**Configuration of Oracle ASM and Oracle Database 19c**

This document will explain you to configure oracle database with Oracle ASM.

Configuring Oracle ASM :

1. Launch Instance using AMI ID - ami-0531ca211db166eb8 and attach 3 more volumes of 30GB each. Instance should have at least 4GB of RAM and root volume of 60GB.
2. Update System

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1. Prerequisites

Run Below command.

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| yum -y install oracle-database-preinstall-19c.x86\_64  yum -y install wget oracleasm kmod-oracleasm oracleasm-support |

1. Create required groups and the users.

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| groupadd -g 54327 asmdba  groupadd -g 54328 asmoper  groupadd -g 54329 asmadmin  useradd -u 54322 -g oinstall -G dba,asmdba,asmoper,asmadmin grid  usermod -u 500 -g oinstall -G dba,oper,asmdba,asmoper,asmadmin,kmdba,dgdba,backupdba,racdba oracle |

1. Enable key authentication for user “grid” and “oracle”

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| mkdir -p /home/oracle/.ssh/  cp /home/ec2-user/.ssh/authorized\_keys /home/oracle/.ssh/authorized\_keys  chown -R oracle:oinstall /home/oracle/  usermod -aG wheel oracle  mkdir -p /home/grid/.ssh/  cp /home/ec2-user/.ssh/authorized\_keys /home/grid/.ssh/authorized\_keys  chown -R grid:oinstall /home/grid/  usermod -aG wheel grid  echo 'grid ALL=(ALL) NOPASSWD:ALL' >> /etc/sudoers  echo 'oracle ALL=(ALL) NOPASSWD:ALL' >> /etc/sudoers |

1. Set proper Hostname.

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| Edit “/etc/sysconfig/network” and add HOSTNAME as shown in below image    Edit “/etc/hostname”    You can also set your hostname like xyz.com or other.  Edit “/etc/hosts’ and set your hostname against instance private IP    Set hostname by executing “# nmtui”        Press OK as in below image |
| Log out and login again to take effect.    You can see in above image, hostname is changed to “oracleasm” |

1. Now create swap partition equal to RAM ,execute below command .Here RAM is 16 GB.Run command as root

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| dd if=/dev/zero of=/swapfile bs=16MB count=1024  chmod 600 /swapfile  mkswap /swapfile  swapon /swapfile  echo '/swapfile none swap sw 0 0' | sudo tee -a /etc/fstab  swapon --show |

1. Create directories for grid home, oracle home and oracle inventory.

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| mkdir -p /u01/app/grid/19c/grid\_home  mkdir -p /u01/app/oracle/19c/db\_home  mkdir -p /u01/app/oraInventory  chown -R oracle:oinstall /u01  chown -R grid:oinstall /u01/app/grid  chown -R grid:oinstall /u01/app/oraInventory |

1. Setup ASM Disks

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| Execute below command as root ,  oracleasm init  oracleasm configure -i |

1. Find the list of disks attached to the server and create partition of 30 GB for each 3 attached additional volumes.

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| Execute fdisk -l and notedown attached disk path    Format attached disk.  Execute fdisk /dev/nvme2n1 and same command remaining disk. |
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| Execute lsblk to check partition. | |

1. Create three ASM disks with each partition.

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| Execute below command:  oracleasm createdisk CRS1 /dev/nvme1n1p1  oracleasm createdisk DATA1 /dev/nvme2n1p1  oracleasm createdisk FRA1 /dev/nvme3n1p1  oracleasm scandisks  oracleasm listdisks  Output: |

1. Install Oracle 19c Grid.

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| Login “grid” user  vi .bash\_profile and enter below lines.   |  | | --- | | # .bash\_profile  # Get the aliases and functions  if [ -f ~/.bashrc ]; then  . ~/.bashrc  fi  # User specific environment and startup programs  export ORACLE\_BASE=/u01/app/grid  export ORACLE\_HOME=/u01/app/grid/19c/grid\_home  PATH=$PATH:$HOME/.local/bin:$ORACLE\_HOME/bin  export PATH |   vi .bashrc and enter or append below lines.   |  | | --- | | ASM()  {  export ORACLE\_SID=+ASM  echo "ORACLE\_SID="$ORACLE\_SID  echo "ORACLE\_BASE="$ORACLE\_BASE  echo "ORACLE\_HOME="$ORACLE\_HOME  }  ASM | |

1. Download Oracle 19c grid and copy the 19c software file to ORACLE\_HOME location and unzip. Start the run installer to perform installation.

Download from <https://www.oracle.com/in/database/technologies/oracle19c-linux-downloads.html> .

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| cd $ORACLE\_HOME  unzip LINUX.X64\_193000\_grid\_home.zip  export CV\_ASSUME\_DISTID=OEL8.9  sudo vi /etc/sysconfig/oracleasm and modify below variable.  ORACLEASM\_SCANORDER=”dm”  ORACLEASM\_SCANEXCLUDE=”sd”  sudo rpm -iv cv/rpm/cvuqdisk-1.0.10-1.rpm  Output :   |  | | --- | |  | |

Start the gridSetup.sh to install grid.

./gridSetup.sh

Output:

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Select second option as shown below image:

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Select and click the Highlighted option below as shown below.

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1. Create ASM Disk group

Login to “grid” user and execute “asmca” to create disk group.

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Click on “Disk Group” and later click on “create”

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Create disk group ,enter proper name and click highlighted field.

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You can see now there is new disk group created “DATADISK”

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Now we are going to install Oracle Database 19c

Install Oracle Database software

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| Login to oracle user  # ***vi* .bash\_profile** and enter below text in file   |  | | --- | | # .bash\_profile  # Get the aliases and functions  if [ -f ~/.bashrc ]; then  . ~/.bashrc  fi  # User specific environment and startup programs  **export ORACLE\_BASE=/u01/app/oracle**  **export ORACLE\_HOME=/u01/app/oracle/19c/db\_home**  PATH=$PATH:$HOME/.local/bin:$**ORACLE\_HOME**/bin  export PATH |   # **vi .bashrc** and append below lines   |  | | --- | | orcl()  {  export ORACLE\_SID=orcl  echo "ORACLE\_SID="$ORACLE\_SID  echo "ORACLE\_BASE="$ORACLE\_BASE  echo "ORACLE\_HOME="$ORACLE\_HOME  }  orcl | |

Download package form oracle website from <https://www.oracle.com/in/database/technologies/oracle19c-linux-downloads.html>

Copy file to “oracle” user in path “/u01/app/oracle/19c/db\_home” and extract using unzip.

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1. Login user “oracle” user execute below command.

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| # export CV\_ASSUME\_DISTID=OEL8.9  # cd $ORACLE\_HOME  # ./runInstaller |

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Select DATA group

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Set password

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Select proper user and continue.

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Enter root password

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Installation finished:

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Now create database.

Execute # dbca

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Enter Password same as previous schema password

You can also change database name in Global database name:

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Here database “trianz\_database” is created, you can also manage user by clicking “Password Management.”

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You can see System identifier by executing # **cat /etc/oratab**

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Try to login using # **sqlplus / as sysdba** as master user.

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If we migrate the whole database server, we need to fix some parameters.

Fix hostname of below file:

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| # vi “/etc/sysconfig/network”  # vi “/etc/hostname”  # nmtui |

Login oracle user and edit /u01/app/oracle/19c/db\_home/network/admin/tnsnames.ora and replace HOST as per new DNS.

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Login to grid user and edit /u01/app/grid/19c/grid\_home/network/admin/listener.ora

and replace HOST with new DNS.

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