How To Automate User-Defined Services On Oracle RAC? (文档 ID 789286.1)

Home / Database / Oracle Database Online Documentation 11g Release 2 (11.2) / Grid Computing/Clusterware Administration and Deployment Guide

Home / Database / Oracle Database Online Documentation 11g Release 2 (11.2) / Grid Computing/Clusterware Administration and Deployment Guide/B Oracle Clusterware Resource Reference/6 Making Applications Highly Available Using Oracle Clusterware

Home / Database / Oracle Database Online Documentation 11g Release 2 (11.2) / Grid Computing/Clusterware Administration and Deployment Guide/E CRSCTL Utility Reference

Home / Database / Oracle Database Online Documentation 11g Release 2 (11.2) / Database Administration/Database Administrator's Guide/4 Configuring Automatic Restart of an Oracle Database

> 环境

oracle 11gR2 rac（automatically restart） or standalone（restart）

以下以oracle restart为例，clusterware automatically restart类似

>基础介绍

有些时候会发现集群，集群没有自动启动，集群中有些资源不会自动启动，这是什么原因呢，

所有使用clusterware的应用或进程都会以资源的形势注册到clusterware中，并收到clusterwre的管理

这些资源类型有两类

Local Resources  运行在集群中的每个服务器上，不可故障转移

Cluster Resources  运行在集群中，跨多个服务器同时运行，可切换转移和故障转移

查看Oracle Restart 中由OHASD管理的resource 状态

# ./crsctl stat res -t

手工停止Oracle Restart  --只对当前服务器有效

# ./crsctl stop has

在Oracle 10g RAC 安装时，在运行root.sh时，会在/etc/inittab文件的最后加入ora.crs,ora.cssd,ora.evmd 三个进程。 这样以后每次系统启动时，Clusterware 也会自动启动，其中EVMD和CRSD 两个进程如果出现异常，则系统会自动重启这两个进程，如果是CSSD 进程异常，系统会立即重启。

而在Oracle 11gR2中，只会将ohasd 写入/etc/inittab 文件。

--Oracle Restart 能提高数据库的可用性，当安装了Oracle Restart 之后，在系统出现硬件或者软件问题，或者主机重启之后，OracleRestart 管理的组件都能自动的进行启动。

OracleRestart 会周期性的检查和监控这些组件的状态，如果发现某个组件fail，那么就会shutdown并restart 该组件。

Oracle Restart 只能用于not-cluster的环境。 对于Oracle RAC 环境，Oracle Clusterware 会提供automatically restart的功能。

1

查看并设置本机群集服务是否随服务器开机启动

[grid@db ~]$ cat /etc/oracle/scls\_scr/db/grid/ohasdstr

disable

或者

[grid@db ~]$ crsctl config has

CRS-4621: Oracle High Availability Services autostart is disabled.

启用或关闭自启动

To disable or enable Oracle Restart, use the CRSCTL utility to run the following commands:

crsctl enable has

crsctl disable has

2

查看并设置群集中某资源是否随crs群集服务启动而启动。

查看resource 的启动属性

crsctl status resource resource\_name -p

auto\_start的值默认为restore

[grid@db ~]$ crsctl status res ora.orcl.db -p

NAME=ora.orcl.db

TYPE=ora.database.type

ACL=owner:grid:rwx,pgrp:asmdba:r-x,other::r--,group:oinstall:r-x,user:oracle:rwx

ACTION\_FAILURE\_TEMPLATE=

ACTION\_SCRIPT=

ACTIVE\_PLACEMENT=1

AGENT\_FILENAME=%CRS\_HOME%/bin/oraagent%CRS\_EXE\_SUFFIX%

AUTO\_START=restore

修改为always

crsctl modify resource "ora.orcl.db" -attr "AUTO\_START=always"

以下是auto\_start的解释。

AUTO\_START

Indicates whether Oracle Clusterware automatically starts a resource after a cluster server restart. Valid AUTO\_START values are:

always: Restarts the resource when the server restarts regardless of the state of the resource when the server stopped.

restore: Restores the resource to the same state that it was in when the server stopped. Oracle Clusterware attempts to restart the resource if the value of TARGET was ONLINE before the server stopped.

never: Oracle Clusterware never restarts the resource regardless of the state of the resource when the server stopped.

