify="ONLY">
<!--Specify current OracleHome of non-rac database for SourceDBHome -->
      <n:SourceDBHome>/rgolovko/app/db/tech_st/11.2.0</n:SourceDBHome>
<!--Specify OracleHome where the rac database should be configured. It can be same as SourceDBHome -->
      <n:TargetDBHome>/rgolovko/app/db/tech_st/11.2.0</n:TargetDBHome>
<!--Specify SID of non-rac database and credential. User with sysdba role is required to perform conversion
-->
      <n:SourceDBInfo SID="RGRAC">
        <n:Credentials>
          <n:User>sys</n:User>
          <n:Password>manager</n:Password>
          <n:Role>sysdba</n:Role>
        </n:Credentials>
      </n:SourceDBInfo>
<!--Specify the list of nodes that should have rac instances running for the Admin Managed Cluster
Database. LocalNode should be the first node in this nodelist. -->
      <n:NodeList>
        <n:Node name="racdb01"/>
        <n:Node name="racdb02"/>
      </n:NodeList>
<!--Instance Prefix tag is optional starting with 11.2. If left empty, it is derived from db_unique_name.-->
      <n:InstancePrefix>RGRAC</n:InstancePrefix>
<!-- Listener details are no longer needed starting 11.2. Database is registered with default listener and
SCAN listener running from Oracle Grid Infrastructure home. -->
<!--Specify the type of storage to be used by rac database. Allowable values are CFS|ASM. The non-rac
database should have same storage type. ASM credentials are no needed for conversion. -->
```
~~~~~~

```
        <n:SharedStorage type="CFS">
<!--Specify Database Area Location to be configured for rac database.If this field is left empty, current storage will be used for rac database. For CFS, this field will have directory path. -->
          <n:TargetDatabaseArea></n:TargetDatabaseArea>
<!--Specify Flash Recovery Area to be configured for rac database. If this field is left empty, current recovery area of non-rac database will be configured for rac database. If current database is not using recovery Area, the resulting rac database will not have a recovery area. -->
          <n:TargetFlashRecoveryArea></n:TargetFlashRecoveryArea>
        </n:SharedStorage>
      </n:Convert>
   </n:ConvertToRAC>
</n:RConfig>
```

~~~~~~

Move SPFILE to shared mountpoint:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

[oraprd@racdb01 dbs]$ mv $ORACLE_HOME/dbs/spfileRGRAC.ora /rgolovko/app/db/apps_st/data/

Create pfile with link to spfile:

~~~~~~~~~~~~~~~~~~~~~~~~~

[oraprd@racdb01 dbs]$ vi $ORACLE_HOME/dbs/initRGRAC.ora

clear all lines and add 1 line:

spfile=/rgolovko/app/db/apps_st/data/spfileRGRAC.ora

:x

Start database and check:

~~~~~~~~~~~~~~~~~~~~~

SQL> show parameter pfile

NAME	TYPE	VALUE
spfile	string	/rgolovko/app/db/apps_st/data/spfileRGRAC.ora

Try to run rconfig with my conf file:

~~~~~~~~~~~~~~~~~~~~~~~~~~~
~~~~~~~~~~~~~~~~~~~~~~~~~~~

```
[oraprd@racdb01 dbs]$ rconfig /rgolovko/app/db/tech_st/11.2.0/assistants/rconfig/sampleXMLs/myRac.xml
<?xml version="1.0" ?>
<RConfig version="1.1" >
<ConvertToRAC>
    <Convert>
      <Response>
        <Result code="0" >
          Operation Succeeded
        </Result>
      </Response>
      <ReturnValue type="object">
There is no return value for this step      </ReturnValue>
    </Convert>
  </ConvertToRAC></RConfig>
```

SUCCESS it means that I can change parameter “Convert verify” to YES and re-run:

```
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
[oraprd@racdb01 dbs]$ rconfig /rgolovko/app/db/tech_st/11.2.0/assistants/rconfig/sampleXMLs/myRac.xml
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Converting Database "RGRAC" to Cluster Database. Target Oracle Home: /rgolovko/app/db/tech_st/11.2.0.
Database Role: PRIMARY.
Setting Data Files and Control Files
Adding Database Instances
Adding Redo Logs
Enabling threads for all Database Instances
Setting TEMP tablespace
Adding UNDO tablespaces
Adding Trace files
Setting Flash Recovery Area
Updating Oratab
Creating Password file(s)
Configuring Listeners
Configuring related CRS resources
```

Starting Cluster Database

