

ORACLE DATABASE INSTANCE CONVERSION : CONVERTING NON-RAC DATABASE INSTANCE TO RAC DATABASE INSTANCE

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INTRODUCTION

This part of the document will explain the procedure for converting Non-RAC instance to single Node RAC instance. As ASM Clustered Instance is already running.

DATABASE CREATION INSTALLATION STEPS

1. Copy the sample ConvertToRAC.xml file from \$ORACLE_HOME/assistants/rconfig/sampleXMLs directory to any temp directory
2. Modify the Sample XML file and verify if it is correct
3. Modify the Sample XML file and execute the sample XML file using rconfig utility

COPY THE SAMPLE XML FILE

```
[db02pn ]$ ls -ltr /home/oracle/app/product/11.1/db_1/assistants/rconfig/sampleXMLs
total 8
-rw-r--r--  1 oracle oinstall 2940 May 27  2005 ConvertToRAC.xml
-rw-r--r--  1 oracle oinstall 2060 Apr 16 02:35 ConvertToClusteredASM.xml

[db02pn]$ cp /home/oracle/app/product/11.1/db_1/assistants/rconfig/sampleXMLs/
ConvertToRAC.xml $HOME
```


I had modified the following parameters as highlighted in RED color above. The modified values are in BLUE shown above

1. To test the settings specified, it is advisable to execute rconfig using convert verify="ONLY" before carrying out the actual conversion. This will perform a test run to validate parameters and flag any incorrect settings or issues that need to be resolved before the final conversion takes place. It is very important and below are few examples that shows that I am missing some information and so it is corrected.

Convert verify="YES": rconfig performs checks to ensure that the prerequisites for single-instance to RAC conversion have been met before it starts conversion

Convert verify="NO": rconfig does not perform prerequisite checks, and starts conversion

Convert verify="ONLY" rconfig only performs prerequisite checks; it does not start conversion after completing prerequisite checks

2. Specify 'SourceDBHome' variable in ConvertToRAC.xml as Non- RAC oracle home (e.g. \$OLD_ORACLE_HOME path). As I am using same RAC Oracle HOME for non-RAC instance and so specifying the same RAC \$ORACLE_HOME
 3. Specify 'TargetDBHome' variable in ConvertToRAC.xml as RAC oracle home (e.g. \$ORACLE_HOME path).
 4. Specify the Database SID [test11g]
 5. Specify the SYS password for test11g Database instance
 6. As I am using ASM instance and so specify the SYS password for ASM instance
 7. As I am currently using single Node and so remove any additional Node and specify the Correct Node Name
 8. Specify the Instance Prefix you want to use like test11g in our case
 9. Specify any change in Network Port.
 10. Specify the ASM DiskGroup that will be used
11. execute the rconfig and use the following syntax to run the rconfig command:
`[db02pn]$ rconfig <path to rconfig xml file created in step2>`
 12. This rconfig run will:

- Migrate the database to ASM storage (Only if ASM is specified as storage option in the configuration XML file above)
- Create database instances on all nodes in the cluster
- Configure listener and NetService entries
- Configure and register CRS resources
- Start the instances on all nodes in the cluster