> 探索测试--数据库不随cluster自动启动

1 auto\_start为restore，即资源会保持关闭时的状态

[grid@db ~]$ crsctl status res ora.orcl.db -p

NAME=ora.orcl.db

TYPE=ora.database.type

ACL=owner:grid:rwx,pgrp:asmdba:r-x,other::r--,group:oinstall:r-x,user:oracle:rwx

ACTION\_FAILURE\_TEMPLATE=

ACTION\_SCRIPT=

ACTIVE\_PLACEMENT=1

AGENT\_FILENAME=%CRS\_HOME%/bin/oraagent%CRS\_EXE\_SUFFIX%

AUTO\_START=restore

2 集群命令手动关闭数据库，target和state均为offline

[grid@db ~]$ srvctl stop database -d orcl

[grid@db ~]$ crsctl status res -t

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

NAME           TARGET  STATE        SERVER                   STATE\_DETAILS

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

Local Resources

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

ora.DATA.dg

               ONLINE  ONLINE       db

ora.LISTENER.lsnr

               ONLINE  ONLINE       db

ora.OCR.dg

               ONLINE  ONLINE       db

ora.asm

               ONLINE  ONLINE       db                       Started

ora.ons

               OFFLINE OFFLINE      db

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

Cluster Resources

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

ora.cssd

      1        ONLINE  ONLINE       db

ora.diskmon

      1        OFFLINE OFFLINE

ora.evmd

      1        ONLINE  ONLINE       db

ora.orcl.db

      1        OFFLINE OFFLINE                               Instance Shutdown

3 重启节点

[root@db ~]# shutdown -r now

4 数据库依然是offline状态，没有自动启动

[grid@db ~]$ crsctl status res -t

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

NAME           TARGET  STATE        SERVER                   STATE\_DETAILS

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

Local Resources

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

......

ora.orcl.db

      1        OFFLINE OFFLINE                               Instance Shutdown

[grid@db ~]$

5 将属性改为AUTO\_START=always，重启后数据库自动启动

[grid@db ~]$ crsctl modify resource "ora.orcl.db" -attr "AUTO\_START=always"

[root@db ~]# shutdown -r now

[grid@db ~]$ crsctl status res -t

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

NAME           TARGET  STATE        SERVER                   STATE\_DETAILS

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

Local Resources

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

ora.DATA.dg

               ONLINE  ONLINE       db

ora.LISTENER.lsnr

               ONLINE  ONLINE       db

ora.OCR.dg

               ONLINE  ONLINE       db

ora.asm

               ONLINE  ONLINE       db                       Started

ora.ons

               OFFLINE OFFLINE      db

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

Cluster Resources

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

ora.cssd

      1        ONLINE  ONLINE       db

ora.diskmon

      1        OFFLINE OFFLINE

ora.evmd

      1        ONLINE  ONLINE       db

ora.orcl.db

      1        ONLINE  ONLINE       db                       Open

[grid@db ~]$

> 探索2 -设置资源属性ENABLED

1 查看资源ora.orcl.db的时候除了AUTO\_START属性还有一个ENABLED属性

[grid@db ~]$ crsctl status res ora.orcl.db -p

NAME=ora.orcl.db

......

AUTO\_START=always

......

DESCRIPTION=Oracle Database resource

ENABLED=1

2 将此属性改为ENABLED=0 禁用clusterware对此资源的自动管理

[grid@db ~]$ crsctl modify resource "ora.orcl.db" -attr "ENABLED=0"

3 使用集群命令手动关闭数据库，并重启服务器

[grid@db ~]$ srvctl stop database -d orcl

[root@db ~]# shutdown -r now

4 发现数据库并没有自动启动，且没有任何的状态显示，即使属性AUTO\_START=always

[grid@db ~]$ crsctl status res -t

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

NAME           TARGET  STATE        SERVER                   STATE\_DETAILS

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

Local Resources

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

ora.DATA.dg

               ONLINE  ONLINE       db

ora.LISTENER.lsnr

               ONLINE  ONLINE       db

ora.OCR.dg

               ONLINE  ONLINE       db

ora.asm

               ONLINE  ONLINE       db                       Started

ora.ons

               OFFLINE OFFLINE      db

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

Cluster Resources

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

ora.cssd

      1        ONLINE  ONLINE       db

ora.diskmon

      1        OFFLINE OFFLINE

ora.evmd

      1        ONLINE  INTERMEDIATE db

ora.orcl.db

      1        OFFLINE OFFLINE

5 手动启动会失败，disabled的资源不允许启动但可关闭

[grid@db ~]$ srvctl start database -d orcl

PRCR-1079 : Failed to start resource ora.orcl.db

CRS-2501: Resource 'ora.orcl.db' is disabled

[grid@db ~]$

以下是对enabled解释

ENABLED

Oracle Clusterware uses this attribute to manage the state of the resource. Oracle Clusterware does not attempt to manage a disabled (ENABLED=0) resource either directly or because of a dependency to another resource. A disabled resource cannot be started but it can be stopped.

Oracle Clusterware does not actively monitor disabled resources, meaning that Oracle Clusterware does not check their state. However, when Oracle Clusterware starts, it does query the state of disabled resources.

文档原创，转载请注明出处-------------------