```
<?xml version="1.0" ?>
<RConfig version="1.1" >
<ConvertToRAC>
   <Convert>
     <Response>
       <Result code="0" >
         Operation Succeeded
       </Result>
     </Response>
     <ReturnValue type="object">
<Oracle_Home>
        /rgolovko/app/db/tech_st/11.2.0
      </Oracle_Home>
      <Database type="ADMIN_MANAGED"  >
        <InstanceList>
          <Instance SID="RGRAC1" Node="racdb01"  >
          </Instance>
          <Instance SID="RGRAC2" Node="racdb02"  >
          </Instance>
        </InstanceList>
      </Database>     </ReturnValue>
   </Convert>
  </ConvertToRAC></RConfig>
```

~~~~~~

3.6 Post-Migration Steps

Run autoconfig on both database node:

```
[oraprd@racdb01 ~] cd $ORACLE_HOME/appsutil/bin
[oraprd@racdb01 bin] ./adautocfg.sh
```

Found in log file following error:

~~~~~~~~~~~~~~~~~~~~~~~~~~

```
  [APPLY PHASE]
```

AutoConfig could not successfully execute the following scripts:

Directory: /rgolovko/app/db/tech_st/11.2.0/appsutil/install/RGRAC2_racdb02

txkcreateACL.sh INSTE8_APPLY 1

Upon search found related Note : 1328458.1

~~~~~~

Solution : Followed steps as per the note and executed Autoconfig on DB Node.

1. Execute the below PL/SQL block to drop the existing OracleEBS ACL :

[oraprd@racdb01 bin] sqlplus "/as sysdba"

SQL> BEGIN

SQL> DBMS_NETWORK_ACL_ADMIN.drop_acl (acl => 'OracleEBS.xml');

SQL> commit;

SQL> end;

PL/SQL procedure successfully completed.

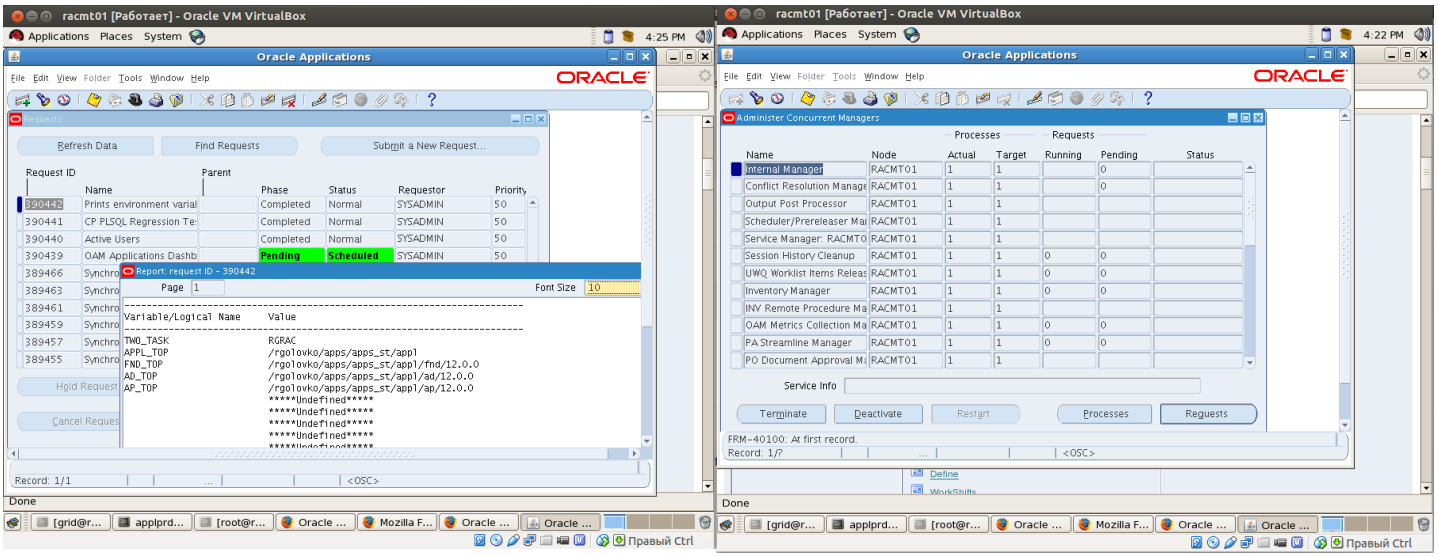
2. Run autoconfig on DB Node again..