[db02pn]\$ rconfig /export/home/oracle/ConvertToRAC.xml

```
Converting Database test11g to Cluster Database. Target Oracle Home : /home/oracle/app/product/11.1/db_1.  
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  
Adding NetService entries  
Starting Cluster Database  
Starting Listeners  
<?xml version="1.0" ?>  
<RConfig version="1.1" >  
<ConvertToRAC>  
  <Convert>  
    <Response>  
      <Result code="0" >  
        Operation Succeeded  
      </Result>  
    </Response>  
    <ReturnValue type="object">  
<Oracle_Home>  
  /home/oracle/app/product/11.1/db_1  
</Oracle_Home>  
<SIDList>  
  <SID>test11g1<\SID>  
<\SIDList> </ReturnValue>  
</Convert>  
</ConvertToRAC></RConfig>
```

```
[db02pn]$ ps -fu oracle|grep test11
oracle 28817 1 0 12:26 ? 00:00:00 ora_pmon_test11g1
oracle 28819 1 0 12:26 ? 00:00:00 ora_vktm_test11g1
oracle 28823 1 0 12:26 ? 00:00:00 ora_diag_test11g1
oracle 28825 1 0 12:26 ? 00:00:00 ora_dbrm_test11g1
oracle 28827 1 0 12:26 ? 00:00:00 ora_ping_test11g1
oracle 28829 1 0 12:26 ? 00:00:00 ora_psp0_test11g1
oracle 28831 1 0 12:26 ? 00:00:00 ora_acms_test11g1
oracle 28835 1 0 12:26 ? 00:00:00 ora_dia0_test11g1
oracle 28837 1 0 12:26 ? 00:00:00 ora_lmon_test11g1
oracle 28839 1 0 12:26 ? 00:00:00 ora_lmd0_test11g1
oracle 28841 1 0 12:26 ? 00:00:00 ora_lms0_test11g1
oracle 28845 1 0 12:26 ? 00:00:00 ora_lms1_test11g1
oracle 28849 1 0 12:26 ? 00:00:00 ora_rms0_test11g1
oracle 28851 1 0 12:26 ? 00:00:01 ora_mman_test11g1
oracle 28853 1 0 12:26 ? 00:00:00 ora_dbw0_test11g1
oracle 28855 1 0 12:26 ? 00:00:00 ora_lgwr_test11g1
oracle 28862 1 0 12:26 ? 00:00:00 ora_ckpt_test11g1
oracle 28864 1 0 12:26 ? 00:00:00 ora_smon_test11g1
oracle 28866 1 0 12:26 ? 00:00:00 ora_reco_test11g1
oracle 28868 1 0 12:26 ? 00:00:00 ora_rbal_test11g1
oracle 28870 1 0 12:26 ? 00:00:00 ora_asmb_test11g1
oracle 28874 1 0 12:26 ? 00:00:01 ora_mmon_test11g1
oracle 28879 1 0 12:26 ? 00:00:00 ora_mmln_test11g1
oracle 28891 1 0 12:26 ? 00:00:00 ora_d000_test11g1
oracle 28898 1 0 12:26 ? 00:00:00 ora_s000_test11g1
oracle 28922 1 1 12:26 ? 00:00:03 ora_lck0_test11g1
oracle 28939 1 0 12:26 ? 00:00:00 ora_ksvr_test11g1
oracle 28950 1 0 12:26 ? 00:00:00 ora_o000_test11g1
oracle 28954 1 0 12:26 ? 00:00:00 ora_o001_test11g1
oracle 29028 1 0 12:26 ? 00:00:00 ora_smco_test11g1
oracle 29030 1 0 12:26 ? 00:00:00 ora_fbda_test11g1
oracle 29032 1 0 12:26 ? 00:00:00 ora_gtx0_test11g1
oracle 29039 1 0 12:26 ? 00:00:00 ora_rcbg_test11g1
oracle 29041 1 0 12:26 ? 00:00:00 ora_qmnc_test11g1
oracle 29078 1 0 12:26 ? 00:00:00 ora_cjq0_test11g1
oracle 29080 1 0 12:26 ? 00:00:00 ora_w000_test11g1
oracle 29205 1 0 12:26 ? 00:00:00 ora_q000_test11g1
oracle 29208 1 0 12:26 ? 00:00:00 ora_q001_test11g1
oracle 29265 1 1 12:26 ? 00:00:03 oracletest11g1 (LOCAL=NO)
oracle 29267 1 0 12:26 ? 00:00:01 oracletest11g1 (LOCAL=NO)
oracle 29269 1 0 12:26 ? 00:00:00 oracletest11g1 (LOCAL=NO)
oracle 29283 1 0 12:26 ? 00:00:01 oracletest11g1 (LOCAL=NO)
oracle 29312 1 0 12:26 ? 00:00:00 oracletest11g1 (LOCAL=NO)
$
```

```
[db02pn]$ $ORA_CRS_HOME/bin/crs_stat -t
```

Name	Type	Target	State	Host
ora....SM1.asm	application	ONLINE	ONLINE	db02pn
ora....PN.lsnr	application	ONLINE	ONLINE	db02pn
ora....2pn.gsd	application	ONLINE	ONLINE	db02pn
ora....2pn.ons	application	ONLINE	ONLINE	db02pn
ora....2pn.vip	application	ONLINE	ONLINE	db02pn
ora.test11g.db	application	ONLINE	ONLINE	db02pn
ora....gl.inst	application	ONLINE	ONLINE	db02pn