OEDACLI CLONE APIs

Those OEDACLI clone APIs that related to CELL, NEWCELL, COMPUTE, and GUEST clauses. Please check OEDACLI help command as:

oedacli> help clone

Usage: CLONE { CELL | NEWCELL | COMPUTE | DATABASEHOME | GUEST }
Purpose: Used to CLONE various objects

1. **CLONE CELL**

   This command add a new storage cell into existing xml and clone the new storage based on the target storage node into the existing cluster.
   This command will convert the new cell into pkey or QinQ environment if the source cell is in pkey or QinQ environment.
   This command is deprected and replaced with **CLONE NEWCELL**.
   Reference: Old V1 Cell LifeCycle management - Do not use

   Syntax

   ```
   CLONE CELL SRCNAME=cell_name_inxml TGTNAME=new_cell_name WHERE STEPNAME=step
   SET ADMINNET NAME=adminname IP=adminip [ NETMASK=adminmask][ GATEWAY=gatewayip]
   SET PRIVNET NAME1=priv_name_1, IP1=priv_ip1, NAME2=priv_name_2, IP2=priv_ip2
   SET ILOMNET NAME=ilom_name IP=ilom_ip [ NETMASK=adminmask] [ GATEWAY=gatewayip]
   SET RACK NUM=rack_number, ULOC=ulocation
   ```

   Arguments

   SRCNAME: specify the name of an existing cell from which the new cell is derived
   TGTNAME: specify the name of the new cell that need add into the xml
   STEPNAME: specify the deployment step as: CONFIG_CELL, CREATE_GRIDDISKS, ADD_DISKS_TO_ASM, and REBALANCE
   The following arguments are available in the SET clauses:
   ADMINNET : Specifies the DNS name (admin_name) with an optional domain name and the IP address to be used for the admin network. NETMASK and GATEWAY are optional if the new cell has different values from existed cell
   PRIVNET : Specifies the name with an optional domain name and the IP address to be used for the first and second private networks.
   ILOMNET : Specifies the DNS name with an optional domain name and the IP address to be used for the ILOM network. NETMASK and GATEWAY are optional if ilome is in different network.
   RACK : Specifies the rack number in a multi-rack configuration, where 1 is the first rack, and the physical Ulocation (slot) of the cell in that rack.

   Examples:

```
#add the scas11celadm14 to xml based on scas11celadm09's network information,
#during deployment, convert the new cell with pkey or QinQ if possible, initialize the cell user, celldisk,
#cellip.ora and cell routing
CLONE CELL SRCNAME=scas11celadm09 TGTNAME=scas11celadm14 where STEPNAME= CONFIG_CELL
SET ADMINNET NAME=scas11celadm14 IP=10.128.161.160
SET PRIVNET NAME1=scas11celadm14-priv1, IP1=192.168.160.19, NAME2=scas11celadm14-priv2, IP2=192.168.160.20
SET ILOMNET NAME=scas11celadm14-ilom IP=10.128.161.182
SET RACK NUM=1, ULOC=12
Save action
merge actions
deploy actions

#create griddisk
CLONE CELL SRCNAME=scas11celadm09 TGTNAME=scas11celadm14 where STEPNAME= CREATE_GRIDDISKS
Save action
merge actions
deploy actions

#add the cell's griddisk to cluster's diskgroup
CLONE CELL SRCNAME=scas11celadm09 TGTNAME=scas11celadm14 where STEPNAME= ADD_DISKS_TO_ASM
Save action
merge actions
deploy actions

#rebalance diskgroup
CLONE CELL SRCNAME=scas11celadm09 TGTNAME=scas11celadm14 where STEPNAME= REBALANCE
Save action
merge actions
deploy actions
save file name=oeda-scas11-4-6done.xml
```