[oraprd@racdb01 ~] cd $ORACLE_HOME/appsutil/bin

[oraprd@racdb01 bin] ./adautocfg.sh

SUCCESS, run autoconfig on second node:

[oraprd@racdb02 ~] $ORACLE_HOME/appsutil/bin/adautocfg.sh


~~~~~~

---

7. Migrate from RAC to non-RAC.

Stop applications services:

~~~~~~~~~~~~

[applprd@racmt01 scripts]$ cd $ADMIN_SCRIPTS_HOME

[applprd@racmt01 scripts]$ ./adcmctl.sh abort apps/apps

[applprd@racmt01 scripts]$ ./adstpall.sh apps/apps

Stop database via srvctl:

~~~~~~~~~~~~~~~~~~~

[grid@racdb01 /]$ srvctl stop database -d RGRAC

Check database status:

~~~~~~~~~~~~~~~~~~

[grid@racdb01 ~]$ srvctl status database -d RGRAC

Instance RGRAC1 is not running on node racdb01

Instance RGRAC2 is not running on node racdb02

Remove the database entry from crs:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~

[grid@racdb01 ~]$ srvctl remove instance -d RGRAC -i RGRAC1

Remove instance from the database RGRAC? (y/[n]) y

[grid@racdb01 ~]$ srvctl remove instance -d RGRAC -i RGRAC2

Remove instance from the database RGRAC? (y/[n]) y

Clear out cluster settings from database:

~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

[oraprd@racdb01 ~]$ echo $ORACLE_SID

RGRAC1

[oraprd@racdb01 ~]$ sqlplus / as sysdba

SQL*Plus: Release 11.2.0.1.0 Production on Sun Mar 23 09:26:17 2014
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

Connected to an idle instance.

SQL> startup
ORACLE instance started.

Total System Global Area 1071333376 bytes
Fixed Size 1341312 bytes
Variable Size 671090816 bytes
Database Buffers 385875968 bytes
Redo Buffers 13025280 bytes
Database mounted.
Database opened.

SQL> show parameter cluster_database

NAME TYPE VALUE
---------- ---------- ----------
cluster_database boolean TRUE
cluster_database_instances integer 2

SQL> alter system set cluster_database=false scope=spfile;

System altered.

SQL> alter system set cluster_database_instances=1 scope=spfile;

System altered.

SQL> alter database disable thread 2;

Database altered.

SQL> select thread#, group# from v$log order by 1;

```
   THREAD#     GROUP#
---------- ----------
         1          1
         1          2
         2          3
         2          4

SQL> alter database drop logfile group 3;

Database altered.

SQL> alter database drop logfile group 4;

Database altered.

SQL> select thread#, group# from v$log order by 1;

   THREAD#     GROUP#
---------- ----------
         1          2
         1          1


SQL>  select FILE_NAME,TABLESPACE_NAME,BYTES/1024/1024 MB from dba_data_files where
TABLESPACE_NAME like '%UNDO%';

FILE_NAME                                TABLESPACE_NAME         MB
---------------------------------------- --------------- ----------
/rgolovko/app/db/apps_st/data/undo2.dbf       APPS_UNDOTS1            29
/rgolovko/app/db/apps_st/data/undotbs2.dbf    UNDOTBS2                29
/rgolovko/app/db/apps_st/data/undo01.dbf      APPS_UNDOTS1          1773

SQL> drop tablespace UNDOTBS2 including contents and datafiles;
```

SQL> show parameter spfile

NAME TYPE VALUE

---

spfile string /rgolovko/app/db/apps_st/data/
spfileRGRAC.ora

SQL> create pfile='/rgolovko/app/db/tech_st/11.2.0/dbs/new_initRGRAC.ora' from spfile;

File created.

SQL> shu immediate
Database closed.
Database dismounted.
ORACLE instance shut down.
SQL> exit
Disconnected from Oracle Database 11g Enterprise Edition Release 11.2.0.1.0 - Production
With the Partitioning, Real Application Clusters, OLAP, Data Mining
and Real Application Testing options

Remove all references of second instance from the pfile and start the instance using pfile.

[oraprd@racdb01 ~]$ cd $ORACLE_HOME/dbs/
[oraprd@racdb01 dbs]$ vi new_initRGRAC.ora

RGRAC.__db_cache_size=415236096
RGRAC2.__db_cache_size=549453824
RGRAC1.__db_cache_size=385875968
RGRAC.__java_pool_size=83886080
RGRAC2.__java_pool_size=83886080
RGRAC1.__java_pool_size=83886080
RGRAC.__large_pool_size=4194304
RGRAC2.__large_pool_size=4194304

RGRAC1.__large_pool_size=4194304

RGRAC.__oracle_base='/rgolovko/app' #ORACLE_BASE set from environment

RGRAC1.__oracle_base='/rgolovko/app' #ORACLE_BASE set from environment

RGRAC.__pga_aggregate_target=1073741824

RGRAC2.__pga_aggregate_target=1073741824

RGRAC1.__pga_aggregate_target=1073741824

RGRAC.__sga_target=1073741824

RGRAC2.__sga_target=1073741824

RGRAC1.__sga_target=1073741824

RGRAC.__shared_io_pool_size=0

RGRAC2.__shared_io_pool_size=0

RGRAC1.__shared_io_pool_size=0

RGRAC.__shared_pool_size=553648128

RGRAC2.__shared_pool_size=419430400

RGRAC1.__shared_pool_size=583008256

RGRAC.__streams_pool_size=0

RGRAC2.__streams_pool_size=0

RGRAC1.__streams_pool_size=0

*.aq_tm_processes=1

*.cluster_database=FALSE

*.cluster_database_instances=1

*.compatible='11.1.0'

*.control_files='/rgolovko/app/db/apps_st/data/cntrl01.dbf','/rgolovko/app/db/apps_st/data/cntrl02.dbf','/rgolovko/app/db/apps_st/data/cntrl03.dbf'

*.cursor_sharing='EXACT'

*.db_block_checking='FALSE'

*.db_block_checksum='TRUE'

*.db_block_size=8192

*.db_files=512

*.db_name='RGRAC'

*.diagnostic_dest='/rgolovko/app'

*.dml_locks=10000

*.event=''

RGRAC1.instance_number=1

RGRAC2.instance_number=2

*.java_pool_size=83886080

*.job_queue_processes=2

*.log_buffer=10485760

*.log_checkpoint_interval=100000

*.log_checkpoint_timeout=1200

*.log_checkpoints_to_alert=TRUE

*.max_dump_file_size='20480'

*.nls_comp='binary'

*.nls_date_format='DD-MON-RR'

*.nls_language='american'

*.nls_length_semantics='BYTE'

*.nls_numeric_characters='.,'

*.nls_sort='binary'

*.nls_territory='america'

*.olap_page_pool_size=4194304

*.open_cursors=600

*.optimizer_secure_view_merging=FALSE

*.parallel_max_servers=8

*.parallel_min_servers=0

*.pga_aggregate_target=1073741824

*.plsql_code_type='INTERPRETED'

*.plsql_optimize_level=2

*.processes=200

*.query_rewrite_enabled='true'

*.remote_listener='rac-scan.rgolovko.com:1521'

*.sec_case_sensitive_logon=FALSE

*.session_cached_cursors=500

*.sessions=400

*.sga_target=1073741824

*.shared_pool_reserved_size=41943040

*.shared_pool_size=419430400

RGRAC1.thread=1

RGRAC2.thread=2

*.timed_statistics=TRUE

*.undo_management='AUTO'

RGRAC1.undo_tablespace='APPS_UNDOTS1'

RGRAC2.undo_tablespace='UNDOTBS2'

*.utl_file_dir='/usr/tmp','/usr/tmp','/rgolovko/app/db/tech_st/11.1.0/appsutil/outbound/RGRAC_racdb01','/usr/tmp'

*.workarea_size_policy='AUTO'

[oraprd@racdb01 dbs]$ sed -i '/RGRAC2/d' new_initRGRAC.ora

[oraprd@racdb01 dbs]$ mv new_initRGRAC.ora initRGRAC.ora

[oraprd@racdb01 dbs]$ sed -i 's~RGRAC1.undo_tablespace~*.undo_tablespace~' initRGRAC.ora

[oraprd@racdb01 dbs]$ sed -i '/RGRAC1/d' initRGRAC.ora

[oraprd@racdb01 dbs]$ sed -i 's/^RGRAC/#RGRAC' initRGRAC.ora

[oraprd@racdb01 dbs]$ export ORACLE_SID=RGRAC

[oraprd@racdb01 dbs]$ sqlplus / as sysdba

SQL> startup pfile='/rgolovko/app/db/tech_st/11.2.0/dbs/initRGRAC.ora'

ORACLE instance started.