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2. **CLONE NEWCELL**
   This command has the same function like CLONE CELL, but there is no STEPNAME, instead, it work with "ALTER CLUSTER ADDCELLS" command to add the new storage into existing cluster.
   This command will convert the new cell into Pkey or QinQ environment if the source cell is in Pkey or QinQ environment.
   Reference: New V2 Cell lifecycle Management
   Syntax

```
CLONE NEWCELL SRCNAME=cell_name_inxml TGTNAME=new_cell_name [TYPE=X8XT]
SET ADMINNET NAME=adminname IP=adminip [ NETMASK=adminmask][ GATEWAY=gatewayip]
SET PRIVNET NAME1=priv_name_1, IP1=priv_ip1, NAME2=priv_name_2, IP2=priv_ip2
SET ILOMNET NAME=ilom_name IP=ilom_ip [ NETMASK=adminmask] [ GATEWAY=gatewayip]
SET RACK NUM=rack_number, ULOC=ulocation
```

   Arguments
   SRCNAME: specify the name of an existing cell from which the new cell is derived
   TGTNAME: specify the name of the new cell that need add into the xml
   TYPE: it is optional if the cell has no flash, Value can be X8XT, X8_CELL_XT, X8ROCEXT, or X8_ROCE_CELL_XT
   The following arguments are available in the SET clauses:
   ADMINNET : Specifies the DNS name (admin_name) with an optional domain name and the IP address to be used for the admin network. NETMASK and GATEWAY are optional if the new cell has different values from existed cell
   PRIVNET : Specifies the name with an optional domain name and the IP address to be used for the first and second private networks.
   ILOMNET : Specifies the DNS name with an optional domain name and the IP address to be used for the ILOM network. NETMASK and GATEWAY are optional if ilome is in different network.
   RACK : Specifies the rack number in a multi-rack configuration, where 1 is the first rack, and the physical Ulocation (slot) of the cell in that rack.

   Example:

```
ECHOSPLIT
ECHO clone newcell ....
ECHOSPLIT

LOAD FILE NAME=scaqan01adm0102-2Clu-QinQ.xml

CLONE NEWCELL SRCNAME=scaqan01celadm01 TGTNAME=scaqan01celadm06
SET ADMINNET NAME=scaqan01celadm06 IP=10.32.96.17
SET PRIVNET NAME1=scaqan01cell06vm1str-priv1,IP1=192.168.3.47,NAME2=scaqan01cell06vm1str-priv2,IP2=192.168.3.48
SET ILOMNET NAME=scaqan01celadm06-ilom IP=10.32.10.103
SET RACK NUM=1, ULOC=12
SAVE ACTION

alter cluster addcells='scaqan01celadm06' power=4 where clusternumber=1
SAVE ACTION
MERGE ACTIONS
deploy actions

SAVE FILE NAME=oeda-scaqan01-clone.xml

ECHOSPLIT
ECHO clone newcell done!
ECHOSPLIT
```

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3. CLONE COMPUTE
   Check https://docs.oracle.com/en/engineered-systems/exadata-database-machine/dbmin/oedacli-command-reference.html#GUID-FAC6703D-D5F6-4E75-B93C-F08B6D9A7CF0
   Examples:

```
CLONE COMPUTE SRCNAME=iad103714exdd003.iad103714exd.adminiad1.oraclevcn.com TGTNAME=iad103714exdd005.iad103714exd.adminiad1.oraclevcn.com
SET ADMINNET NAME=iad103714exdd005.iad103714exd.adminiad1.oraclevcn.com, IP=10.0.3.134
SET PRIVNET NAME1=iad103714exdd005-priv1.iad103714exd.adminiad1.oraclevcn.com, IP1=192.168.132.10
SET PRIVNET NAME2=iad103714exdd005-priv2.iad103714exd.adminiad1.oraclevcn.com, IP2=192.168.132.11
SET ILOMNET NAME=iad103714exdd005lo.iad103714exd.adminiad1.oraclevcn.com, IP=10.0.3.149
SET RACK NUM=1, ULOC=16
save action
merge actions force
deploy actions
save file name=./addecompute.xml
```