ORACLE instance started.

Total System Global Area 1071333376 bytes

Fixed Size 1341312 bytes

Variable Size 507512960 bytes

Database Buffers 549453824 bytes

Redo Buffers 13025280 bytes

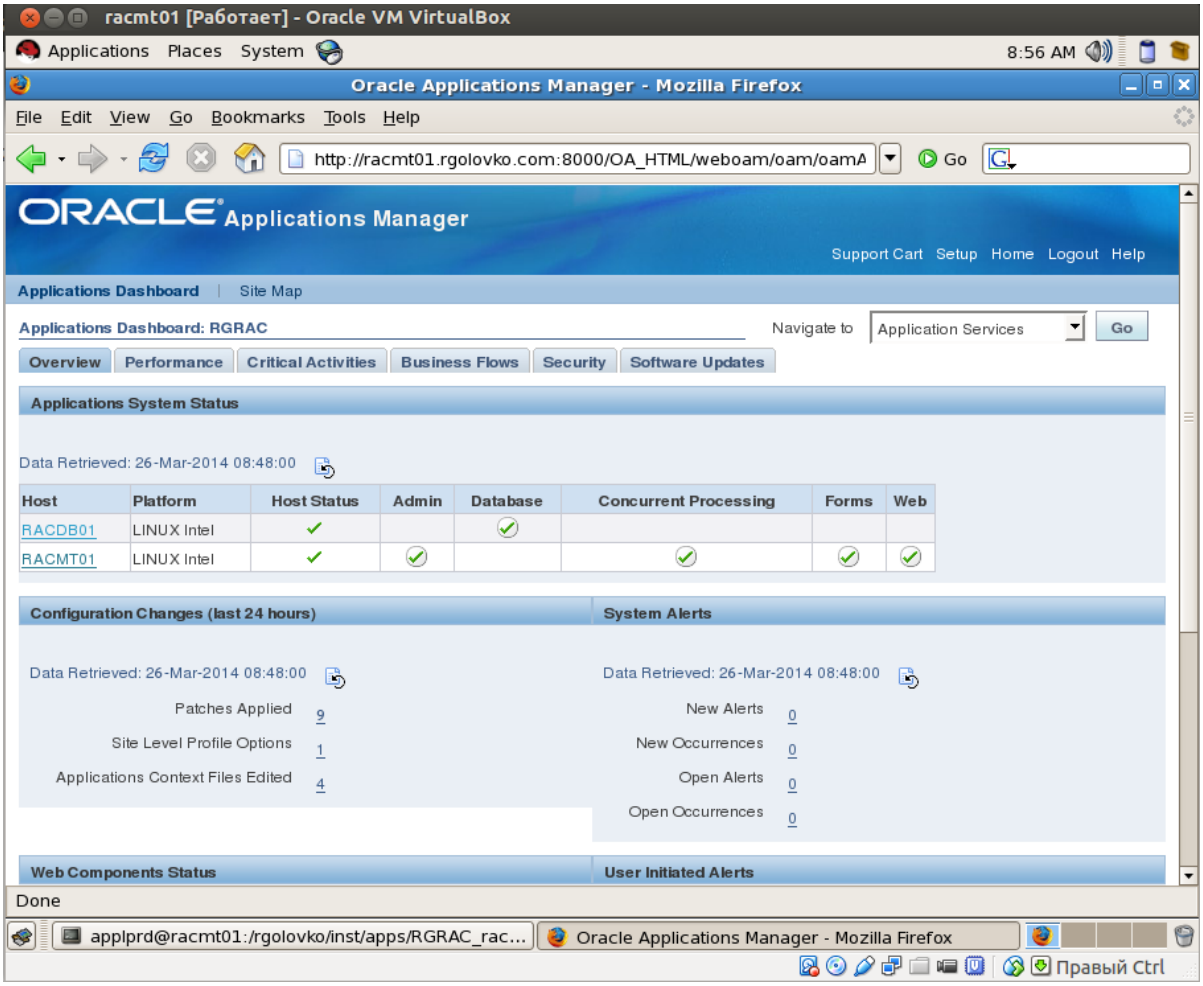
Database mounted.