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4. CLONE GUEST
   Check https://docs.oracle.com/en/engineered-systems/exadata-database-machine/dbmin/oedacli-command-reference.html#GUID-2F39340A-9038-4BED-BC86-946F9259C344
   If this VM guest is cloned with Pkey or QinQ, there will be two types of private networks: the cluster private networks and the storage private networks
   Cluster private networks are used to interconnection between compute (database) nodes, and command "SET INTERCONNECT NAME1=privm1, IP1=privmip1, NAME2=privm2,IP2=privmip2" is used
   Storage private network are used to connect to storage(cell) nodes and command "SET PRIVNET " is used for such network configuration in this clone guest.
   If the VM is for cloud with NAT support, the command "SET CLIENTNET" supports NAT options

   Example for QinQ:

```
LOAD FILE NAME=./addecompute.xml
CLONE GUEST SRCNAME='x8m3714c2n3.clientsubnet.devx8melastic.oraclevcn.com' TGTNAME='x8m3714c3n5.clientsubnet.devx8melastic.oraclevcn.com' where STEPNAME='CREATE_GUEST'
SET PARENT NAME=iad103714exdd005.iad103714exd.adminiad1.oraclevcn.com
SET ADMINNET NAME=x8m3714c3n5.clientsubnet.devx8melastic.oraclevcn.com
SET CLIENTNET NAME=x8m3714c3n5.clientsubnet.devx8melastic.oraclevcn.com, IP=10.0.0.10
#if there is NAT, so as follow
#SET CLIENTNET NAME=x8m3714c3n5.clientsubnet.devx8melastic.oraclevcn.com, IP=10.0.0.10, NATIP=x.x.x.x,
NATHOSTNAME=nat, NATDOMAINNAME=oraclevnc.com, NATNETMASK=255.255.254.0

#this is storage network that will have interface name stre0/stre1
SET PRIVNET NAME1=iad103714exddu0501-priv1.clientsubnet.devx8melastic.oraclevcn.com, IP1=100.104.5.122
SET PRIVNET NAME2=iad103714exddu0501-priv2.clientsubnet.devx8melastic.oraclevcn.com, IP2=100.104.5.123
SET BACKUPNET NAME=x8m3714c3b5.backupsubnet.devx8melastic.oraclevcn.com, IP=10.0.32.4
SET VIPNET NAME=x8m3714c3n5-vip.clientsubnet.devx8melastic.oraclevcn.com, IP=10.0.0.12

#this is cluster network that will have interface name clre0/clre1
SET INTERCONNECT NAME1=interconnect051-priv1.clientsubnet.devx8melastic.oraclevcn.com,IP1=100.107.0.10
SET INTERCONNECT NAME2=interconnect052-priv2.clientsubnet.devx8melastic.oraclevcn.com,IP2=100.107.0.11
save action
merge actions
deploy actions

CLONE GUEST SRCNAME='x8m3714c2n3.clientsubnet.devx8melastic.oraclevcn.com' TGTNAME='x8m3714c3n5.clientsubnet.devx8melastic.oraclevcn.com' where STEPNAME='CREATE_USERS'
save action
merge actions
deploy actions

CLONE GUEST SRCNAME='x8m3714c2n3.clientsubnet.devx8melastic.oraclevcn.com' TGTNAME='x8m3714c3n5.clientsubnet.devx8melastic.oraclevcn.com' where STEPNAME='CELL_CONNECTIVITY'
save action
merge actions
deploy actions

CLONE GUEST SRCNAME='x8m3714c2n3.clientsubnet.devx8melastic.oraclevcn.com' TGTNAME='x8m3714c3n5.clientsubnet.devx8melastic.oraclevcn.com' where STEPNAME='ADD_NODE'

save action
merge actions
#save file name=./newguest.xml
deploy actions
```