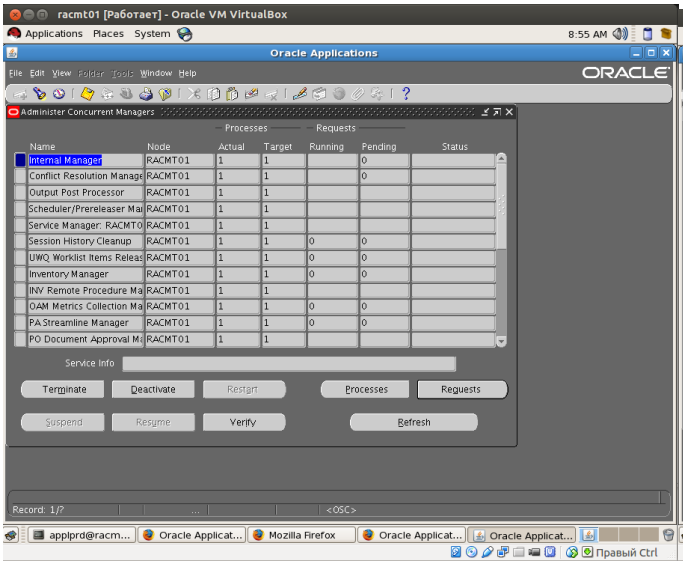
Database opened.

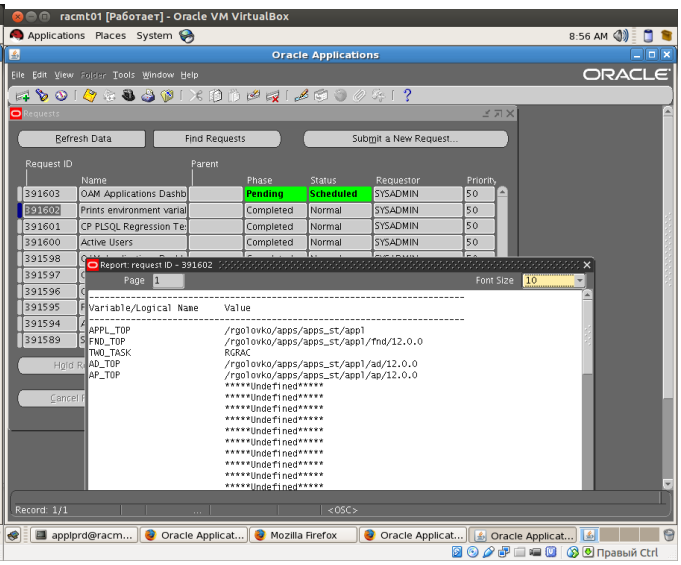
SQL> exit

Instance started without errors.

[oraprd@racdb01 dbs]$ lsnrctl start $ORACLE_SID


racmt01 [Работает] - Oracle VM VirtualBox
Applications Places System
8:56 AM
Oracle Applications Manager - Mozilla Firefox
File Edit View Go Bookmarks Tools Help
http://racmt01.rgolovko.com:8000/OA_HTML/weboam/oam/oamA
Go
ORACLE Applications Manager
Support Cart Setup Home Logout Help
Applications Dashboard | Site Map
Applications Dashboard: RGRAC
Navigate to
Application Services
Go
Overview Performance Critical Activities Business Flows Security Software Updates
Applications System Status
Data Retrieved: 26-Mar-2014 08:48:00
Host Platform Host Status Admin Database Concurrent Processing Forms Web
RACDB01 LINUX Intel
RACMT01 LINUX Intel
Configuration Changes (last 24 hours)
Data Retrieved: 26-Mar-2014 08:48:00
Patches Applied 9
Site Level Profile Options 1
Applications Context Files Edited 4
System Alerts
Data Retrieved: 26-Mar-2014 08:48:00
New Alerts 0
New Occurrences 0
Open Alerts 0
Open Occurrences 0
Web Components Status
User Initiated Alerts
Done
applprd@racmt01:/rgolovko/inst/apps/RGRAC_rac...
Oracle Applications Manager - Mozilla Firefox
Правый Ctrl


racmt01 [Работает] - Oracle VM VirtualBox
Oracle Applications
Administer Concurrent Managers
Terminate Deactivate Restart Processes Requests
Suspend Resume Verify Refresh


racmt01 [Работает] - Oracle VM VirtualBox
Oracle Applications
Refresh Data Find Requests Submit a New Request...
Report: request ID = 391602